
AN ANNOTATED PRELIMINARY CHECKLIST OF THE COMPOSITAE OF BOLIVIA

(VERSION 2)

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Summary. An updated synonymized checklist of the *Compositae* of Bolivia is provided. The checklist is based on the only catalogue of the Bolivian flora, that of Foster dating from 1958, a literature survey, together with additional herbarium work whilst naming many recent J. R. I. Wood collections; it does not represent a complete herbarium survey. Currently, 13 tribes are represented by 1071 species in 227 genera with an estimated 302 endemic species, which is equivalent to 28.2% endemism. Keys to tribes, and genera of the tribes, are provided, with keys to taxa within some genera.

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INTRODUCTION

Floristic works vary from the basic species list to comprehensive research floras. Davis & Heywood (1963) suggested that the species list served a 'very limited purpose' except for a poorly known Flora, and highlighted several drawbacks. During the last 15 years great steps have been made in cataloguing the Floras of several South American countries. Checklists have been compiled by Zuloaga & Morone (1999) (Argentina), Jørgensen & León-Yáñez (1999) (Ecuador), Boggan et al. (1996) (Guianas - Guyana, Surinam and French Guiana), Brako & Zarruchi (1993) (Peru), allowing a useful comparison between Floras, highlighting where future work is needed, and paving the way to fuller floristic treatments. Indeed, floras of each of the countries mentioned is either complete or underway, sometimes falteringly, rarely approaching the 'research floras' considered by Davis & Heywood as being the most comprehensive, one step below the monograph.

Amongst the Andean countries, Bolivia clearly stands out as having a relatively poorly known phanerogamic flora and not having a current checklist. The last complete listing of the ferns and flowering plants of Bolivia was that of Foster's '*Catalogue ...*' (Foster, 1958). Foster's hope had been to produce a 'Flora of Bolivia' but the realization that it would not be completed in his lifetime prompted him to publish the '*Catalogue*'. The dicotyledons totalled 1252 genera and the largest family of flowering plants was the *Compositae* with approximately 900 species (represented by 970 taxa) in 125 genera, in 12 tribes. Clearly, a modern checklist of the family, as a precursor to a flora is highly desirable. To this end the present '*Preliminary Checklist of the Compositae of Bolivia*' was embarked on.

Fortuitously, the *Compositae* have been treated reasonably well in the literature. In their bibliography Funk & Mori (1989) have summarized the state of published information on collectors of Bolivian plants to that date. Some (few) collectors were highlighted in their attempts to begin regional floras that included Bolivia, such as Weddell's *Chloris Andina*, whose first volume (1855-57) treated the family, Fries (1906) treated the *Compositae* amongst his own collections from Bolivia, Cabrera (1952) and Koster (1945, 1947) treated many of the *Compositae* amongst Herzog's collecting trips, and Buchtien (1910) catalogued his own collections. Revisions and accounts of Bolivian plants include some by B. L. Robinson (1920, 1932 - *Stevia*, 1922 - *Mikania*, 1932 - *Eupatorium* s.l.), Gleason (1923 - *Vernonia*), Cabrera (1985 - *Senecio*) and Müller (2006 - *Baccharis*). There are of course many monographs of groups that include Bolivian species, these too numerous to mention here.

Coverage

The geographical coverage of the present checklist is the present delimitation of Bolivia as shown in '*The Times ... Atlas*' (Times Books, 2007).

Material

This '*Preliminary Checklist ...*' is primarily a literature based list. The primary list was based on Foster's *Catalogue* (Foster 1958). Names cited by Foster are marked with an asterisk (*). For those where there were clearly mis-identifications, explanations are provided as to the possible reasons, perhaps because of problems concerning critical taxa, or noting upon which accounts, or material, this was based. In some cases subsequent reassessment has shown that the names are inapplicable to Bolivian material. This was then augmented using monographs and revisions of taxa whose range included Bolivia, neighbouring floras and checklists, original literature providing descriptions of taxa described from Bolivia, and assessments of a number of accounts of collectors' itineraries and determinations of their collections (e.g. Bang, Buchtien, Fiebrig, R. E. Fries, Herzog, E. W. D. & M. M. Holway, Mandon, Perkins, Rusby, Steubel, Weddell, R. S. Williams). In addition the few available tribal revisions (e.g. *Eupatorieae*, *Liabeae*, *Vernonieae*), with their accompanying nomenclators, were abstracted these providing confirmation of the presence of many taxa. Also used were a number of papers (e.g. Blake, 1930; Cabrera, 1959a, b, 1960, 1973; Freire & Iharlegui, 2000; Pizarro, 1960; Pruski, 1998) that provided information on historical collections, types, and a proposed synonymy of several names with relevant new combinations. At all stages a fully cross-referenced list was built up including as complete a synonymy of the accepted names as possible. The resultant synonymy representing a global synonymy with the intention that this list will provide the basis for a 'research flora' (sensu Davis & Heywood, 1963: 296); it is clearly incomplete in some instances as the status of many infraspecific names needs to be checked thoroughly. With this aim in mind full type citations were added for all names appearing in the list. To the accumulating list was added a number of names based on

determination of J. R. I. Wood et al.'s many hundreds of Compositae collections made over the last 15 years throughout the country; this has added a number of new generic and species records for Bolivia; representative material is cited where relevant. The format of the *Preliminary Checklist* is outlined in detail below. A limited check, largely because of imposed time constraints, has been made on the presence of additional type material present in the Herbarium of the Royal Botanic Gardens, Kew. At the initial stage no concerted attempt was made to add authenticated material at the end of each accepted species entry; however, some cited material has been added during the second phase of the project when an ongoing assessment of herbarium material was started. Although there are still a significant number of poorly known taxa, ill-represented in herbaria, an attempt has been made to provide geographical, ecological and phytosociological information, together with altitudinal ranges and flowering time, for many taxa. This is an ongoing process and will take some time to complete.

The format of the present Checklist

The following synonymic checklist is in alphabetical order, with subordinate taxa in the ranking order indicated by the most recent *International Code of Botanical Nomenclature* (Vienna Code)[= Code], 2006 (McNeill et al. 2006), and taxa at the same rank in strict alphabetical order. Unranked taxa are placed alphabetically under the most appropriate next highest level. Accepted taxa at all ranks are given in **bolded** text, synonymic entries are in *italics*, and valid names of taxa not present in Bolivia are in ordinary Roman text, as are taxa whose presence in Bolivia is in some doubt. Tribal, generic and species concepts are those currently accepted by the author (q.v. Hind, 2007 – tribal, and generic concepts used in my new generic arrangement of the Compositae in K). The original spelling of names is indicated, or corrected, within the provisions of the most recent Code. For each accepted generic name author/s citation (following Brummitt & Powell, 1992), publication details (following *Botanico Periodicum Huntianum*, its supplement and second edition for journals and *Taxonomic Literature*, ed. 2 – TL2 – for books) and publication date (following the available information, with appropriate notes if these differ from those usually provided, and pre-print dates, or actual dates, are provided in square brackets). Author/s citations have been checked, and in many cases corrected, having examined all but a very rare minority of the source publications; any publication not examined by the author is clearly marked. Publication details are expanded to give issue, part or number details for journals by way of completeness and accuracy, regardless of whether pagination is continuous between issues, parts or numbers. Generic synonymy is provided in chronological order for each genus as far as is known, each also provided with publication details and type citations; lectotypification details are provided whenever possible. Generitypes for the accepted generic names are cited and lectotypification details are also provide whenever possible. Generitypes and types of synonymic genera present in the Bolivian flora are **emboldened**. A compilation of relevant literature is provided for each genus, including revisions as well as relevant neighbouring flora accounts, and critical taxonomic or nomenclatural papers. In many cases a key to species has been provided, although in some genera this is still required and will be added in future editions or on the web version of this Checklist. For each accepted species author/s citation, publication details and 'type' information is provided as well as for all relevant synonyms, the synonyms appearing in chronological order. It is quite probable that many infraspecific synonyms need to be added at some future date, but only when relevant protologues and type material have been examined. The type information is provided in the classical sense – the protologue citation within single quotes, even when this is strictly just 'habitat' information, with additions from the type material, or the complete specimen label information, in square brackets '[...]'. No attempt has been made to translate text, units, or modify dates to adopt to a 'journal style'; the style used should allow direct comparison with type material when relevant. Rarely, in some protologues, information was originally provided within square brackets – this is left in square brackets, and often noted as such. Collectors' names are as provided in the protologues except that those provided in Roman text are *italicized* for easier recognition, and those abbreviated (or contracted) are often expanded (in the same type face) within square brackets. The protologues, recent revisions, and *Index Herbariorum – List of Collectors*, were sources of this information as well as several virtual herbaria. When relevant, additional notes have been provided concerning cited material, or its location. There are several instances where, in the case of citation of material by Rusby, for example, that a single collection was not cited and the wording of the protologue clearly indicates another collection was considered at the same time. This has often been misinterpreted, although the location of some material is unclear. A historical perspective is required, and Rusby's introductory paper to his coverage of the *Bang* collections (Rusby, 1893) explains where some of the material is to be found. Britton visited the Herbarium of the Royal Botanic Gardens, Kew during a European trip and much material was

seen, explaining the citation of much *Bridges* or *Pearce* material etc. in the protologues of Rusby's plants. Clearly, very many more lectotypifications are needed, but this is certainly not something to embark on without considerable extra research. In cases where it is clear no holotype was stated, rather than add the location of known duplicate type material (which might lead to erroneous lectotypification), the location of material is sometimes withheld, e.g. this is frequently the case with George Gardner's Brazilian collections. This situation is also true of the location of type material, if extant, of many eighteenth and early nineteenth century protologues. It should also be remembered that in several instances the original material used by botanists to write their protologues remained unmounted for many decades. When eventually mounted, curators were often never of a mind to mark sheets '1 of 2', etc., and duplication of labels was often poor. The result has often been that some names are represented by two or more sheets in the botanist's host herbarium and these sheets have been given sequential, or quite disparate, accession numbers, without recognizing that they were 'original material' or even holotypes. Care will have to be taken in assessing these collections – e.g. those of *R. A. Philippi*. Species distribution is provided by country (in alphabetical order), sometimes in a general manner, and within Bolivia is given on a Department by Department basis (in alphabetical order). Since some protologue citations provided minimal locality information, the original specimens were void of such information, or information given cannot be located on maps available, departmental detail is provided as 'Bolivia (?)'. The dubious occurrence of taxa in Bolivia is usually noted. Whilst admittedly far from complete, details on habitat/ecology, altitude (or elevation if preferred) and flowering time have been added for many taxa. Additional notes are also provided where problems have been discovered with literature citations, type citations, typifications, etc. Vernacular, or common, names have been provided for some taxa. In many instances the location of type material is provided, where known, although this is an ongoing compilation and is certainly far from complete. It is clear that a search through many virtual herbaria has revealed that the digitization process is very much on-going as many types known to be in certain institutions do not appear on their digital catalogues, yet. As the *Latin American Plant Initiative* (LAPI) has been running parallel to the completion of this list the addition of barcode numbers for type material at K has been omitted until the project is complete.

All synonyms are indexed separately, provided with a full publication reference, and equated with their currently accepted name and its authority. Should any reader have a differing taxonomic view it should be straightforward to find the relevant synonymy for the taxa concerned.

Three tables are provided. Table 1 shows the distribution of genera within tribes (in alphabetical order) and the numbers of genera per tribe, number of species per genus, number of endemic species per genus, and totals of genera, species and endemic species, together with the percentage of endemic species. Table 2 shows the tribes in descending order of size based on the number of species (with the number of genera in brackets). Table 3 shows the ten largest genera (their tribal placement) and the number of species (with the number of endemic species in brackets).

Although much relevant literature is provided after each genus there is a wealth of additional literature that has been used in producing this checklist, such as works on collectors' itineraries, more general accounts, etc. Full bibliographic references to many of these whole papers are provided at the end, together with bibliographic information not normally met with. Some of this information clarifies, or sometimes corrects, citations often incorrectly provided in the literature, especially in the case of preprints.

Summary of the Preliminary Checklist - Version 2

In this first phase an estimated total of c. 1071 species of 227 genera in 13 tribes of the Compositae was recorded. An estimated total of 302 endemic species indicates 28.2% endemism; there are no genera endemic to Bolivia. There are a number of dubious records from Foster's *Catalogue* which remain to be reconfirmed. It is also clear that a number of *nomina nuda* provided by Schultz Bipontinus, based on Mandon's collections need to be reassessed and their current identity ascertained. A separate list of Mandon's collections, and their current determinations, will be published in due course.

Emendments and amendments will be made available to the *International Plant Names Index* as all aspects of the publication of the names involved have been checked against the Code, for their validity and legitimacy. The results will eventually be fed into the *Global Compositae Checklist* and *iPlants – the World's Plants Online*

The Checklist

Key to tribes of Compositae in Bolivia

1. Corolla inside and outside and all other floral parts bearing simple, uniseriate, eglandular, 3-celled hairs; plants often with axillary spines or thorns Barnadesieae
Corollas and other floral parts lacking such hairs but often with hairs of other kinds, or glabrous; stems lacking spines or thorns, or if stems apparently spiny these formed from branch and branchlet apices 2
2. (1) Corollas all ligulate (i.e. all strap-shaped, equally 5-toothed at apex) 3
Corollas not ligulate, or if strap-shaped then limb with 4 or less apical teeth, or teeth unequal 4
3. (2) Plants lacking latex; style arms lacking collector hairs Mutisieae p.p. (*Hyaloseris*)
Plants with latex; style arms subulate, pubescent outside and to below bifurcation on style shaft Lactuceae
4. (2) Phyllaries uniseriate, usually cohering by overlapping margins, or partly or wholly connate, calyculate or ecalyculate; pappus present 5
Phyllaries imbricate in 2 or more series, free or connate, if uniseriate then not cohering or pappus absent or capitula unisexual 6
5. (4) Plants with oil glands on leaves and phyllaries; achenes black when mature Heliantheae p.p.
Plants lacking oil glands; achenes never black when mature Senecioneae p.p.
6. (4) Style arms bifurcate or short-bifid, pilose outside; upper part of style shaft pilose 7
Style arms bifurcate or bilobed, rarely connate, not pilose outside; upper part of style glabrous or sometimes with a ring of hairs just beneath style arm division 9
7. (6) Florets isomorphic, all hermaphrodite; corolla tubular, usually long lobed Vernonieae
Florets dimorphic, outer florets female with filiform corollas or with rays, disc florets tubular, hermaphrodite or male; corolla lobes short 8
8. (7) Outer florets filiform; leaves alternate; plants never with latex Inuleae p.p.
Outer florets rayed; leaves opposite (rarely rosetiform); plants with or without latex Liabeae
9. (6) Capitula with all or only outer florets bilabiate (i.e. corollas with 3-toothed outer lips and 2-lobed inner lips) Mutisieae p.p.
Capitula lacking bilabiate florets, corollas all tubular or outer florets distinctly rayed, ray limb not bilabiate 10
10. (9) Style with ring of hairs just beneath style arms Cardueae
Style arms lacking ring of hairs and glabrous or variously papillate or pubescent 11
11. (10) Anther bases not sagitate, base of thecae obtuse 12
Anther bases conspicuously sagitate, thecae long-acute or acuminate 13
12. (11) Capitula with marginal filiform female florets; style arms truncate with a corona of hairs Inuleae p.p.
Capitula with all florets tubular; style arms obtuse and lacking collector hairs Mutisieae p.p.
13. (11) Style arms long, linear or apically clavate, covered in short papillae beginning conspicuously above base of style arms (florets isomorphic, all hermaphrodite, tubular; corollas never yellow) Eupatorieae
Style arms short, in upper part covered in collector hairs, rarely without collector hairs, or long [account for this if necessary] (florets isomorphic or dimorphic, hermaphrodite corollas usually yellow) 14
14. (13) Style arms truncate or obtuse 15
Style arms subulate to triangular 17
15. (14) Pappus of capillary setae; involucre calyculate Senecioneae p.p. (*Culcitium*)
Pappus absent or a hyaline corona; involucre ecalyculate 16
16. (15) Phyllaries with scarious, usually brown margins; achenes relatively small, monomorphic or sometimes dimorphic, pappus a lacerate crown or auricle, or absent; leaves often pinnatifid Anthemideae
Phyllaries green and herbaceous; achenes relatively large, polymorphic, epappose; leaves entire or lobed Calenduleae (*Calendula*)

17. (14) Achene body never black, very frequently setuliferous, rarely glabrous; pappus usually of capillary barbellate setae, or absent, rarely of squamellae and then falling rapidly; leaves usually alternate, but never scabrid pubescent; receptacle usually epaleaceous Astereae
 Achene body black, usually glabrous or sometimes setuliferous; pappus of scales, squamellae, aristae or awns, or absent, but never of capillary setae, or if setae present these plumose; leaves frequently opposite and scabrid pubescent; receptacle frequently paleaceous Heliantheae

Keys to genera by tribe

Key to the genera of the Anthemideae

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| 1. | Marginal florets rayed, well-exceeding involucre | 2 |
| | Marginal florets filiform or absent, scarcely exceeding involucre | 3 |
| 2. (1) | Receptacle paleaceous | <i>Anthemis</i> |
| | Receptacle epaleaceous | <i>Tanacetum</i> |
| 3. (1) | Disc floret corollas 5-merous; capitula numerous, usually nodding | <i>Artemisia</i> |
| | Disc floret corollas 3- or 4- merous; capitula solitary, erect | 4 |
| 4. (3) | Capitula sessile | <i>Soliva</i> |
| | Capitula scapiform and long-pedicelled | <i>Cotula</i> |

Key to the genera of the Astereae

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|----------|--|---------------------|
| 1. | Capitula of 2 types usually on different plants, dioecious (subtribe Baccharidinae) | <i>Baccharis</i> |
| | Capitula of one type | 2 |
| 2. (1) | Ray floret limbs, when obvious, usually yellow or white; achenes often terete to fusiform | 3 |
| | Ray floret limbs elongate and bluish to purple or white, rarely yellow, or limbs commonly reduced or lacking; achenes usually somewhat compressed (fusiform cylindrical in <i>Neja</i> , but ray limbs long and yellow or white) | 7 |
| 3. (2) | Style appendages of fertile disc florets of hairs; phyllaries usually thickened or keeled | 4 |
| | Style appendages of fertile disc florets of papillae, rarely hairy; phyllaries flattened, not keeled | 5 |
| 4. (3) | Teeth and apices of leaves and phyllaries often spinulose-tipped; pappus setae often gradate (subtribe <i>Machaerantherinae</i> p.p.); pappus setae usually caducous; ray limbs yellow | <i>Grindelia</i> |
| | Teeth and apices of leaves and phyllaries not spinulose-tipped; inner pappus setae distinctly longer than outer, or pappus setae subequal (subtribe <i>Chrysopsidinae</i>); pappus setae persistent; ray limbs white | <i>Noticastrum</i> |
| 5. (3) | Pappus (1-) 2 (-3)-seriate; leaves often tomentose beneath | 17 |
| | Pappus uniseriate; leaves with little or no tomentum | 6 |
| 6. (5) | Capitula solitary or few in clusters; pappus setae 1-2-seriate, of stiff scales | <i>Gutierrezia</i> |
| | Inflorescences secund to thyrsoid of many capitula, rarely weakly corymbose; pappus setae uniseriate, capillary | <i>Solidago</i> |
| 7. (2) | Phyllaries with orange-resinous ribs or veins (subtribe <i>Conyzinae</i>) | 8 |
| | Phyllaries without prominent resinous veins | 12 |
| 8. (7) | Female florets tubular or with short erect limbs | <i>Conyza</i> |
| | Female florets with long limbs | 9 |
| 9. (8) | Achenes fusiform-cylindrical with 7-10 prominent veins | <i>Neja</i> |
| | Achenes compressed with 2 marginal veins | 10 |
| 10. (9) | Pappus biseriate, outer setae short, paleaceous/scale-like, inner setae flexuous | <i>Hysterionica</i> |
| | Pappus 1-3-seriate, of flexuous setae | 11 |
| 11. (10) | Phyllaries usually with 1 resinous longitudinal vein | <i>Erigeron</i> |
| | Phyllaries with 3 longitudinal veins | <i>Leptostelma</i> |

12. (7) Appendages of fertile disc styles hairy; phyllaries mostly herbaceous or with distinct apical green herbaceous area; pappus usually of capillary setae (subtribe *Symphytotrichinae*) *Symphytotrichum*
Appendages of fertile disc styles papillose; phyllaries not usually with distinct apical patch; pappus of setae, reduced or absent 13
13. (12) Pappus setae (1-)2-3-seriate; ray limbs sometimes elongate and coiling (subtribe *Podocominae*) 14
Pappus setae reduced or absent, rarely uniseriate; ray limbs short or absent 16
14. (13) Achenes with distinct neck or beak *Podocoma*
Achenes apically rounded or truncate, erostrate 15
15. (14) Leaves all basal or basal and lower cauline; capitula solitary on scapes; disc ovaries sterile; achenes eglandular *Inulopsis*
Leaves primarily cauline, basal leaves persistent in some species; capitula on leafy stems; disc ovaries fertile; achenes glandular *Laennecia*
16. (13) Perennial herbs; corolla of female florets bilabiate with lobes on inner side *Plagiocheilus*
Annual herbs; corollas of female florets not bilabiate *Egletes*
17. (5) Receptacle paleaceous *Chiliotrichiopsis*
Receptacle epaleaceous 18
18. (17) Plants thorny (spines 1-3 cm long) *Ocyroe*
Plants unarmed 19
19. (18) Densely branched, cupressiform, persistently aromatic, resinous shrubs *Parastrephia*
Herbs or shrubs not cupressiform, not notably aromatic 20
20. (19) Capitula homogamous, lacking female florets; receptacles columnar with florets borne on narrow convex tip *Llerasia*
Capitula heterogamous with marginal female florets 21
21. (20) Female florets tubular or sub-bilabiate, usually 5-lobed; disc florets functionally male 22
Female florets usually with long or short limbs; disc florets perfect or functionally male 23
22. (21) Female florets edentate or scarcely dentate at apex; small bromeliad-like rosetiform plants with thickened glabrous leaves; pappus biseriate *Novenia*
Female corollas with 4 or 5 distinct narrow lobes; pappus absent *Laestadia*
23. (21) Herbs; stems simple, erect; leaves sessile in basal rosette; achenes glandular; ray limbs white *Oritrophium*
Shrubs or trees; stems usually well-branched; leaves usually petiolate, cauline or in apical rosettes; achenes glabrous to sericeous, eglandular; ray limbs, when present, white, bluish, or purplish *Diplostephium*

Key to the genera of the Barnadesieae

1. Capitula heteromorphous; corollas red, pink, purple, very rarely white; style shaft smooth below bifurcation of style arms *Barnadesia*
Capitula isomorphous; corollas white yellow or orange; style shaft papillose below bifurcation of style arms 2
2. (1) Apical anther appendages emarginate or bilobed; receptacle flat; leaves coriaceous *Dasyphyllum*
Apical anther appendages entire; receptacle alveolate; leaves xeromorphic *Chuquiraga*

Calenduleae - the tribe is only represented by one genus, Calendula.

Key to the genera of the Cardueae

1. Pappus setae smooth *Carduus*
Pappus setae plumose *Cirsium*

Key to the genera of the Eupatorieae

1. Phyllaries distant and bases not articulated; receptacles epaleaceous unsclerified, and changing shape with maturity (subtribe *Adenostemmatinae*) 2
Phyllaries distant to imbricate and bases sclerified or articulated; receptacle sclerified between areolae or paleaceous 3
2. (1) Pappus absent *Gymnocoronis*
Pappus of 3 or 5 elongate knobs *Adenostemma*
3. (1) Capitula with 4 subequal phyllaries and 4 florets, usually with a fifth unequal subinvolucral bract (subtending the involucre or pedicel); style arms never with clavate apices; pappus always present (subtribe *Mikaniinae*) *Mikania*
Capitula without 4 subequal phyllaries and 4 florets or with clavate style arms apices or with a defective pappus 4
4. (3) Phyllaries all deciduous leaving a naked receptacle, remaining appressed until lost, not spreading with age (subtribe *Praxelinae*) 5
At least some basal phyllaries persistent, phyllaries usually spreading with age 6
5. (4) Receptacle conical *Praxelis*
Receptacle flat to slightly convex *Chromolaena*
6. (4) Corolla lobes (usually) smooth on inner surface 7
Corolla lobes papillose on inner surface 18
7. (6) Pappus of awns, scales, crowns, or absent, never of wingless setae; pappus awns bristle-like in some 5-flowered species; plants rarely with densely spirally inserted leaves (subtribe *Ageratinae*) 8
Pappus of capillary setae, sometimes short, rarely absent in some plants with densely spirally inserted leaves; capitula rarely with less than 6 florets 9
8. (7) Florets and phyllaries 5 *Stevia*
Florets and phyllaries not equal in number, > 20 *Ageratum*
9. (7) Style base usually with a distinct glabrous node; phyllaries usually distant and subequal (subtribe *Oxylobinae*) 10
Style base lacking basal node; phyllaries distant or subimbricate, usually gradate 11
10. (9) Pappus setae easily deciduous *Ageratina*
Pappus setae persistent *Kaunia*
11. (9) Receptacles convex to conical; style arms linear or with broadened apices; anther collars usually conspicuous and expanded; cells of inner surface of corolla lobes short and essentially isodiametric (subtribe *Gyptidinae*) 12
Receptacles usually flat; style arms filiform; anther collars scarcely discernible and cylindrical; cells of inner surface of corolla lobes elongate with upper ends projecting as papillae (subtribe *Fleischmaniinae*) *Fleischmannia*
12. (11) Pappus of plumose or markedly barbellate setae or absent and corollas densely pubescent, pubescence obscuring lobes *Trichogonia*
Pappus barbellate, rarely simple, if absent then corollas lacking dense pubescence, or pubescence not obscuring lobes 13
13. (12) Achenes with stipitate or long-attenuate bases 14
Achenes of \pm uniform diameter or only slightly narrowed towards base 15
14. (13) Capitula large, florets 30–100; receptacle conical or highly convex; achene ribs pale *Campuloclinium*
Capitula small to medium, florets < 50; receptacle flat or slightly convex; achene ribs concolorous with body *Neocuatrecasia*
15. (13) Carpopodium procurrent on base of achene ribs 16
Carpopodium stopper-shaped 17
16. (15) Achenes setuliferous; style base with swollen basal node, pubescent *Dasycondylus*
Achenes glandular-punctate; style base lacking basal node, glabrous *Barrosoa*
17. (15) Pappus setae with blunt, sometimes inflated apices; phyllaries with distinct pubescent appendages *Urolepis*
Pappus setae with acute apices; phyllaries lacking pubescent apical appendages *Bejaranoa*

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| 18. (6) | Style arms long-clavate, thickened in both width and thickness, few exceptions with 10-ribbed achenes, plumose pappus or those with peg-like setulae on achenes; upper corolla limb often constricted beneath corolla lobes (subtribe <i>Alomiinae</i>) | 19 |
| | Style arms not thickened or thickened only at tips, if long-clavate then flattened; achenes never 10-ribbed, never with plumose pappus setae and never with peg-like eglandular achene setulae; corolla limb cylindrical or funnellform beneath corolla lobes | 21 |
| 19. (18) | Style base with distinctly enlarged basal node; corollas glabrous outside | 20 |
| | Style base lacking enlarged basal node; corollas glandular-punctate outside | <i>Helogyne</i> |
| 20. (19) | Achenes 8–10-ribbed; annual herb | <i>Brickellia diffusa</i> |
| | Achenes 5-ribbed; erect or spreading to arching subshrubs or shrubs | <i>Austrobrickellia</i> |
| 21. (18) | Style base glabrous and basal node absent; inner phyllaries usually deciduous | 22 |
| | Style base with basal node or pubescent or both | 33 |
| 22. (21) | Capitula always with 5 florets; style arm apices papillose; pappus setae sometimes with bulbous-tipped apical cells; plants of eastern South America (subtribe <i>Disynaphiinae</i>) | 23 |
| | Capitula with 1–300 florets, rarely consistently 5-flowered; style arms usually smooth at least at apices; pappus setae never with bulbous-tipped apical cells; plants throughout tropical and subtropical America | 25 |
| 23. (22) | Leaves pinnately or bipinnately lobed; style arm appendages with long narrow papillae | <i>Acanthostyles</i> |
| | Leaves simple; style arms appendages short-papillose | 24 |
| 24. (23) | Inflorescences densely paniculate | <i>Raulinoreitzia</i> |
| | Inflorescences densely corymbose | <i>Campovassouria</i> |
| 25. (22) | Receptacles glabrous; anther collar usually less than 5 times as long as wide (subtribe <i>Critoniinae</i>) | 26 |
| | Receptacles usually pubescent; anther collar usually more than 5 times as long as wide (subtribe <i>Hebecliniinae</i>) | <i>Hebeclinium</i> |
| 26. (25) | Leaves distinctly alternate | <i>Bishovia</i> |
| | Leaves mostly opposite or subopposite | 27 |
| 27. (26) | Phyllaries distant or weakly subimbricate in up to 3 rather irregular series | 28 |
| | phyllaries subimbricate or imbricate in 4 or more gradate series, inner phyllaries sometimes easily deciduous | 30 |
| 28. (27) | Apical anther appendages absent, often appearing as two minute lobes; phyllaries distant | <i>Ophryosporus</i> |
| | Apical anther appendages distinct, 1/3 as long as wide or longer; phyllaries weakly subimbricate | 29 |
| 29. (28) | Capitula in dense spherical clusters | <i>Sphaereupatorium</i> |
| | Capitula not in dense spherical clusters | <i>Koanophyllon</i> |
| 30. (27) | Apical anther appendages shorter than wide, truncate to bilobed; style arms often with abruptly enlarged apices | <i>Koanophyllon</i> |
| | Apical anther appendages about as long as wide or longer, usually with rounded apices, rarely retuse; style arms with abruptly enlarged apices in some <i>Critonia</i> | 31 |
| 31. (30) | Leaves with translucent or lens-like secretory pockets when viewed against light, lacking glandular-punctae; coarse vines and shrubs | <i>Critonia</i> |
| | Leaves lacking secretory pockets, often with glandular-punctae | 32 |
| 32. (31) | Pappus setae with markedly dilated spinose apices; capitula with 50–70 florets | <i>Amboroa</i> |
| | Pappus setae without dilated or spinose apices; capitula with 10–12 florets | <i>Lorentzianthus</i> |
| 33. (21) | Style base lacking basal node, pubescent; capitula with less than 20 florets; receptacles epaleaceous; apical cells of pappus setae usually rounded (subtribe <i>Eupatoriinae</i>) | 34 |
| | Style base inflated above nectary, glabrous or pubescent; capitula usually with more than 20 florets, sometimes receptacle paleaceous; apical cells of pappus setae acute (subtribe <i>Ayapaninae</i>) | 36 |
| 34. (33) | Achene body setuliferous | 35 |
| | Achene body only with glands | <i>Austroeupatorium</i> |
| 35. (34) | Inflorescences pyramidal or thyrsoid | <i>Stomatanthes</i> |
| | Inflorescences corymbose | <i>Hatschbachiella</i> |

36. (33) Corollas with conspicuously constricted basal tube *Condylidium*
Corollas funnellform or narrow and tubular 37
37. (36) Scandent shrubs; inflorescences with distinct cymose branching *Heterocondylus*
Herbs or subshrubs; inflorescences corymbose or paniculate and often only with dense
cymose terminal branching 38
38. (37) Anther cylinder included well within corolla tube; florets 5–40 per capitulum; style base with
pubescent node *Ayapana*
Anther cylinder visible in corolla throat 39
39. (38) Corolla tube funnellform; corollas pink to violet; florets 25–150 per capitulum; style base with
glabrous or pubescent node *Ayapanopsis*
Corolla tube very narrow and tubular; corollas white; florets 150–300 per capitulum; style
base with glabrous node *Polyanthina*

Key to the genera of the Heliantheae

1. Capitula unisexual with male and female florets in separate capitula on same plant 2
Capitula all bisexual, all alike, both male and female florets in each capitulum or disc florets
hermaphrodite 3
2. (1) Female capitula with 1 floret, smooth to rugose or verrucose outside, with one apical beak
Ambrosia
2. Female capitula with 2 florets, covered outside with hooked spines with 2 apical beaks
Xanthium
3. (1) Achenes (at least central) with pappus of retrorsely barbed awns 4
Achenes lacking retrorsely barbed awns, pappus segments often antrorsely scabrid or
plumose or absent 7
4. (3) Ray achenes obovate, without awns; disc achenes elongate, mostly beaked and with awns
Heterosperma
Ray and disc achenes mostly alike, all with similar pappus 5
5. (4) Lianas; pappus awns clustered in 2 groups on apical lobes of achenes *Ericentrodea*
Plants mostly erect or decumbent; pappus awns not clustered 6
6. (5) Anther filaments pubescent; achenes rostrate, usually quadrangular and furrowed *Cosmos*
Anther filaments glabrous; achenes erostrate, not furrowed or irregularly furrowed *Bidens*
7. (3) Leaf lamina, sometimes phyllaries or even corollas with obvious included glandular dots 8
Leaf lamina and other parts lacking included glandular dots, with glandular dots on surface,
glandular-stipitate or eglandular 11
8. (7) Phyllaries connate into tube, sometimes splitting with age *Tagetes*
Phyllaries free (rarely connate only at very base), separately attached to receptacle 9
9. (8) Phyllaries biseriata; capitula calyculate; pappus of squamellae markedly divided into
coarsely barbellate flattened setae *Dyssodia*
Phyllaries uniseriate; capitula ecalyculate; pappus of hair-like setae or of aristate squamellae
10
10. (9) Capitula radiate; phyllaries articulated at base; leaf bases distinctly ciliate, sessile, bases only
slightly narrowed *Pectis*
Capitula discoid; phyllaries not articulate at base; leaves lacking basal cilia, distinctly
petiolate or sessile *Porophyllum*
11. (7) Capitula axillary, solitary, sessile; paleae tightly conduplicate about achenes; plants aquatic
or of marshy areas *Enydra*
Capitula terminal, or if axillary or solitary distinctly pedicellate; paleae, when present, not
tightly conduplicate about achenes; plants of various habitats, rarely of marshy areas 12
12. (11) Disc florets functionally male, often with undivided style arms; disc achenes undeveloped
13
Disc florets hermaphrodite with functional style arms; disc achenes fertile 18
13. (12) Ray achenes completely enclosed in spiny phyllaries *Acanthospermum*
Ray achenes not enclosed in spiny phyllaries 14
14. (13) Ray achenes with marginally attached paleae *Parthenium*
Ray achenes without marginally attached paleae 15

| | | |
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| 15. (14) | Female floret corollas tubular, with minute limb or small lobules | 16 |
| | Female floret corollas with enlarged limb | 17 |
| 16. (15) | Inflorescences usually of numerous loosely aggregated capitula; phyllaries and paleae without obvious longitudinal resin ducts; achenes without furrows or ribs; plants shrubs or small trees | <i>Clibadium</i> |
| | Inflorescences usually of many capitula in dense terminal glomerules; phyllaries and paleae with obvious resin ducts; achenes with obvious furrows or ribs; plants perennial herbs or subshrubs to shrubs | <i>Ichthyothere</i> |
| 17. (15) | Phyllaries distinctly biseriate, outer series spreading and foliaceous, inner enclosing ray achenes with large glandular-stipitate glands on outer surface; petioles broad and partly or completely winged | <i>Smallanthus</i> |
| | Outer phyllaries not large and foliaceous, inner phyllaries subtending ray achenes without stipitate-glands on outer surface; petioles slender and wingless | <i>Baltimora</i> |
| 18. (12) | Florets in capitula or capitula-like structures individually surrounded by radially symmetrical bracts, sometimes considered compound heads of many single-flowered capitula | <i>Lagascea</i> |
| | Florets in heads or head-like structures not surrounded with radially symmetrical bracts; capitula with 2 or more florets | 19 |
| 19. (18) | Ray florets absent or sterile | 20 |
| | Ray florets fertile, female | 39 |
| 20. (19) | Plants resinous | <i>Flourensia</i> |
| | Plants not resinous | 21 |
| 21. (20) | Achenes prismatic or broadly quadrangular | 22 |
| | Achenes flattened, compressed or obcompressed | 26 |
| 22. (21) | Leaves alternate; pappus of relatively long capillary setae | <i>Neurolaena</i> |
| | Leaves opposite (rarely leaves alternate or whorled); pappus absent, or of short, medium or long squamellae, or of short capillary setae | 23 |
| 23. (22) | Annual or short-lived perennial herbs; mature achenes roughened; anthers free | <i>Eleutheranthera</i> |
| | Perennial herbs, subshrubs or shrubs, sometimes scandent; mature achenes smooth; anthers connate | 24 |
| 24. (23) | Pappus of short, medium or long scales; disc corollas with reddish resin ducts | <i>Calea</i> p.p. |
| | Pappus absent or of short deciduous setae; disc corollas with colourless resin ducts | 25 |
| 25. (24) | Corollas white; achenes not fleshy; pappus setae deciduous of few short setae | <i>Melanthera</i> |
| | Corollas yellow; achenes with fleshy surface; epappose | <i>Tilesia</i> |
| 26. (21) | All achenes obcompressed, flattened on inner and outer surfaces; paleae flat | <i>Coreopsis</i> |
| | Disc achenes laterally compressed; paleae conduplicate about achenes or paleae absent | 27 |
| 27. (26) | Capitula lacking ray florets | 28 |
| | Capitula radiate | 31 |
| 28. (27) | Capitula with 3–5 disc florets; receptacle small, epaleaceous, not conical; achenes with internal pale striations | 29 |
| | Capitula with 14–240 disc florets; receptacle large, obviously paleaceous, conical; achenes lacking pale striations in phytomelanin layer | 30 |
| 29. (28) | Achenes with prominent basal elaiosome, body wingless and short-setuliferous throughout; pappus a fringe of short scales | <i>Garcilassa</i> |
| | Achene lacking elaiosome, body wings lacerate to crenellate, setuliferous only towards apex; pappus of 2 short, thick hispid awns | <i>Synedrellopsis</i> |
| 30. (28) | Shrubs or vines; inflorescence thyrsoid with corymbose branches | <i>Salmea</i> |
| | Perennial herbs; inflorescences or solitary long-pedicellate capitula | <i>Spilanthes</i> |
| 31. (27) | Achenes winged | 32 |
| | Achenes usually terete or angled but lacking wings | 33 |
| 32. (31) | Involucre with distinct outer series of broad foliaceous bracts; body of achene not constricted into neck; style arms strongly coiled | <i>Dimerostemma</i> |
| | Involucre lacking outer foliaceous bracts; body of achene constricted above into neck; style arms recurved | <i>Oyedaea</i> |

33. (31) Inner phyllaries broadly rounded; leaves opposite; achenes lacking pale striations in phytomelanin layer; sick style arms with two separate stigmatic lines 34
 Inner phyllaries narrow, acute; leaves often alternate; achenes with pale striations in phytomelanin layer; disk style arms with one continuous stigmatic surface on inside or each 35
34. (33) Achenes with narrow bases, lacking elaiosome; pappus a short laciniate crown, lacking neck at apex of achene *Elaphandra*
 Achenes with broad bases, with small or large elaiosome; pappus of squamellae fused into short crown above a short neck with 1–3 awns (rarely awns absent) *Aspilia*
35. (33) Pedicel inflated and fistulose beneath involucre *Tithonia*
 Pedicel not inflated or fistulose beneath involucre 36
36. (35) Style arms of disk florets with long slender apical appendages *Simsia*
 Style arms lacking apical appendage or with only short appendages 37
37. (36) Pappus awns easily deciduous *Pappobolus*
 Pappus awns persistent or achenes epappose 38
38. (37) Basal secondary veins of leaf strongly divergent from basal leaf margins; style arms apices with projecting appendage; ray florets 6–11 *Hymenostephium*
 Basal secondary veins subparallel with and close to basal margins of lamina; style arm apices with out appendage, with or without projecting cell tips; ray florets 14–32 *Viguiera*
39. (19) Capitula with 1 or 2 rays asymmetrically arranged 40
 Capitula with 3 or more radially arranged rays 41
40. (39) Capitula with few to many florets enclosed in radially symmetrical involucre; both radiate and discoid capitula present in inflorescence, and if radiate with only 1 or 2 ray florets; achenes 10-ribbed, somewhat flattened *Flaveria*
 Capitula obcompressed, with 2 or 5 florets enclosed in zygomorphic involucre of 1 or 2 greatly enlarged round phyllaries; all capitula radiate; achenes triquetrous *Delilia*
41. (39) Receptacles epaleaceous 42
 Receptacles paleaceous, paleae broad or filiform 44
42. (41) Achenes epappose *Villanova*
 Achenes pappose 43
43. (42) Phyllary margins membranaceous; involucre obovate or obtrullate in outline; pedicel not enlarged beneath involucre; style arms acute *Schkuhria*
 Phyllary margins herbaceous; involucre campanulate or hemispherical; pedicel enlarged beneath involucre; style arms truncate *Hymenoxys*
44. (41) Achenes of ray florets with marginal wing with many deep narrow lobes *Synedrella*
 Achenes of ray florets without many-lobed wings, usually wingless 45
45. (44) Ray florets with large, persistent corollas on achenes (i.e. abscission zone absent) 46
 Ray florets with small corollas or deciduous 48
46. (45) Phyllaries gradate; disc florets functionally male *Zinnia*
 Phyllaries subequal in length; disc florets hermaphrodite 47
47. (46) Ray achenes with pappus of few teeth or a minute rim; capitula distinctly pedicellate, pedicels inflated beneath involucre; ray corollas with tube *Heliopsis*
 Ray achenes with pappus of 3 stout spine-like awns and one broader awn; capitula sessile; ray corollas without tube *Sanvitalia*
48. (45) Disk achenes laterally compressed, sometimes with marginal wings 49
 Disk achenes terete or prismatic, often quadrangular 55
49. (48) Achenes constricted beneath pappus or with short neck or beak 50
 Achenes not constricted beneath pappus, or slightly narrower beneath pappus 52
50. (49) Erect annual herbs; ray limbs small; phyllaries subequal *Blainvillea*
 Perennial herbs (usually prostrate) or subshrubs; ray limbs, when present, conspicuous; outer phyllaries usually longer than inner 51

51. (50) Plants mainly prostrate; capitula solitary on erect pedicels; achenes without distinct carpopodium or elaiosomes at base, beak and pappus obscured at maturity by corky collar, body conspicuously tuberculate *Sphagneticola*
Plants mostly erect or shrubby; capitula rarely solitary; achenes with distinct carpopodium and elaiosomes at base; beak and pappus not obscured at maturity by corky collar, body smooth or only slightly tuberculate *Wedelia*
52. (49) Receptacle markedly conical or \pm columnar *Acmella*
Receptacle flat or convex to only slightly conical 53
53. (52) Scrambling shrubs or vines; branches short, squarrose *Oblivina*
Erect herbs or subshrubs; branches not squarrose 54
54. (53) Achenes dimorphic (ray achenes somewhat clavate and unwinged, disc achenes compressed and prominently winged); pappus absent; style arms with penicillate appendages as long as or much longer than stigmatic area *Chrysanthellum*
Achenes monomorphic; pappus of 2 apical awns; style arm appendages shorter than stigmatic area 55
55. (54) Corollas mostly deep purple or yellowish-purple, sometimes pink; achenes wingless; leaves more or less rosulate and basal; rootstock xylopodiaceous or tuberous *Isostigma*
Corollas yellow white or orange; achenes broadly winged; leaves often cauline; rootstock fibrous or with distinct taproot *Verbesina*
56. (48) Achenes epappose 57
Achenes with pappus setae or awns or scales 60
57. (56) Outer phyllaries spreading and with many stipitate glands *Siegesbeckia*
Outer phyllaries not spreading and eglandular 58
58. (57) Capitula sessile at anthesis but elongating after; small turf plants of high elevations *Aphanactis*
Pedicels not elongating after anthesis 59
59. (58) Paleae filiform; phyllaries not equal in number to ray florets and not conduplicate about ray achenes; receptacle slightly convex; achenes tuberculate *Eclipta*
Paleae broad; phyllaries equal in number to ray florets and partially conduplicate about ray achenes; receptacle conical; achenes smooth *Jaegeria*
60. (56) Pappus of many long barbellate or plumose setae 61
Pappus of awns or scales 62
61. (60) Pappus of barbellate capillary setae, somewhat deciduous; inflorescence a very many-headed corymbose-panicle *Schistocarpha*
Pappus of plumose setae, persistent; inflorescence scapiform or a few-headed cymose-panicle *Tridax*
62. (60) Ray corollas yellow; ray achenes and disk achenes with similar pappus *Calea* p.p.
Ray corollas whitish or purplish; ray achenes with reduced pappus or pappus absent *Galinsoga*

Key to the genera of the Inuleae

1. Plants dioecious; individual capitula homogamous (occasionally polygamously-dioecious in *Antennaria*) 2
Plants monoecious; individual capitula heterogamous or homogamous with perfect florets 4
2. (1) Shrubs or erect subshrubs; stems flattened laterally; leaves laterally compressed, green or more often ferruginous; achenes glabrous or with 2-seriate glandular-stipitate hairs (cf. *L. graveolens*) *Loricaria*
Annual herbs or rhizomatous perennials, erect or more commonly caespitose or suffruticose; stems cylindrical; leaves flat and not laterally compressed; achenes glabrous or pubescent with glandular-stipitate biseriate hairs 3
3. (2) Internodes very short and stems compressed into dense 'cojines'; leaves densely imbricate, adpressed on the stems and usually ovate to obovate; capitula sessile *Mniodes*
Internodes and stems differentiated; leaves not densely imbricate or adpressed to stems; capitula on inflorescences above leaves or solitary and sessile above leaves 4

4. (3) All leaves opposite and decussate; inflorescence of solitary terminal capitula *Cuatrecasasiella*
Basal leaves rosulate; inflorescences corymbose, racemose or glomerulate (rarely of solitary capitula) *Antennaria*
5. (1) Upper part of style and outside of style arms pubescent; style arms linear and bifurcate or shortly bifid 6
Upper part of style glabrous 9
6. (5) Capitula forming dense glomerules or arranged in \pm dense spikes; stems winged, wings discolorous *Pterocaulon*
Capitula solitary or \pm congested but never in spikes or spherical glomerules; stems usually wingless, if winged wings concolorous 7
7. (6) Trees; male florets solitary; carpodium inconspicuous; corolla contracted with short basal tube *Tessaria*
Herbs or shrubs; male florets few to several, never solitary; carpodium conspicuous and annular; corolla lacking distinct basal tube or basal tube long 8
8. (7) Pappus setae fused at base, often falling as unit; hermaphrodite florets functionally male, achenes poorly developed *Pluchea*
Pappus setae free, usually persistent and never falling as unit; hermaphrodite florets perfect with developing achenes *Pseudoconyza*
9. (5) Pappus setae plumose *Facelis*
Pappus setae barbellate 10
10. (9) Achenes fusiform, distinctly rostrate; leaves opposite *Chevreulia*
Achenes ovoid to oblong-cylindrical, erostrate; leaves alternate or rosulate 11
11. (10) Pappus setae free to base, individually deciduous 12
Pappus setae united at base, sometimes deciduous as a unit 14
12. (11) Involucres cylindrical or narrowly oblong or narrowly campanulate; florets 5–23 per capitulum; female florets 1–8 per capitulum *Achyrocline*
Involucre campanulate; florets 25–150 per capitulum; female florets >25 per capitulum 13
13. (12) Stereome undivided; corollas purple *Gnaphalium*
Stereome divided; corollas white to yellow or cream *Pseudognaphalium*
14. (11) Stems 1–2 cm long; leaves oblong-lanceolate, 3.5–5 mm long, 0.5–1.5 mm wide; female florets usually 4 per capitulum *Jalcoiphila*
Stems more than 2 cm long; leaves linear-lanceolate to ovate, generally more than 5 mm long and more than 2 mm wide; female florets 10 or more per capitulum 15
15. (12) Hermaphrodite florets 4-merous; anthers with dimorphic apical anther appendages, 1 lanceolate and 3 obtuse *Stuckertiella*
Hermaphrodite florets 5-merous (rarely 4-merous); anthers with monomorphic appendages 16
16. (15) Achenes setuliferous, setulae very long *Lucilia*
Achenes glabrous or setuliferous, setulae short-clavate or globose 17
17. (16) Style arms of hermaphrodite florets truncate, not papillose externally, but with an apical ring of collector hairs *Gamochoaeta*
Style arms of hermaphrodite florets acute or rounded, papillose externally, without an apical ring of collector hairs 18
18. (17) Leaves concave or conduplicate; stems generally prostrate but sometimes erect or ascending *Belloa*
Leaves flat; stems erect or ascending *Luciliocline*

Key to the genera of the Lactuceae

1. Receptacle paleaceous; pappus setae of central achenes plumose *Hypochaeris*
Receptacles naked; pappus setae of barbellate or scabrid rays or setaceous 2
2. (1) Inflorescence of solitary scapose capitula, scapes hollow; corolla tube with tufts of long hairs at apex *Taraxacum*
Inflorescence usually branched and few to many headed, if single-headed then plants with branched hairs and phyllaries few-seriate; corolla tube never with tufts of long hairs at apex 3

3. (2) Achenes long-beaked; corollas white, pink or violet; phyllaries uniseriate; *Picrosia*
 Achenes erostrate; corollas yellow or sometimes reddish; phyllaries uniseriate (and pappus
 absent) or few-seriate 4
4. (3) Pappus absent; outermost achenes longer than central and distinctly curved *Lapsana*
 Pappus present; achenes homomorphic, equal sized and cylindrical or somewhat
 compressed 5
5. (4) Pappus dimorphic, setae of setaceous and downy rays; plants with several cauline leaves;
 involucre urceolate; achenes often compressed, usually with 4 main ribs *Sonchus*
 Pappus biseriate and monomorphic, setae scabrid-barbellate, fragile; plants with few cauline
 leaves, often with a loose basal rosette; involucre turbinate or campanulate; achenes
 cylindrical, 10-ribbed *Hieracium*

Key to the genera of the Liabeae

1. Capitula sessile in basal leaf rosette; style arms of ray florets spiralled *Paranephelius*
 Capitula short- to long- pedicellate; style arms usually evenly curved 2
2. (1) Leaves not tomentose, stem and leaf hairs stiff with enlarged bases; achenes glabrous 3
 Leaves usually tomentose, at least beneath, hairs not stiff with enlarged bases; achenes
 setuliferous 4
3. (2) Small, usually decumbent herbs; leaf lamina 3-veined at base; achenes compressed with 2
 ribs; pappus reduced or lacking *Philoglossa*
 Robust, erect herbs or subshrubs; leaf lamina with 5-9 veins radiating from base; achenes
 usually 4-angled; pappus of many awns or setae *Erato*
4. (2) Anther thecae usually blackish; style arms of disk florets less than 1/3 as long as hispidulous
 upper part of style shaft *Munnozia*
 Anther thecae pale; style arms often 1/2 as long as hispidulous upper part of style shaft or
 longer 5
5. (4) Leaf lamina pinnately veined; leaves basal and rosetteform; corollas orange to reddish-
 yellow or reddish *Pseudonosotis*
 Leaf lamina 3-veined; plants with leafy stems; corollas yellow 6
6. (5) Inflorescence with all bracts or with all but basal bracts and branches subopposite or
 alternate; receptacle scarcely alveolate, glabrous; stems with latex *Microliabum*
 Inflorescence with all or at least primary bracts and branches opposite; receptacle with
 minute hairs, chaff or projections; stems without latex *Liabum*

Key to the genera of the Mutisieae

1. All capitula ligulate, or rarely with mixtures of ligulate and bilabiate florets in one capitulum
 as well as ligulate capitula on one plant *Hyaloseris*
 Capitula containing actinomorphic, bilabiate, or pseudoligulate florets, or mixtures there of 2
2. (1) Receptacles entirely (or partially) paleaceous *Jungia*
 Receptacles epaleaceous 3
3. (2) Style arms truncate or rarely rounded; style hairs obtuse to rounded (subtribe *Nassauviineae*
 p.p.) 4
 Style arms apices acute or obtuse; style hairs mostly acute 11
4. (3) Inflorescences of glomerules or synflorescences *Polyachyrus*
 Inflorescences of cymes, corymbs, panicles or of solitary capitula 5
5. (4) Pappus of caducous scales *Nassauvia*
 Pappus setae capillary or broadened at base 6
6. (5) Receptacles always glabrous; 7
 Receptacles usually pubescent (of hairs or papillae) 8
7. (6) Pappus setae usually uniseriate, flattened and broadened at base, barbellate or plumose;
 phyllaries biseriate; corollas white, pink, lilac or purple *Leucheria*
 Pappus setae biseriate, capillary, barbellate; phyllaries 1-2-seriate; corollas white *Holocheilus*

8. (6) Stems with spines terminating branches or axes of inflorescences *Proustia*
 Stems and inflorescence axes completely unarmed 9
9. (8) Rosettiform sometimes caespitose herbs, rarely tall and leafy; inflorescences solitary and sessile in leaf rosette, scapiform with solitary or few capitula or of few headed panicles *Perezia*
 Subshrubs, shrubs (sometimes scandent or trailing) or small trees, or if herbaceous inflorescences corymbose and stem winged or with decurrent based leaves 10
10. (9) Inflorescences usually of terminal cymes, corymbs or panicles, sometimes pseudoglomerules; style arms >1 mm long, apices truncate; receptacle pilose or densely long-pubescent; corollas yellow, orange or rarely white, variously pubescent or sometimes glabrous; pappus setae 2-3 (-4) -seriate *Trixis*
 Inflorescence of terminal solitary or tightly grouped clusters of small capitula; style arms <1 mm long, apices rounded; receptacle papillate; corollas white or yellowish white, glabrous; pappus setae uniseriate *Lophopappus*
11. (3) Florets all actinomorphic 12
 Florets clearly bilabiate, pseudobilabiate, pseudoligulate, capitula sometimes heterogamous and radiate 14
12. (11) Plants dioecious; corollas whitish or cream; style shaft glabrous; inflorescences of many-headed usually leafy panicles or corymbs, capitula sessile or short-pedicellate *Gochnatia* (sect. *Moquiniastrum*) 13
 Plants monoecious 13
13. (12) Plants soon appearing leafless (leafy only on young shoots); stems terminating in spine *Cyclolepis*
 Plants conspicuously leafy; stems unarmed *Gochnatia*
14. (11) Plants appearing leafless, minute linear-spathulate leaves falling rapidly *Aphylloclados*
 Plants conspicuously leafy, stems leafy throughout or with apical or basal rosettes of leaves 15
15. (14) Plants dioecious *Lycoseris*
 Plants monoecious 16
16. (15) Leaves with simple or branched tendrils at apices, leaves often pinnate, sometimes simple *Mutisia*
 Leaves lacking tendrils at apices 17
17. (16) Capitula radiate and marginal (ray) florets with conspicuous ray limb, either with marginal floret corollas bilabiate and disc florets corollas actinomorphic or marginal and disc florets corollas bilabiate 18
 Capitula discoid and all florets corollas bilabiate and hermaphrodite *Mutisia* (sect. *Isantha*)
18. (17) Marginal (ray) floret and disc floret corollas all bilabiate 19
 Marginal (ray) floret bilabiate and disc floret corollas actinomorphic 22
19. (18) Pappus setae plumose; erect, ascending or clambering subshrubs or shrubs; leaves usually herbaceous *Mutisia* (sect. *Holophyllum*, sect. *Fruticosa*)
 Pappus setae barbellate 20
20. (19) Leafy stemmed erect or prostrate annual or perennial herbs or dense caespitose or lax subshrubs or shrubs; inflorescences of solitary sessile or subsessile terminal capitula or a short few-headed cyme; ray florets female and lacking staminodes, neuter or hermaphrodite; outer phyllaries often foliaceous *Chaetanthera*
 Acaulescent rosulate scapiform herbs; scapes usually very long and with few to several scale-like bracteoles, scapes often markedly elongating in fruit; ray florets usually with staminodes; outer phyllaries never foliaceous (subtribe Gerberinae) 21
21. (20) Plants with stout rhizomes; involucre mostly broad and hemispherical; achenes short and ovoid; anther filaments papillate; achene setulae flattened and spatulate; ray limbs pubescent and sometimes glandular-punctate; pappus setae multiseriate, free at base, barbellate; corollas yellow to orangeish yellow or rarely reddish; capitula always erect *Trichocline*
 Plants usually with slender rhizomes and often wiry or fibrous roots; involucre mostly turbinate; achenes usually long, cylindrical, sometimes beaked; anther filaments glabrous; achene setulae inflated or of short or very long twin hairs or absent; ray limbs usually

- glabrous; pappus setae usually uniseriate and often united at base, setae fine; corollas usually white, rarely purplish; capitula either nodding or erect in bud and flower becoming erect in fruit *Chaptalia*
22. (18) Corollas intense orange to orange-red; phyllaries with scarious apical appendages or apices linear to linear-lanceolate *Cnicothamnus*
 Corollas white, yellow, pink, reddish or purple, but never orange or orange-red; phyllaries lacking apical appendages 23
23. (22) Florets few (5–6); leaf pubescence of malpighiaceuous hairs; leaves linear lanceolate to oblong-lanceolate *Hyalis*
 Florets numerous (>10); leaf pubescence absent or of simple hairs; leaves rotund, ovate, hastate or lyrate 24
24. (23) Ray or marginal floret corollas pink, purple or violet; capitula solitary or few in corymbs but never surrounded by apical leaves; achenes glabrous or densely setuliferous; plants eglandular; annual or perennial herbs, subshrubs or suffrutecus *Onoseris*
 Ray or marginal corollas white; inflorescences solitary, terminal and sessile and surrounded by apical leaves; achenes glabrous or glandular-punctate; stems resinous and short-pubescent, leaves sticky and glabrous above and densely pubescent beneath; resinous shrubs *Plazia*

Key to the genera of the Senecioneae

1. Plants dioecious or occasionally gynodioecious; plants either functionally male (ovaries sterile) or functionally female (abortive anthers); individual capitula exclusively homogamous; style arm apices rounded, dorsally papillose *Chersodoma*
 Plants monoecious; plants with some hermaphrodite florets; capitula homogamous (discoid) or heterogamous (disciform or radiate); style arms apically truncate or obtuse to conical, apically with ring of penicillate collecting hairs, with or without a central projection of penicillate papillae 2
2. (1) Style arms apically truncate or obtuse with a ring of penicillate collecting hairs, apical projection absent 3
 Style arms apically conical, convex or triangular with central penicillate projection and a ring of collecting hairs 13
3. (2) Annual herbs; leaves alternate 4
 Perennial suffrutescent herbs, shrubs or small trees; leaves alternate or opposite 5
4. (3) Capitula heterogamous, calyculate; marginal florets female, corollas filiform, yellow, whitish or pinkish *Erechtites*
 Capitula homogamous with hermaphrodite florets, or heterogamous with marginal florets female, calyculus reduced to a few bracts or absent; corollas strictly yellow *Senecio* p.p.
5. (3) Rhizomatous or caespitose herbs; leaves usually rosulate, rarely cauline; phyllaries fused at least to midpoint; marginal florets rayed (when present), yellow, violet or purple 6
 Phyllaries free to base 8
6. (5) Leaves numerous with at least leaf bases covering rhizome for c. 10 cm below inflorescence or apices; plants forming tightly packed or loose hummocks or mats; leaves of outer edge of more closely compressed plants with distal few mm green, other leaves brown, blackish or whitish *Xenophyllum*
 Leaves few and restricted near apices of rhizomes or just below capitula; plants forming rosettes in small groups or individually; leaves completely green 7
7. (6) Leaves and involucre glabrous; style arm apices with or without few papillae but never with long multicellular hairs *Werneria*
 Leaves and involucre covered with long (3–5 mm) strigose hairs; style arm apices with long multicellular hairs *Misbrookea*
8. (5) Anther bases rounded or obtuse; leaves alternate; usually herbs, subshrubs or shrubs; hermaphrodite florets with short-lobed corollas; ray limbs (when present) usually yellow, violet or purple, rarely white 9
 Anther bases sagittate or tailed; trees, shrubs or woody vines 12

9. (8) Herbs, densely woolly; capitula usually large, solitary or few, nodding, discoid; phyllaries usually multiseriate *Culcitium*
 Herbs, subshrubs, small shrubs or scandent shrublets, glabrous or variously pubescent but not woolly; capitula relatively small to medium, usually few to many, erect, discoid, disciform or radiate; phyllaries uniseriate 10
10. (9) Herbs, subshrubs or small shrubs; florets usually many; phyllaries >5; corollas usually short-lobed *Senecio*
 Suffrutescent herbs, scandent shrublets or trees; florets few (5); phyllaries 5; corolla lobes long or short 11
11. (10) Capitula discoid; corolla lobes long; style arm apices penicillate; corollas white *Paracalia*
 Capitula radiate; disc corolla lobes short; style arms apices truncate to obtusely convex; corollas yellow *Dendrophorbium*
12. (8) Leaves glabrous or with simple hairs; style branches truncate or obtuse; stigmatic areas clearly separated; achenes 5- angled or ribbed *Pentacalia*
 Leaves pubescent, hairs stellate or irregularly branched; style branches acute to acuminate; stigmatic areas continuous or barely separated; achenes 8-10-ribbed *Nordenstamia*
13. (2) Annual herbs; leaves alternate; capitula homogamous, ecalyculate; corollas orange-red to pink *Emilia*
 Perennial herbs or woody vines or shrubs; leaves alternate or opposite; capitula homogamous or heterogamous, calyculate; corollas orange, yellow or white, rarely purple 14
14. (13) Hermaphrodite florets corollas narrowly tubular, throats gradually funnellform *Pseudogynoxys*
 Hermaphrodite florets corollas campanulate or tubular, throat distinct from tube 15
15. (14) Suffrutescent climbers; leaves alternate or opposite, membranaceous; capitula discoid; corollas yellow or greenish-yellow phyllaries (12-)16-21; 30-100 (-140) florets per capitulum *Aetheolaena*
 Plants woody shrubs or trees; leaves opposite, coriaceous; capitula radiate or discoid; corollas yellow to white; phyllaries 8; ray florets (1-3)4-8, hermaphrodite florets 8-24 *Gynoxys*

Key to the genera of the Vernonieae

1. Achenes strongly compressed with 2 horn-like apical projections *Trichospira*
 Achenes cylindrical with a pappus of awns, capillary hairs or a cartilaginous coronona 2
2. (1) Inflorescence glomerulose with congested capitula, synflorescence on an elongated scape 3
 Inflorescence cymose with separate (although sometimes congested) capitula, not scapose, or sessile and axillary 4
3. (2) Florets 3(2-5) per capitulum; leaves tomentose or glabrate; corollas tube about twice as long as corolla lobes *Chresta*
 Florets (4-) 6-12 per capitulum; leaves glabrate, membranous; corolla tube between 2-4.5 times as long as corolla lobes *Pycnocephalum*
4. (2) Corolla with prominent stipitate-glands; capitula terminal on branches; involucre surrounded by foliaceous bracts *Centratherum*
 Corollas lacking stipitate-glands; capitula usually few to many in axillary or terminal inflorescences, if scapose then pedicel ebracteate; involucre not surrounded by foliaceous bracts 5
5. (4) At least inner phyllaries deciduous 6
 All phyllaries persistent 7
6. (5) Usually all phyllaries deciduous (at least in herbarium material); capitula usually in dense axillary or terminal clusters; leaves sometimes opposite; shrubs (sometimes scandent) or trees; pubescence often stellate or lepidote; corolla lobes sometimes strongly coiled *Piptocarpha*
 Only inner phyllaries usually deciduous; capitula in terminal inflorescences; leaves alternate or opposite *Critoniopsis*

| | | | |
|----------|---|----------------------|----|
| 7. (4) | Florets 2–4 per capitulum; corollas often zygomorphic; involucre usually with 4 pairs of phyllaries | <i>Elephantopus</i> | 8 |
| 8. (7) | Florets more than 5 per capitulum; corollas actinomorphic; involucre few- to many- seriate Pappus a cartilaginous corona; corollas 3–4-lobed; phyllaries ± 2-seriate | <i>Struchium</i> | 9 |
| 9. (8) | Pappus of hair-like or capillary setae; corollas 5-lobed; phyllaries 3–6-seriate | | 10 |
| | Aquatic herbs; capitula axillary, usually solitary | | 11 |
| 10. (9) | Terrestrial herbs, shrubs or small trees; capitula numerous, of scorpioid cymes or terminal and solitary | | 11 |
| | Capitula small, 1 (-3) per axil; phyllary margins concolorous; achenes 5-ribbed; style with basal node; leaves not clasping stem; delicate herbs | <i>Xiphochaeta</i> | |
| | Capitula large, solitary and axillary; phyllary margins whitish; achenes 10-ribbed; style lacking basal node; leaf bases amplexicaul; robust herbs | <i>Pacourina</i> | |
| 11. (9) | Pappus of strap-shaped awns | <i>Strophopappus</i> | 12 |
| | Pappus of capillary setae | | 12 |
| 12. (11) | Corollas with long hairs on inside of throat | <i>Quechualia</i> | |
| | Corollas lacking long hairs on inside of throat | <i>Vernonia</i> | |

Basic statistics for the Preliminary Checklist

The basic statistics for the Preliminary checklist are broken down, firstly into an alphabetical listing of tribes, the genera in the tribe and totals of genera, species, endemic species and overall totals (Table 1); secondly, a breakdown of the numbers of species (genera) by tribe in descending order of size (Table 2), and; thirdly, a breakdown of the ten largest genera (tribe) and the number of species (endemic species) that they contain (Table 3).

Table 1. Alphabetical listing of tribes, their genera, total number of genera per tribe, species and endemic species per genus and totals of genera, species, endemic species, and percentage of endemic species

| | Genera | Species | Endemic species | Total species |
|----------------------------------|--------|----------|-----------------|---------------|
| Anthemideae | 5 | | | |
| <i>Anthemis</i> L. | | 1 | | |
| <i>Artemisia</i> L. | | 1 | | |
| <i>Cotula</i> L. | | 3 | | |
| <i>Soliva</i> Ruiz & Pav. | | 1 | | |
| <i>Tanacetum</i> Sch.Bip. | | 1 | | |
| | | 7 | | 7 |
| Astereae | 24 | | | |
| <i>Baccharis</i> L. | | 59 (31*) | 13 (10**) | |
| <i>Chiliotrichiopsis</i> Cabrera | | 1 | | |
| <i>yza</i> Less. | | 9 | 1 | |
| <i>Diplostephium</i> Kunth | | 3 | | |
| <i>Egletes</i> Cass. | | 1 | | |
| <i>Erigeron</i> L. | | 5 | | |
| <i>Grindelia</i> Willd. | | 1 | | |
| <i>Gutierrezia</i> Lag. | | 1 | | |
| <i>Hysterionica</i> Willd. | | 1 | | |
| <i>Inulopsis</i> (DC.) O. Hoffm. | | 1 | | |
| <i>Laennecia</i> Cass. | | 3 | | |
| <i>Laestadia</i> Kunth ex Less. | | 1 | | |
| <i>Leptostelma</i> D. Don | | 2 | | |
| <i>Llerasia</i> Triana | | 5 | 4 | |
| <i>Neja</i> D. Don | | 1 | | |

| | | | |
|-------------------------------------|-----|----|-----|
| <i>Noticastrum</i> DC. | 4 | | |
| <i>Novenia</i> S. E. Freire | 1 | | |
| <i>Ocyroe</i> Phil. | 1 | | |
| <i>Oritrophium</i> (Kunth) Cuatrec. | 1 | | |
| <i>Parastrephia</i> Nutt. | 3 | | |
| <i>Plagiocheilus</i> Arn. ex DC. | 2 | | |
| <i>Podocoma</i> Cass. ^a | 4 | | |
| <i>Solidago</i> L. | 1 | | |
| <i>Symphotrichum</i> Nees | 3 | | |
| | 114 | 18 | 121 |

^a - it is highly likely that two species belong to an as yet unnamed genus.

3

Barnadesieae

| | | | |
|--------------------------|----|---|-----|
| <i>Barnadesia</i> Mutis | 8 | 3 | |
| <i>Chuquiraga</i> Juss. | 6 | | |
| <i>Dasyphyllum</i> Kunth | 9 | 1 | |
| | 23 | 4 | 144 |

Calenduleae

1

| | | | |
|---------------------|---|--|-----|
| <i>Calendula</i> L. | 1 | | |
| | 1 | | 145 |

Cardueae

2

| | | | |
|-------------------|---|--|-----|
| <i>Carduus</i> L. | 1 | | |
| <i>Cirsium</i> L. | 1 | | |
| | 2 | | 147 |

Eupatorieae

41

| | | | |
|--|----|---|--|
| <i>Acanthostyles</i> R. M. King & H. Rob. | 1 | | |
| <i>Adenostemma</i> J. R. Forst. & G. Forst. | 2 | | |
| <i>Ageratina</i> Spach | 11 | 5 | |
| <i>Ageratum</i> L. | 1 | | |
| <i>Amboroa</i> Cabrera | 1 | 1 | |
| <i>Austrobrickellia</i> R. M. King & H. Rob. | 1 | | |
| <i>Austroeupatorium</i> R. M. King & H. Rob. | 3 | 1 | |
| <i>Ayapana</i> Spach | 3 | | |
| <i>Ayapanopsis</i> R. M. King & H. Rob. | 6 | 5 | |

| | | | |
|--|-----|-----|-----|
| <i>Barrosoa</i> R. M. King & H. Rob. | 3 | 1 | |
| <i>Bejaranoa</i> R. M. King & H. Rob. | 1 | | |
| <i>Bishovia</i> R. M. King & H. Rob. | 1 | 1 | |
| <i>Brickellia</i> Elliott | 1 | | |
| <i>Campovassouria</i> R. M. King & H. Rob. | 1 | | |
| <i>Campuloclinium</i> DC. | 1 | | |
| <i>Chromolaena</i> DC. | 23 | 7 | |
| <i>Condylidium</i> R. M. King & H. Rob. | 1 | | |
| <i>Critonia</i> P. Browne | 1 | | |
| <i>Dasycondylus</i> R. M. King & H. Rob. | 1 | | |
| <i>Fleischmannia</i> Sch.Bip. | 9 | 5 | |
| <i>Gymnocoronis</i> DC. | 1 | | |
| <i>Gyptis</i> (Cass.) Cass. | 2 | | |
| <i>Hatschbachiella</i> R. M. King & H. Rob. | 1 | | |
| <i>Hebeclinium</i> DC. | 1 | | |
| <i>Helogyne</i> Nutt. | 3 | | |
| <i>Heterocondylus</i> R. M. King & H. Rob. | 1 | | |
| <i>Kaunia</i> R. M. King & H. Rob. | 11 | 7 | |
| <i>Koanophyllum</i> Arruda | 4 | 1 | |
| <i>Lorentzianthus</i> R. M. King & H. Rob. | 1 | | |
| <i>Mikania</i> Willd. | 46 | 23 | |
| <i>Neocuatrecasia</i> R. M. King & H. Rob. | 5 | 4 | |
| <i>Ophryosporus</i> Meyen | 11 | 5 | |
| <i>Polyanthina</i> R. M. King & H. Rob. | 1 | | |
| <i>Praxeliopsis</i> G. M. Barroso | 1 | | |
| <i>Praxelis</i> Cass. | 5 | 1 | |
| <i>Raulinoreitzia</i> R. M. King & H. Rob. | 1 | | |
| <i>Sphaereupatorium</i> (O. Hoffm.) Kuntze ex B. L. Rob. | 1 | | |
| <i>Stevia</i> Cav. | 50 | 35 | |
| <i>Stomatanthes</i> R. M. King & H. Rob. | 2 | | |
| <i>Trichogonia</i> (DC.) Gardner | 2 | 2 | |
| <i>Urolepis</i> (DC.) R. M. King & H. Rob. | 1 | | |
| | 223 | 104 | 370 |

Heliantheae

67

| | | | |
|-------------------------------|---|--|--|
| <i>Acanthospermum</i> Schrank | 2 | | |
| <i>Acmeilla</i> Rich. | 5 | | |

| | | |
|--|----|---|
| <i>Ambrosia</i> L. | 3 | |
| <i>Aphanactis</i> Wedd. | 1 | 1 |
| <i>Aspilia</i> Thouars | 7 | 1 |
| <i>Baltimora</i> L. | 1 | |
| <i>Bidens</i> L. | 11 | |
| <i>Blainvillea</i> Cass. | 1 | |
| <i>Calea</i> L. | 10 | 5 |
| <i>Chrysanthellum</i> Rich. ex Pers. | 1 | |
| <i>Clibadium</i> L. | 4 | |
| <i>Coreopsis</i> L. | 4 | |
| <i>Cosmos</i> Cav. | 5 | 1 |
| <i>Delilia</i> Spreng. | 1 | |
| <i>Dimerostemma</i> Cass. | 4 | |
| <i>Dyssodia</i> Cav. | 1 | |
| <i>Eclipta</i> L. | 1 | |
| <i>Elaphandra</i> Strother | 1 | |
| <i>Eleutheranthera</i> Poit. ex Bosc. | 1 | |
| <i>Encelia</i> Adans. | 1 | |
| <i>Enydra</i> Lour. | 2 | |
| <i>Ericentrodea</i> S. F. Blake & Sherff | 1 | |
| <i>Flaveria</i> Juss. | 1 | |
| <i>Flourensia</i> DC. | 2 | 1 |
| <i>Galinsoga</i> Ruiz & Pav. | 4 | 1 |
| <i>Garcilassa</i> Poepp. | 1 | |
| <i>Helianthus</i> L. | 1 | |
| <i>Heliopsis</i> Pers. | 1 | |
| <i>Heterosperma</i> Cav. | 4 | |
| <i>Hymenostephium</i> Benth. & Hook.f. | 1 | |
| <i>Hymenoxys</i> Cass. | 1 | |
| <i>Ichthyothere</i> Mart. | 4 | |
| <i>Isostigma</i> Less. | 4 | 1 |
| <i>Jaegeria</i> Kunth | 1 | |
| <i>Lagascea</i> Cav. | 1 | |
| <i>Melampodium</i> L. | 1 | |
| <i>Melanthera</i> Rohr | 2 | |
| <i>Neurolaena</i> R. Br. | 1 | |
| <i>Oblivia</i> Strother | 1 | |

| | | | |
|---|-----|----|-----|
| <i>Oyedaea</i> DC. | 5 | 5 | |
| <i>Pappobolus</i> S. F. Blake | 1 | | |
| <i>Parthenium</i> L. | 3 | | |
| <i>Pectis</i> L. | 4 | 2 | |
| <i>Porophyllum</i> Guett. | 4 | | |
| <i>Riencourtia</i> Cass. | 2 | | |
| <i>Salmea</i> DC. | 1 | | |
| <i>Sanvitalia</i> Lam. | 1 | | |
| <i>Schistocarpha</i> Less. | 1 | | |
| <i>Schkhuria</i> Roth | 3 | | |
| <i>Sigesbeckia</i> L. | 4 | | |
| <i>Simsia</i> Pers. | 2 | | |
| <i>Smallanthus</i> MacKenzie | 5 | | |
| <i>Sphagneticola</i> O. Hoffm. | 2 | | |
| <i>Spilanthes</i> Jacq. | 1 | | |
| <i>Synedrella</i> Gaertn. | 1 | | |
| <i>Synedrellopsis</i> Hieron. & Kuntze ex O. Hoffm. | 1 | | |
| <i>Tagetes</i> L. | 11 | 2 | |
| <i>Tilesia</i> G. Mey. | 1 | | |
| <i>Tithonia</i> Desf. ex Juss. | 1 | 1 | |
| <i>Tridax</i> L. | 2 | 1 | |
| <i>Verbesina</i> L. | 18 | 12 | |
| <i>Viguiera</i> Kunth | 14 | 5 | |
| <i>Villanova</i> Lag. | 2 | | |
| <i>Wedelia</i> Jacq. | 3 | 1 | |
| <i>Xanthium</i> L. | 2 | | |
| <i>Zexmenia</i> La Llave | 2 | 1 | |
| <i>Zinnia</i> L. | 2 | | |
| | 195 | 41 | 565 |

Inuleae

19

| | | | |
|---------------------------------|---|----|--|
| <i>Achyrocline</i> (Less.) DC. | 9 | ?1 | |
| <i>Antennaria</i> Gaertn. | 1 | | |
| <i>Belloa</i> Remy | 6 | | |
| <i>Chevreulia</i> Cass. | 2 | | |
| <i>Cuatrecasasiella</i> H. Rob. | 1 | | |
| <i>Facelis</i> Cass. | 3 | | |

| | | | |
|--|----|----|-----|
| <i>Gamochaeta</i> Wedd. | 8 | | |
| <i>Gnaphalium</i> L. | 3 | | |
| <i>Jalcophila</i> M. O. Dillon & Sagást. | 1 | 1 | |
| <i>Loricaria</i> Wedd. | 3 | 1 | |
| <i>Lucilia</i> Cass. | 4 | | |
| <i>Luciliocline</i> Anderb. & S. E. Freire | 3 | | |
| <i>Mniodes</i> (A. Gray) Benth. & Hook.f. | 1 | | |
| <i>Pluchea</i> Cass. | 6 | 1 | |
| <i>Pseudoconyza</i> Cuatrec. | 1 | | |
| <i>Pseudognaphalium</i> Kirp. | 9 | | |
| <i>Pterocaulon</i> Elliott | 6 | | |
| <i>Stuckertiella</i> Beauverd | 1 | | |
| <i>Tessaria</i> Ruiz & Pav. | 1 | | |
| | 69 | 4 | 634 |
| Lactuceae | 6 | | |
| <i>Hieracium</i> L. | 25 | 15 | |
| <i>Hypochoeris</i> L. | 9 | 1 | |
| <i>Lapsana</i> L. | 1 | | |
| <i>Picrosia</i> D. Don | 1 | | |
| <i>Sonchus</i> L. | 2 | | |
| <i>Taraxacum</i> Weber | 2 | | |
| | 40 | 16 | 674 |
| Liabeae | 7 | | |
| <i>Erato</i> DC. | 1 | | |
| <i>Liabum</i> Adans. | 4 | 1 | |
| <i>Microliabum</i> Cabrera | 2 | 1 | |
| <i>Munnozia</i> Ruiz & Pav. | 13 | 8 | |
| <i>Paranephelius</i> Poepp. | 4 | | |
| <i>Philoglossa</i> DC. | 1 | | |
| <i>Pseudonoseris</i> H. Rob. & Brettell | 1 | | |
| | 26 | 10 | 670 |
| Mutisieae | 22 | | |
| <i>Aphyllclados</i> Wedd. | 1 | | |
| <i>Chaetanthera</i> Ruiz & Pav. | 3 | 2 | |

| | | | |
|--------------------------------------|----|----|-----|
| <i>Chaptalia</i> Vent. | 6 | | |
| <i>Cnicothamnus</i> Griseb. | 2 | | |
| <i>Cyclolepis</i> D. Don | 1 | | |
| <i>Gochmatia</i> Kunth | 8 | 3 | |
| <i>Holocheilus</i> Cass. | 1 | | |
| <i>Hyalis</i> D. Don ex Hook. & Arn. | 2 | | |
| <i>Hyaloseris</i> Griseb. | 4 | 2 | |
| <i>Jungia</i> L.f. | 9 | 1 | |
| <i>Leucheria</i> Lag. | 1 | | |
| <i>Lophopappus</i> Rusby | 2 | | |
| <i>Lycoseris</i> Cass. | 2 | | |
| <i>Mutisia</i> L.f. | 14 | 3 | |
| <i>Nassauvia</i> Comm. ex Juss. | 1 | | |
| <i>Onoseris</i> Willd. | 7 | 2 | |
| <i>Perezia</i> Lag. | 11 | | |
| <i>Plazia</i> Ruiz & Pav. | 1 | | |
| <i>Polyachyrus</i> Lag. | 1 | | |
| <i>Proustia</i> Lag. | 1 | | |
| <i>Trichocline</i> Cass. | 2 | | |
| <i>Trixis</i> P. Browne | 6 | | |
| | 86 | 13 | 786 |

Senecioneae

16

| | | | |
|---|----|----|--|
| <i>Aetheolaena</i> Cass. | 2 | | |
| <i>Chersodoma</i> Phil. | 3 | | |
| <i>Culcitium</i> Humb. & Bonpl. | 4 | | |
| <i>Dendrophorbium</i> (Cuatrec.) C. Jeffrey | 19 | 11 | |
| <i>Emilia</i> (Cass.) Cass. | 1 | | |
| <i>Erechtites</i> Raf. | 4 | | |
| <i>Gynoxys</i> Cass. | 17 | 15 | |
| <i>Misbrookea</i> V. A. Funk | 1 | | |
| <i>Monticalia</i> C. Jeffrey | 1 | | |
| <i>Nordenstamia</i> Lundin | 2 | 1 | |
| <i>Paracalia</i> Cuatrec. | 1 | 1 | |
| <i>Pentacalia</i> Cass. | 19 | 14 | |
| <i>Pseudogynoxys</i> (Greenm.) Cabrera | 3 | | |
| <i>Senecio</i> L. | 80 | 22 | |

| | | | | |
|-------------------------------------|-----|------|------|------|
| <i>Werneria</i> Kunth | | 12 | | |
| <i>Xenophyllum</i> V. A. Funk | | 9 | | |
| | | 178 | 64 | 964 |
| Vernonieae | 14 | | | |
| <i>Centratherum</i> Cass. | | 2 | 1 | |
| <i>Chresta</i> DC. | | 1 | | |
| <i>Critoniopsis</i> Sch.Bip. | | 7 | 5 | |
| <i>Elephantopus</i> L. | | 5 | | |
| <i>Eremanthus</i> Less. | | 2 | | |
| <i>Pacourina</i> Aubl. | | 1 | | |
| <i>Piptocarpha</i> R. Br. | | 5 | | |
| <i>Pycnocephalum</i> (DC.) MacLeish | | 1 | | |
| <i>Quechualia</i> H. Rob. | | 4 | 2 | |
| <i>Strophopappus</i> DC. | | 3 | | |
| <i>Struchuium</i> P. Browne | | 1 | | |
| <i>Trichospira</i> Kunth | | 1 | | |
| <i>Vernonia</i> Schreb. | | 73 | 20 | |
| <i>Xiphochaeta</i> Poepp. | | 1 | | |
| | | 107 | 28 | 1071 |
| TOTAL | 227 | 1071 | 302 | 1071 |
| Percentage of endemic species | | | 28.2 | |

* - numbers of infraspecific taxa; ** - numbers of endemic infraspecific taxa

Table 2. Numbers of species (genera) per tribe, in descending order

| Tribe | Species (Genera) |
|--------------|------------------|
| Eupatorieae | 223 (41) |
| Heliantheae | 195 (67) |
| Senecioneae | 178 (16) |
| Astereae | 114 (24) |
| Vernonieae | 107 (14) |
| Mutisieae | 86 (22) |
| Inuleae | 69 (19) |
| Lactuceae | 40 (6) |
| Liabeae | 26 (7) |
| Barnadesieae | 23 (3) |
| Anthemideae | 7 (5) |
| Cardueae | 2 (2) |
| Calenduleae | 1 (1) |

Table 3. The 10 largest genera (tribe) and the number of species (endemic), in descending order

| Genus (Tribe) | Species (Endemic) |
|-------------------------------------|-------------------|
| <i>Senecio</i> (Senecioneae) | 80 (22) |
| <i>Vernonia</i> (Vernonieae) | 73 (20) |
| <i>Baccharis</i> (Astereae) | 59 (13) |
| <i>Stevia</i> (Eupatorieae) | 50 (35) |
| <i>Mikania</i> (Eupatorieae) | 46 (23) |
| <i>Hieracium</i> (Lactuceae) | 25 (15) |
| <i>Chromolaena</i> (Eupatorieae) | 23 (7) |
| <i>Pentacalia</i> (Senecioneae) | 19 (14) |
| <i>Dendrophorbium</i> (Senecioneae) | 19 (11) |
| <i>Verbesina</i> (Heliantheae) | 18 (12) |

A

?*Abasolola* La Llave & Lex., Nov. Veg. Descr. 1: 11 (1824) = **Eclipta** L.

Acanthambrosia Rydb., N. Amer. Fl. 33: 22 (1922) = **Ambrosia** L.

Acanthophyllum Hook. & Arn., Companion Bot. Mag. 1(No. 2): 37 (1835) = **Nassauvia** Comm. ex Juss.

Acanthophyllum axillare (Lag. ex Spreng.) Hook. & Arn., Companion Bot. Mag. 1(No. 2): 37 (1835) =
Nassauvia axillaris (Lag. ex Spreng.) D. Don

Acanthospermum Schrank, Pl. Rar. Horti Acad. Monac. 2: 53 (1819)[Apr.–May 1820], nom. cons.

Centrospermum Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 212 (1818). Type:

Centrospermum xanthioides Kunth, nom. illegit. = **Acanthospermum australe** (Loefl.) Kuntze
Orcya Vell., Fl. Flum. : 344 (1825)[7 Sept. - 28 Nov. 1829]. Type: *Orcya adhaerescens* Vell. = **Acanthospermum australe** (Loefl.) Kuntze

Echinodium Poir. ex Cass., Dict. Sci. Nat. 59: 235 (1829), nom. nud. pro syn., non Juratzka (1866).

Type: *Acanthospermum brasilum* Schrank = **Acanthospermum australe** (Loefl.) Kuntze

References

Blake, S. F. (1921). Revision of the genus *Acanthospermum*. Contr. U.S. Natl. Herb. 20(10): 383–392.

Pruski, J. F. (1997). (1324) Proposal to conserve the name *Acanthospermum* against *Centrospermum* (*Compositae*, *Heliantheae*). TAXON 46(4): 805–806.

Stuessy, T. F. (1970). The genus *Acanthospermum* (*Compositae*–*Heliantheae*–*Melampodinae*): taxonomic changes and generic affinities. Rhodora 72(789): 106–109.

Key to species

Plants erect; capitula ± sessile; fruit obcompressed, wedge-shaped-cuneate in outline, with
two large terminal prickles; leaves obovate to obovate-oblong, cuneate *A. hispidum*
Plants with prostrate stems; capitula mostly pedicellate; fruit oblong-fusiform; leaves
obovate to broadly obovate or subcircular *A. australe*

***Acanthospermum australe** (Loefl.) Kuntze, Revis. Gen. Pl. 1: 303 (1891).

Melampodium australe Loefl., Iter Hisp. : 268 (1758). Type: ‘... observatae in itinerere a Cumana ad fluvium
Orinoco, per Barcelonam & Las Misiones de Piritu Feb. 1755.’ (LINN)

Centrospermum xanthioides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 213 (1818). Type:
‘Crescit inter Cumana et Bordones. (Nova Andalusia.) ■ Floret Augusto.’, nom. illegit. – according to the
Index Nominum Genericorum database, but without supporting comment!

Acanthospermum brasilum Schrank, Pl. Rar. Hort. Acad. Monac. 2: 53 (1819)[Apr.–May 1820]. Type: ‘Patria
Brasilia, unde D. Martius semina misit’. Holotype: M.

Orcya adhaerescens Vell., Fl. Flum. : 345 (1825)[7 Sept. – 28 Nov. 1829]. [Ic. Fl. Flum. 8: tab. 83 (1831).] Type:
[Brazil:] ‘Udique habitat praecipue silvis excultis.’ Location of extant original material unknown.

Echinodium prostratum Poit. ex Cass., in Cass. Dict. Sci. Nat. 59: 245 (1829), nom. nud. [Note: Cassini provided
the following comment: ‘Nous avons fait cette description générique [of *Centrospermum*!] sur un
échantillon sec, en mauvais état, recueilli dans la Guiane française par M. Poiteau, et qui se trouve dans
l’herbier de M. Gay ou il étoit étiqueté *Echinodium prostratum* Poit.’ This specimen is in K!]

Acanthospermum xanthioides (Kunth) DC. [var.] *α obtusifolium* DC., Prodr. 5: 522 (1836). Types: ‘– in Cumanâ?
(Loefl.), in Brasiliae prov. Rio-Grande (h. Mus. Bras. n. 1069). *Melampodium australe* Loefl. itin. 268. Linn.
sp. 1303. (v.s. ex Forsyth sine loci design.)’ Syntypes: G-DC. Syntype: ‘h. Mus. Bras. 1069’, P.

Acanthospermum xanthioides (Kunth) DC. [var.] *β acutifolium* DC., Prodr. 5: 522 (1836), nom. illegit. pro
Centrospermum xanthioides Kunth

Acanthospermum hirsutum DC. Prodr. 5: 522. (1836), nom. illegit. superf. pro *Acanthospermum brasilum* Schrank

Argentina, Bolivia (La Paz, Pando, Santa Cruz), Brazil, Colombia, Guiana, Paraguay, Venezuela, West Indies. Widespread as an introduced weed in the Old World.

In sandy areas alongside roads and in cultivated areas.

0–1000 m.

Flowering throughout the year.

Santa Cruz: *Mendoza & Ledezma* 517 (K, USZ), *Soto & Escobar* 955 (K, USZ), *Wood et al.* 22902 (K, USZ).

Vernacular names: NATIU, TAYECUÍ, TEPECURÍ, YERBA DE LA OVEJA (Freire et al., 2006).

Acanthospermum brasiliense Schrank, Pl. Rar. Hort. Acad. Monac. 2: 53. (1819)[Apr.–May 1820] =

Acanthospermum australe (Loefl.) Kuntze

Acanthospermum hirsutum DC., Prodr. 5: 522 (1836), nom. superf. = ***Acanthospermum australe*** (Loefl.) Kuntze

****Acanthospermum hispidum*** DC., Prodr. 5: 522 (1836). Type: ‘• in Brasiliae sabulosis maritimis circa Bahiam legit cl. Salzman. [21] (v.s. comm. à cl. Salzm.)’. Holotype: G-DC; isotype: K.

Argentina, Bolivia (Santa Cruz, Tarija), Brazil, north to USA. Widely distributed ruderal weed in the palaeotropics.

Sandy or stony areas next to roads, rivers, and in cultivated areas.

0–2500 m.

Flowering throughout the year.

Santa Cruz: *Wood & Haigh* 21846 (K), *Wood et al.* 22865 (K).

Vernacular names: CARRETILLA DE OVEJA, CUAJERILLA, GUAJERILLA, RODAJILLO, TORITO, YERBA DE LA OVEJA (Freire et al., 2006).

Acanthospermum xanthoides (Kunth) DC. [var.] β *acutifolium* DC., Prodr. 5: 522 (1836), nom. illegit. =

Acanthospermum australe (Loefl.) Kuntze

Acanthospermum xanthoides (Kunth) DC. [var.] α *obtusifolium* DC., Prodr. 5: 522 (1836) = ***Acanthospermum australe*** (Loefl.) Kuntze

Acanthostyles R. M. King & H. Rob., *Phytologia* 22(2): 111 (1971).

Type: *Eupatorium buniifolium* Hook. & Arn. = ***Acanthostyles buniifolius*** (Hook. & Arn.) R. M. King & H. Rob.

Reference

King, R. M. & H. Rob. (1971). Studies in the Eupatorieae (Asteraceae). LII. A new genus, *Acanthostyles*. *Phytologia* 22(2): 111–112.

Acanthostyles buniifolius (Hook. & Arn.) R. M. King & H. Rob., *Phytologia* 22(2): 111 (1971).

**Eupatorium buniifolium* Hook. & Arn., *Companion Bot. Mag.* 1(No. 8): 240 (1836). Type: [Argentina:] ‘Woods of Tucuman, rare, *Tweedie* (n. 1128).’ Holotype: K.

Eupatorium virgatum D. Don ex Hook. & Arn., *Companion Bot. Mag.* 1(No. 8): 241 (1836). Types: ‘Mendoza, valleys near Villa Vicenzia, Aquadita, Province of St. Luis, *Dr. Gillies*; called Chilca by the natives.

Uruguay, *Tweedie*.’ Syntypes: K.

Eupatorium pinnatifidum DC., Prodr. 5: 149 (1836), nom. illegit. superfl., non Cass. (1818) [= *Gyptis tanacetifolia* (Hook. & Arn.) Flann & D. J. N. Hind], nec Elliott (1823: 295) (now regarded as *Eupatorium* \times *pinnatifidum* Elliott) [Type: ‘■ in Americâ austr. legit cl. Nee, sed locus propr. mihi ignotus (v.s.)’. Holotype: G-DC.]

Eupatorium crithmifolium Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19([1]): 169 (1874); *Pl. Lorentz.*: 121 (1874). Type: ‘Cordoba, in collibus apricis. [Lorentz]’ Holotype: ?GOET; isotype: CORD. Ariza Espinar (1994: 43) cited the isotype as ‘Córdoba: Caleras de D. Martín Ferreyra, Malagueño, *Lorentz* 428, 24-VIII-1871.’.

Eupatorium pinnatifidum DC. var. β *virgatum* (D. Don ex Hook. & Arn.) Baker in *Mart., Fl. Bras.* 6(2): 321 (1876).

Eupatorium saucechicoense Hieron., *Bot. Jahrb. Syst.* 22(4–5): 775 (1897). Types: [Argentina:] , Buenos Aires: am Arroyo Sauce Chico in der Pampa im Süden der Provinz nordöstlich von Bahia Blanca nördlich des Ortes

Sauce Chico (LOR[ENTZ]. u. NIEDERL[EIN]., 6. Mai 1879; LOR[ENTZ]., 15. März, 1881, n. 54); in der Pampa nördlich vom Rio Colorado (LOR[ENTZ]. u. NIEDERL[EIN]., 20.–26. April 1879); an nicht angegebenen Orte (LOR[ENTZ]., 1881, n. 423).’ Syntypes: B†. Ariza Espinar (1994: 44) cited two of the isosyntypes in CORD as ‘Buenos Aires: Nordl. von Rio Colorado, Lorentz et Niederlein s.n., 20/26-IV-1879. ... Pampa aberhalb Rio Sauce Chico, Hieronymus et Niederlein s.n., 6-V-1879.’

Eupatorium buniifolium Hook. & Arn. var. *bakeri* Kuntze, Revis. Gen. Pl. 3(3): 146 (1898). Types: ‘Bolivia: 1000 m Sierra de Santa Cruz’ and also based on Hieronymus (1897: 774) ‘f. 1 ... ‘*Eupatorium virgatum* Baker non Hook. & Arn. (q.v. Kuntze, 1898: 146)’ which referred to two other collections as well as providing the validating Latin description: ‘Tucuman: in der Sierra de tucuman bei Tafi etc. (LOR[ENTZ], März 1872, n. 317). Salta: zwischen Clavisan und La Oyada im Gebiet des Rio del Tala im Süden der Provinz (LOR[ENTZ] u. HIERON[YMUS], 5. Febr. 1873, n. 1201).’ Syntypes: presumably the Lorentz and Hieronymus collections were in B, now destroyed. Ariza Espinar (1994: 43) cited the Lorentz & Hieronymus isosyntype in CORD as ‘Salta: Entre Clavisán y La Oyada, Lorentz et Hieronymus 1201, 5-II-1873.’

Eupatorium buniifolium Hook. & Arn. var. *hieronymi* Kuntze, Revis. Gen. Pl. 3(3): 146 (1898). Types: ‘f. 3 Hieron. l.c. c. 774 beschrieben ohne Benennung. Argentina: Sierra chica de Cordoba – Sierra Achcala (Galander). [Kuntze, 1898: 146]’, [‘Mendoza: in der Sierra Lucas und im Norden des Cerro Payen bis in de Gegend um die Stadt Mendoza (Niederl.[ein], Juli 1879). San Luis: in der Sierra de la Estanzuela (Galander, 3. März 1882). Córdoba: im Gebirgszig des Cerro negro bei San Bartolo im Süden der Provinz (Lor[entz], Febr. 1871, n. 248 und 661), auf sonnigen Hügeln bei der Calera von D. Martin Ferreyra in Malagueña (Lor[entz], 24. Aug. 1871, n. 428); auf der Cuesta de San Ignacio (Galander, 23. März 1881) und sonst in der Sierra Chica sehr häufig auf trockenen Bergen; südlich von der Cuesta de Copina (Galander, 29. März 1881) im Thal zwischen der Sierra Chica und Sierra Achala häufig (Hieron[ymus], 27. März 1875).’ Syntypes: ?B. Ariza Espinar (1994: 43) cited the Galander isosyntypes in CORD as ‘Córdoba, al sud de la Cuesta de Copina, Sierra de Achala, Galander s.n., 29-III-1881. – Córdoba, Cuesta de San Ignacio, Sierra Chica de Córdoba, Sierra Chica de Córdoba, Galander s.n., 23-III-1881.’

Eupatorium buniifolium Hook. & Arn. var. *saucechicoense* (Hieron.) Ariza, Kurtziana 22: 155 (1993). Argentina, Bolivia (Chuquisaca, Cochabamba, Potosí, Santa Cruz, Tarija), Brazil, ?Paraguay, Uruguay. Degraded woodland and eroded soils of Boliviano-Tucumano semideciduous forest, Boliviano-Tucumano montane scrub, and in ancient clearings and deforested areas on eroded soils in *Podocarpus parlatoeri* forest, Boliviano-Tucumano montane pastures, Matorral serial subhúmedo montano Boliviano-Tucumano. 0–3000 m.

January–August.

Tarija: Mendoza 1486 (K, MO, USZ).

Vernacular names: CHILCA, CHILQUILLA, PICHANILLA DEL CERRO, ROMERILLO, ROMERILLO CRESPO, ROMERITO (Ariza Espinar, 1994: 43).

Acanthoxanthium (DC.) Fourr., Ann. Soc. Linn. Lyon, ser. 2, 17: 110 (1869) = **Xanthium** L.

Acanthoxanthium ambrosioides (Hook. & Arn.) D. Löve, Lagasalia 5(1): 66 (1975) = **Xanthium spinosum** L.

Acanthoxanthium spinosum (L.) Fourr., Ann. Soc. Linn. Lyon, ser. 2, 17: 110 (1869) = **Xanthium spinosum** L.

Acanthoxanthium spinosum (L.) Fourr. ssp. *catharticum* (Kunth) D. Löve, Lagasalia 5(1): 64 (1975) = **Xanthium spinosum** L.

Achaenopodium Brand., Zoe 5: 239 (1906) = **Verbesina** L.

Achaetogeron A. Gray, Mem. Amer. Acad. Arts 2, 4 [Pl. Fendl.]: 72 (1849) = **Erigeron** L.

Achyrobaccharis Sch.Bip. ex Walp., Repert. Bot. Syst. 2: 952 (1843) = **Baccharis** L.

Achyrocline (Less.) DC., Prodr. 6: 119 (1838).

Gnaphalium L. subgen. *Achyrocline* Less., Syn. Gen. Comp. : 332 (1832).

Type: *Gnaphalium saturejoides* Lam. = **Achyrocline saturejoides** (Lam.) DC.

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- Giangualani, R. N. (1976). Las especies argentinas del género *Achyrocline* (Compositae). *Darwiniana* 20(3–4): 549–576.

Notes: An exceptionally difficult groups of taxa to key with some very variable species: Dillon & Sagástegui's concept of *A. satureioides* including much taller and longer leaved plants than accounted for by Deble; Cabrera (1978) clearly did not recognize *A. satureioides* as occurring in Jujuy, Argentina.

****Achyrocline alata*** (Kunth) DC., Prodr. 6: 221 (1838).

Gnaphalium rufescens Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 61 (1818). Type: [Colombia:] 'Crescit cum præcedente ? q.v.' 'Crescit in temperatis Regni Novo-Granatensis inter fluvium Putes et villam San Miguel, alt. 800 hex. Floret Septembri.' Holotype: P-Bonpl.

**Gnaphalium alatum* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 62 (1818). Type: [Ecuador:] 'Crescit cum præcedente. [Humboldt & Bonpland 'n. 3243. Alausi'] q.v. 'Crescit in Regno Quitensi inter pagum Ticsan et urbem Alausi, alt. 1250 hex. Floret Julio.' Holotype: P-Bonpl.

Gnaphalium incanum Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 62 (1818). Type: 'Crescit locis frigidis Peruviae juxta urbem Micuipampa in radicibus montis metalliferi Gualgayoc, alt. 1830 hex. Floret Augusto.' [Humboldt & Bonpland 'n. 3680. Micuipampa'] Holotype: P-Bonpl.

**Achyrocline rufescens* (Kunth) DC., Prodr. 6: 220 (1838).

Achyrocline vauthieriana DC., Prodr. 6: 220 (1838). Type: 'in Brasiliae prov. Minarum Generalium ad Tejuco legit cl. Vauthier pl. exs. n. 300. ... (v.s.)'. Holotype: G-DC; isotype: R.

Achyrocline pterocaula DC., Prodr. 6: 221 (1838). Type: 'in Brasiliae prov. Rio-Grande (h. imp. Bras. n. 989). ... (v. s. in h. mus. reg. Par.)' Holotype: P; isotypes: LP, R.

Achyrocline argentina O. Hoffm., Linnaea 43(2): 135 (1881). Type: not cited. Note: Cerana & Ariza Espinar (2008: 7) provided a citation for an isotype in CORD even though stating that Hoffmann had not cited a type: 'Prov. Entre Ríos: En médanos en las orillas del Arroyo Cupalén, Lorentz 1772, 27/28-III-1879.'

Achyrocline alata (Kunth) DC. var. *vauthieriana* (DC.) Baker in Mart., Fl. Bras. 6(3): 117 (1882).

Achyrocline flavescens Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 181 (1874); Pl. Lorentz.: 133 (1874).

Types: 'Tucuman, in pratis montanis Cuesta de Siambon, Cienaga. (Peruvia pr. Tabina: Lechl.[er] pl. peruv. 1909).' Syntypes: GOET. Note: Cerana & Ariza Espinar, 2008: 7) noted the syntypes in CORD as 'Prov.

Tucumán, Ciénaga, Sierra de Tucumán, Lorentz 129, III-1872; Prov. Tucumán: Auf der Wiesen der Hoch Cuesta von Siambón (Garabatal), Lorentz 303, 18-III-1872.'

Argentina, Bolivia (Chuquisaca, La Paz, Santa Cruz), Brazil, Colombia, Ecuador, Paraguay, Peru, Uruguay. Damp grassland, seasonally flooded grassland, marshes, bosque Yungueño.

0-2500 m.

October–June.

Chuquisaca: Wood 8210, 3.4.1994 (K); Wood 8331, 24.4.1994 (K)

La Paz: Fuentes et al. 4734, 30 June 2002 (K).

Vernacular names: MANZANILLA DEL CAMPO (Cernana & Ariza Espinar, 2008: 7); YATEÍ-KAA. (Freire, 1995); MARCELA BRASILEIRA, YATEÍ CAÁ (Giangualani, 1976); YATÁ CAÁ, YATEÍ CAÁ ETE (Freire et al., 2006).

Achyrocline alata (Kunth) DC. var. *vautheriana* (DC.) Baker in Mart., Fl. Bras. 6(3): 117 (1882) = **Achyrocline alata** (Kunth) DC.

Achyrocline argentina O. Hoffm., Linnaea 43(2): 135 (1881) = **Achyrocline alata** (Kunth) DC.

Achyrocline brittoniana Deble & Marchiori, Balduinia 3: 13 (2005) = **Achyrocline ramosissima** Britton ex Rusby

Achyrocline candicans* (Kunth) DC., Prodr. 6: 221 (1838) = **Achyrocline saturejoides (Lam.) DC.

***Achyrocline celosioides** (Kunth) DC., Prodr. 6: 221 (1838).

Gnaphalium celosioides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 61 (1818). Type: 'Crescit juxta Loxam Peruvianorum, alt. 1060 hex. ■ Floret Julio.' Holotype: P-Bonpl.

?Bolivia (La Paz), Ecuador, Peru, Venezuela.

2000–3500 m.

July.

Note: this species was included in Foster's list (Foster, 1958) based on a Bang collection (Bang 2022) attributed to this species by Rusby (1907: 387), but with some doubt.

Achyrocline citrina Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 187 (1879); Symb. Fl. Argent. : 187 (1879) = **Achyrocline flaccida** (Weinm.) DC.

Achyrocline flaccida (Weinm.) DC., Prodr. 6: 220 (1838).

Gnaphalium flaccidum Weinm., Flora 3(2): 610 (1820). Type: '■ In Brasilia D. Langsdorff.' Holotype: possibly LE.

Achyrocline citrina Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 187 (1879); Symb. Fl. Argent. : 187 (1879).

Type: 'S.: pr. Yacone.' Holotype: GOET; isotype: CORD. Note: Anderberg et al. (1996: 3) listed a type 'Argentina, Salta. Lorentz & Hieronymus s.n., III 1843.' in S. Cerana & Ariza Espinar (2008: 8) cited the CORD isotype as 'Prov. Salta: Yacone, cerca de Salta, Lorentz et Hieronymus 296, III-1873'.

Achyrocline saturejoides (Lam.) DC. var. *albicans* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 187 (March–April 1879); Symb. Fl. Argent.: 187 (1879). Type: 'J.' Holotype: GOET.

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay.

Damp margins of thickets and *Alnus* forest.

0–2000 m.

(October–) March–August.

Note: This species is recorded for Bolivia by Freire & Nieva (1998: 16). The synonymy reflects Giangualani's addition of *A. saturejoides* var. *albicans* as a synonym of *A. citrina* which she recognized as a separate species (Giangualani, 1976), and Freire (1995) who synonymized them with *A. flaccida*. Interestingly, Ariza Espinar (2010: 186) considered Lorentz's publication of '*A. saturejoides* var. *citrina*' as the place of publication of a new entity citing a different collection from that of Grisebach in his *Achyrocline citrina*. Ariza Espinar considered Lorentz's name a synonym of *A. saturejoides*.

Vernacular names: MARCELA, VIRA-VIRA (Freire, 1998); FALSO YATEÍ CA'A, MARCELA, MARCELA HEMBRA, MARCELA MACHO, VIRA-VIRA (Freire et al., 2006)..

Achyrocline flavescens Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 181 (1874); Pl. Lorentz.: 133 (1874) = **Achyrocline alata** (Kunth) DC.

***Achyrocline hyperchlora** S. F. Blake, Bot. Gaz. 74: 415 (1922). Type: 'BOLIVIA.– Cochabamba, March 14, 1920, E.W.D. and M.M. Holway 406'. Holotype: US (1058598).

Argentina, Bolivia (Cochabamba), ?Peru.

Humid slopes; c. 3000 m; February–April.

Vernacular name: VIRA-VIRA (Cerana & Ariza Espinar, 2008: 9).

***Achyrocline latifolia** Wedd., Chloris Andina 1: 148 (1856). Type: 'Hab. BOLIVIE: département de Tarija, sur les berges humides de la côte de Calama, dans la descente de la puna d'Iscaichi! (Wedd.)'. Holotype: P. Bolivia (Chuquisaca, Santa Cruz, Tarija).

Puna.

Achyrocline polycephala* Rusby, Bull. New York Bot. Gard. 4(14): 388 (1907) = **Achyrocline tomentosa Rusby
Achyrocline pterocaula DC., Prodr. 6: 221 (1838) = **Achyrocline alata** (Kunth) DC.

***Achyrocline ramosissima** Britton ex Rusby, Mem. Torrey Bot. Club 3(3): 57 (1893). Type: [Bolivia:] 'Vic. Cochabamba, 1891 ([Bang] 99).' Holotype: NY (00169516); isotype: NY (00169515). Note: Rusby (1893) referred to the place at which Britton proposed a combination (in *Achyrocline*) based on Schultz Bipontinus' nom. nud., *Gnaphalium (Achyrocline) ramosissimum* (based on Mandon 157). Deble & Marchiori's new name, q.v. *Achyrocline brittoniana*, is unnecessary.
Gnaphalium ramosissimum Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud., non Nutt. (1848) (= *Pseudognaphalium ramosissimum* (Nutt.) Anderb.)
Gnaphalium (Achyrocline) ramosissimum Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 532 (Feb 1866), nom. nud. (based on Mandon 157).
Achyrocline brittoniana Deble & Marchiori, Balduinia 3: 13 (2005). Note: Deble & Marchiori (2005: 13), followed by Cerana & Ariza Espinar (2008: 8), took Rusby's publication of the name *Achyrocline ramosissima* to be a combination (as it appeared in Rusby, 1893: 57).
Argentina, Bolivia (Cochabamba, Santa Cruz, Tarija), Peru.
Puna, amongst rocks.
2200–4500 m
September–December.

Achyrocline rufescens* (Kunth) DC., Prodr. 6: 220 (1838) = **Achyrocline alata (Kunth) DC.
Achyrocline rupestris Cabrera, Darwiniana 9(1): 43 (1949) = **Achyrocline tomentosa** Rusby

***Achyrocline saturejoides** (Lam.) DC., Prodr. 6: 220 (1838).
Gnaphalium saturejoides Lam., Encycl. 2: 747 (1786). Type: 'Commerson a trouvé cette plante à Monte Video. ■ (v.s.)'. Holotype: P-LA (323/12).
Gnaphalium candicans Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 62 (1818). Type: [Ecuador:] 'Crescit in Regno Quitensi inter pagum Ticsan et urbem Alausi, alt. 1250 hex. ■ Floret Julio.' [Humboldt & Bonpland 'n. 3244. Alausi']. Holotype: P-Bonpl.
Achyrocline Vargasiana DC., Prodr. 6: 220 (1838). Type: [Venezuela:] '■ circa Caracas legit cl. Jos. Vargas. ... (v.s.)'. Holotype: G-DC.
**Achyrocline candicans* (Kunth) DC., Prodr. 6: 221 (1838).
**Gnaphalium satureioides* Lam. var. *candicans* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 153 (1898).
Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija), Brazil, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela.
Tracksides, amongst rocks, marshes, damp flushes, grassland.
0–2500 m
October–August.
Chuquisaca: Wood 8290, 11.4.1994 (K).
Vernacular names: MARCELA; VIRÁ-VIRÁ GUAZÚ; VIRA VIRA (Cerana & Ariza Espinar, 2008: 10); ALQUITRÁN (Freire, 1995); MARCELA MANZANILLA (Freire, 1998); ALQUITRÁN, MARCELA, MARCELA DEL CAMPO, MARCELA HEMBRA, MARCELA MANZANILLA, MARCELITA, PAG(A)RÁ LAURÓ, PLANTA DE LA ABEJA, VIRÁ-VIRÁ GUAZÚ, YATEÍ CA'Á, YATEÍ CA'Á, YATEÍ CAÁ ESTERO (Freire et al., 2006).

Achyrocline saturejoides (Lam.) DC. var. *albicans* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 187 (March–April 1879); Symb. Fl. Argent.: 187 (1879) = **Achyrocline flaccida** (Weinm.) DC.

***Achyrocline tomentosa** Rusby, Bull. New York Bot. Gard. 4(14): 388 (1907). Type: [Bolivia:] ' "A small plant, a few feet high, with white flowers; rather scarce in very dry soil on rocks." Coripata, April 10, 1894. ([Bang] No. 2124.)' Holotype: NY (00149892); isotype: CORD, NY (00149893), US(325879).
Achyrocline polycephala Rusby, Bull. New York Bot. Gard. 4(14): 388 (1907). Type: [Bolivia:] ' "In dry gravelly soil, climbing 5 or 6 feet, the flowers white." Coroico, July 11, 1894. ([Bang] No. 2336.)' Holotype: NY (00149889); isotypes: F (163885), K, NY (00149888 – ex College of Pharmacy Herbarium), US (00032932).
Achyrocline rupestris Cabrera, Darwiniana 9(1): 43 (1949). Type: 'Argentina. – Salta: Dep. San Antonio de los Cobres, Quebrada de Polvorilla, entre rocas a 4300 m s. m., leg. A. L. Cabrera, 8395, 2-II-1944'. Holotype: LP.
Argentina, Bolivia (Santa Cruz), Paraguay, ?Peru.
Amongst rocks, Puna.

500–3500 (–4500) m.

March–April.

Note: Cerana & Ariza Espinar (2008: 10 & 12) clearly regarded *A. rupestris* and *A. tomentosa* as distinct species, based primarily upon plant size; this view is not maintained here.

Achyrocline vargasiana DC., Prodr. 6: 220 (1838) = **Achyrocline saturejoides** (Lam.) DC.

Achyrocline vauthieriana* DC., Prodr. 6: 220 (1838) = **Achyrocline alata (Kunth) DC.

***Achyrocline venosa** Rusby, Mem. Torrey Bot. Club 3(3): 57 (1893). Type: [Bolivia:] ‘Vic. Cochabamba, 1891. Specimen unique, sent as part of [Bang] 99. May be called [Bang] 99a. At first regarded as *Gnaphalium*.’ Holotype: NY (149894). Note: This specimen was determined by Schofield (1972) as an isotype; this is unlikely since Rusby’s comment was quite specific ‘Specimen unique, ...’

Argentina, Bolivia (Cochabamba), Paraguay, Venezuela. Distribution provided in Freire & Nieva (1998: 19). Sandy soils, grassland, tracksides.

1500–4000 m.

September–June.

Vernacular names: VIRA-VIRA CHACO, VIRA-VIRA GUASU (Freire, 1998).

Achyropappus Link & Otto, Ic. Pl. Rar. Pl. 30 (1829), non *Achyropappus* Kunth (1818) = **Schkuhria** Roth

Achyropappus neo-mexicana (A. Gray) Rydb., Fl. Colorado : 377 (1906) = **Schkuhria multiflora** Hook. & Arn.

Achyropappus schkuhrioides D. Don ex Hook. & Arn., non *A. schkurioides* Link & Otto (1829) = **Schkuhria multiflora** Hook. & Arn.

Achyrophorus Adans., Fam. Pl. 2: 112 (1763) = **Hypochoeris** L.

Achyrophorus Adans. sect. II. *Oreophila* (D. Don) DC., Prodr. 7: 93 (1838) = **Hypochoeris** L.

Achyrophorus acaulis Remy in Gay, Fl. Chil. 3: 448 (late 1847 or early 1849) = **Hypochoeris acaulis** (Remy) Britton

Achyrophorus albiflorus Sch.Bip., Jahresber. Pollichia 16/17: 52 (1859) = **Hypochoeris sessiliflora** Kunth

Achyrophorus brasiliensis (Less.) Sch.Bip., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 21: 106 (1845) = **Hypochoeris chillensis** (Kunth) Hieron.

Achyrophorus chilensis Sch.Bip., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 21: 104 (1845) =

Hypochoeris chillensis (Kunth) Hieron.

Achyrophorus chillensis (Kunth) Sch.Bip., Jahresber. Pollichia 16/17: 57 (1859) = **Hypochoeris chillensis** (Kunth) Hieron.

Achyrophorus cryptocephalus Sch.Bip. Bonplandia 4(4): 54 (1856) = **Hypochoeris eriolaena** (Sch.Bip.) Reiche

Achyrophorus elatus Wedd., Chloris Andina 1: 220 (1857) = **Hypochoeris elata** (Wedd.) Griseb.

Achyrophorus eriolaenus Sch.Bip., Jahresber. Pollichia 16/17: 47 (1859) = **Hypochoeris eriolaena** (Sch.Bip.) Reiche

Achyrophorus hoehenackeri Sch. Bip., Bonplandia 4(4): 54 (1856) = **Hypochoeris hohenackeri** (Sch.Bip.) Domke

Achyrophorus humboldtii Sch.Bip., Jahresber. Pollichia 16/17: 52 (1859) = **Hypochoeris sessiliflora** Kunth

Achyrophorus meyenianus (Meyen & Walp.) Walp., Rep. 6: 336 (1846–47) = **Hypochoeris meyeniana** (Meyen & Walp.) Griseb.

Achyrophorus meyenianus Walp. var. β *ciliata* Wedd., Chloris Andina 1: 220 (1857) = **Hypochoeris sessiliflora** Kunth

Achyrophorus quitensis Sch.Bip., Nov. Actorum Caes. Leop.-Carol. Nat. Cur. 21: 100 (1845), nom. nud. = **Hypochoeris sessiliflora** Kunth

Achyrophorus quitensis Sch.Bip. ex Wedd., Chloris Andina 1: 219 (1957), nom. illegit. superfl. = **Hypochoeris sessiliflora** Kunth

Achyrophorus quitensis Sch.Bip. var. β *sonchoides* (Kunth) Wedd., Chloris Andina 1: 219 (1857) = **Hypochoeris sessiliflora** Kunth

Achyrophorus sagittatus Phil., Anales Univ. Chile 36: 178 (1870) = **Hypochoeris chillensis** (Kunth) Hieron.

Achyrophorus sessiliflorus (Kunth) DC., Prodr. 7: 95 (1838) = **Hypochoeris sessiliflora** Kunth

Achyrophorus setosus Wedd., Chloris Andina 1: 220 (1857) = **Hypochoeris echegarayi** Hieron.

Achyrophorus stenocephalus A. Gray ex Wedd., Chloris Andina 1: 221 (1857), nom. nud. = **Hypochoeris stenocephala** Kuntze

Achyrophorus taraxacifolius (as *taraxacoides* [sic!]) (Meyen & Walp.) Walp., Repert. Bot. Syst. 6: 336 (1846/47), orth. error in comb. pro *Oreophila taraxacifolia* Meyen & Walp., non (Salzm.) Sch.Bip. (1845)(= *Hypochaeris cretensis* (L.) Bory & Chaub., a plant from Corsica) = **Hypochaeris stenocephala** Kuntze

Acilepidopsis H. Rob., Phytologia 67(4): 289 (1989) = **Vernonia** Schreb.

Acilepidopsis echitifolia (Mart. ex DC.) H. Rob., Phytologia 67(4): 291 (1989) = **Vernonia echitifolia** Mart. ex DC.

Acispermum Necker, Elem. Bot. 1: 34 (1790), nom. rej. = **Coreopsis** L.

Acmella Rich., Syn. Pl. 2: 472 (1807).

Ceratocephalus Burm. ex Kuntze, Revis. Gen. Pl. 1: 326 (1891), nom. illegit. superfl., pro **Spilanthes** Jacq. pp. & **Acmella** Rich. p.p.

Athronia Neck., Elem. Bot. 1: 32 (1790), nom. illeg. rej.

Colobogyne Gagnep., Notul. Syst. (Paris) 4: 15 (1920). Type: *Colobogyne langbianensis* Gagnep. = *Acmella calva* (DC.) R. K. Jansen

Lectotype (original lectotypification superseded by the selection of Robinson (2006: 17)): *Anthemis repens* Walter = *Acmella repens* (Walter) Rich. in Pers. [In the original lectotypification (Jansen, 1985: 19) *Acmella oppositifolia* (Lam.) R. K. Jansen was chosen but this was not based on one of the elements in the original publication and proved to be a species of *Heliopsis* Pers. – **Heliopsis buphthalmoides** (Jacq.) Dunal]

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Key to species

- | | | |
|----|---|--|
| 1. | Capitula discoid | <i>A. uliginosa</i> |
| | Capitula radiate | 2 |
| 2. | Ray limbs conspicuous, 3–10 times longer than phyllaries | <i>A. repens</i> |
| | Ray limbs inconspicuous, shorter than or barely exceeding, phyllaries | 3 |
| 3. | Ray limbs white or greenish white (corollas 4-merous) | <i>A. radicans</i> var. <i>debilis</i> |
| | Ray limbs pale to orange yellow | 4 |
| 4. | Phyllaries 7–11, uniseriate (corollas 4-merous) | <i>A. uliginosa</i> |
| | Phyllaries 5–6, biseriate | 5 |
| 5. | Perennial; mature achenes with obvious cork-like margins; corollas 5-merous | <i>A. ciliata</i> |
| | Annual; mature achenes without cork-like margins; corollas 4–5-merous | <i>A. brachyglossa</i> |

Acmella brachyglossa Cass., Dict. Sci. Nat. 50: 258 (1827). Type: ‘Nous avons fait cette description sur un échantillon sec, recueilli par M. Poiteau dans la Guiane française, et qui se trouve dans l’herbier de M. Gay.’ Holotype: P (according to Jansen, 1985: 73); isotype: G. [Note: Gay’s herbarium is in fact in K, although I have been unable to find this specimen; it is quite possible that this material is mounted with another collection and housed under another taxon, and remains to be discovered!]

Spilanthes caespitosa DC., Prodr. 5: 622 (1836). Type: ‘■in Brasiliae prov. Minarum-Generalium ad Mariannam legit cl. Vauthier (pl. exs. n. 308!). ... (v.s.)’. Holotype: G-DC; isotypes: G, GH (12636).

Spilanthes arrayana Gardner, London J. Bot. 7: 408 (1848). Type: [Brazil:] 'Hab. Near Villa de Arrayas, Province of Goyaz. March, 1840.' [Gardner] 3866. Types: BM, CGE, E, F (932575), G, K × 2, NY × 3 (00260000, 00260001, 00260002), P, W.

Ceratocephalus caespitosa (DC.) Kuntze, Revis. Gen. Pl. 1: 326 (1891).

Spilanthes eggersii Hieron., Bot. Jahrb. Syst. 28(5): 608 (1901). Type: 'Ecuador: crescit prope Hacienda El Recreo in prov. Manabi (EGGERS n. 14931, 4. Aug. 1893).' Holotype: B†; isotypes: K, W.

Spilanthes limonica A. H. Moore, Proc. Amer. Acad. Arts 42(No. 20): 541 (1907). Type: 'Cuba: SANTA CLARA: C. G. Pringle, 75, Limones (in Herb. Gray) (specimina cum eodem lecta in Herb. Hort. Bot. Mo, Hort. Bot. Novebr., Mus. Hist. Nat. Field).' Holotype: GH (12632); isotypes: BAF, BR, F (143525), G, MEL, MEXU, MO, NY (00126696), PH, US (428462).

**Spilanthes ocyimifolia* (Lam.) A. H. Moore f. *radiifera* A. H. Moore, Proc. Amer. Acad. Arts 42(No. 20): 533 (1907). Type: 'Colombia: MAGDALENA: H. H. Smith, 513, Santa Marta (in Herb. Hort. Bot. Novebor.) (specimina cum eodem lecta in Herbb. Gray., Mus. Hort. Bot. Mo., Mus. Hist. Nat. Field).' Holotype: NY (00260008); isotypes: BM, BR, E, F (137569), G, GH (12644), LE, LL, MO, MPU, PH, RSA, S, TEX, U, UC (1096009), USF, W.

Bolivia (Chuquisaca, Santa Cruz), Colombia, Costa Rica, Cuba, Ecuador, Guayana, Martinique, Nicaragua, Panama, Paraguay, Peru, Surinam, Venezuela. Thailand.

Moist, usually disturbed habitats along roadsides, streams, in disturbed humid forest, premontane rainforest, and in cultivated areas.

0–3000 m.

Flowering throughout the year.

Acmella brasiliensis Spreng., Syst. Veg., ed. 16, 3: 592 (1826), nom. illeg. superfl. = ***Sphagneticola trilobata*** (L.) Pruski

Acmella ciliata (Kunth) Cass., Dict. Sci. Nat. 24: 331 (1822).

Spilanthes ciliata Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 163 (1818). Type: 'Crescit prope Chipo et Santa Fe de Bogota, alt. 1360 hex. • Floret Augusto.' Holotype: P-Bonpl.

Spilanthes fimbriata Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 163 (1818). Type: [Colombia:] 'Crescit in Andibus Novo-Granatensium prope Ybague et Passo del Machin, alt. 700–1050 hex. • Floret Septembri.' [Humboldt & Bonpland 'mss. n. 1823'] Holotype: P-Bonpl; isotype: P.

Acmella fimbriata (Kunth) Cass., Dict. Sci. Nat. 24: 331 (1822).

Spilanthes poeppigii DC., Prodr. 5: 622 (1836). Type: '- in Peruvia legit cl. Poeppig. (pl. exs. n. 32. diar. n. 1205!) ... (v.s.)'. Holotype: G-DC; isotype: BM, G, W.

Spilanthes melampodioides Gardner, London J. Bot. 7: 407 (1848). Type: [Brazil:] '[Gardner] 2223. ... Hab. Moist places near the city of Oeiras, Province of Piauhy. April, 1839.' Jansen cited the material in BM as holotype, mentioning the specimen in OXF as isotype. There are also two types in K.

Ceratocephalus ciliatus (Kunth) Kuntze, Revis. Gen. Pl. 1: 326 (1891).

Ceratocephalus fimbriatus (Kunth) Kuntze, Revis. Gen. Pl. 1: 326 (1891).

Ceratocephalus poeppigii (DC.) Kuntze, Revis. Gen. Pl. 1: 326 (1891).

Spilanthes popayanensis Hieron., Bot. Jahrb. Syst. 28(5): 610 (1901). Type: 'Columbia: crescit locis humidis altiplanicie popayanensis, alt. s. m. 1600–2000 m, mense Majo florens (L.[EHMANN] n. 8010, Majo 1887).' Holotype: B†; isotype: K, US (1803539 – fragments and photo of K isotype).

Argentina, Bolivia (Bení, Cochabamba, Santa Cruz), Brazil, Colombia, Ecuador, Peru, Venezuela. Introduced into Panama and S Asia (The Celebes, India, Thailand, Sumatra).

Moist, usually disturbed habitats along roadsides, streams, and in cultivated areas.

0–2600 m.

Flowering throughout the year.

Santa Cruz: Wood et al. 24460 (K, USZ).

Acmella debilis (Kunth) Cass., Dict. Sci. Nat. 24: 331 (1822) = ***Acmella radicans*** (Jacq.) R. K. Jansen var. ***debilis*** (Kunth) R. K. Jansen

Acmella fimbriata (Kunth) Cass., Dict. Sci. Nat. 24: 331 (1822) = ***Acmella ciliata*** (Kunth) Cass.

Acmella hirta Lag., Gen. Sp. Pl. Nov. 31, n. 383 (1816) = ***Jaegeria hirta*** (Lag.) Less.

Acmella linnaei Cass., Dict. Sci. Nat. 24: 330 (1822), nom. superfl., based on *V. acmella* L. = ***Blainvillea acmella*** (L.) Philipson

Acmella mauritiana L.C. Rich. ex Pers. Syn. Pl. 2: 472 (1807), nom. superfl., based on *V. acmella* L. = **Blainvillea acmella** (L.) Philipson

Acmella occidentalis Willd. ex Rich. in Pers., Syn. Pl. 2: 473 (1807), nom. nud. = **Heliopsis buphthalmoides** (Jacq.) Dunal

Acmella oppositifolia (Lam.) R. K. Jansen, Syst. Bot. Monogr. 8: 30 (1985) = **Heliopsis buphthalmoides** (Jacq.) Dunal

Acmella radicans (Jacq.) R. K. Jansen var. **debilis** (Kunth) R. K. Jansen, Syst. Bot. Monogr. 8: 72 (1985).

Spilanthes debilis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 165 (1818). Type: 'Crescit ad ripam fluvii Orinoci. • Floret Majo.' Holotype: P-Bonpl.

Spilanthes tenella Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 165 (1818). Type: 'Crescit prope Caracas, alt. 500 hex. • Floret Januario.' Holotype: P-Bonpl.

Acmella debilis (Kunth) Cass., Dict. Sci. Nat. 24: 331 (1822).

Acmella tenella (Kunth) Cass., Dict. Sci. Nat. 24: 331 (1822).

Spilanthes mandonii Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 529 (Feb 1866). Type: [Bolivia:] '[Mandon 63]'. Note: since Schultz Bipontinus merely mentioned 'breviradiata affinis *Sp. leucanthae* HBK.' it is debatable if this is enough of a Latin diagnosis to warrant valid publication. [Holotype: P; isotypes: NY (00260006), S, US (01803537 fragments only from Schultz Bipontinus material originally in Herb. Cosson, now in P).]

Ceratocephalus debilis (Kunth) Kuntze, Revis. Gen. Pl. 1: 326 (1891).

Ceratocephalus tenellus (Kunth) Kuntze, Revis. Gen. Pl. 1: 326 (1891).

Bolivia (La Paz), Colombia, Peru, Hispaniola, Lesser Antilles, Trinidad, Venezuela.

Moist, usually disturbed habitats along roadsides, streams, and in cultivated areas.

400–2200 m.

Flowering throughout the year.

Acmella repens (Walter) Rich. in Pers., Syn. Pl. 2: 131 (1807).

Anthemis repens Walter, Fl. Carol. : 211 (1788). Type: not stated. Neotype (selected by Jansen, 1985: 34):

'U.S.A. Texas: Chambers Co., 0.5 mi W of Exit 812 (jct Texas 61 on rte to Hankamer) along I-10E, 10 Jun 1979, Jansen & Harriman 665', OS; isoneotypes: F, MO, NY, OSH, TEX, US.

Spilanthes repens (Walter) Michx., Fl. Bor.-Amer. 2: 131 (1803).

Spilanthes mutisii Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 164 (1818). Type: 'Crescit prope Santa Fe de Bogota, alt. 1400 hex. ♀?' Robinson (2006: 25) suggested that this was based on a *Mutis* collection in LINN (citing 'holotype LINN 974-7').

Acmella occidentalis Nutt., Gen. N. Amer. Pl. 2: 171 (1818), non (Willd.) Rich. in Pers. (1807)(= **Heliopsis buphthalmoides** (Jacq.) Dunal). Type: [USA:] 'Hab. On the banks of the Mississippi near New Orleans.' Holotype: BM; isotype: PH.

Acmella mutisii (Kunth) Cass., Dict. Sci. Nat. 24: 331 (1822).

Spilanthes beccabunga DC., Prodr. 5: 622 (1836). Types: '■ in Mexico in valle Mexici et Toluccae legit cl.

Berlandier (pl. exs. n. 720 et 1160!). [31 Aug. 1827] ... (v.s.)' Syntypes: G-DC. Lectotype (selected by Jansen, 1985: 31): *Berlandier* 720 – G-DC; isolectotypes: BM, ?F, G, ?GH, LE, OXF, P.

Spilanthes subhirsuta DC., Prodr. 5: 622 (1836). Type: '■ in Mexico circa Tampico de Tamaulipas legit cl.

Berlandier (pl. exs. n. 149!). [14 Feb. 1827] ... (v.s.)' Holotype: G-DC; isotypes: F (931032), G, GH (12630), P.

Acmella nuttaliana Raf., New Fl. 1: 52 (1836), nom. illegit. superfl.

Spilanthes nuttallii Torr. & A. Gray, Fl. N. Amer. 2: 356 (1842), nom. illegit. superfl.

Spilanthes diffusa Poepp., Nov. Gen. Sp. Pl. 3: 50 (1843). Type: 'Crescit cum praecedente.' [q.v. *Spilanthes sessilis* – 'Crescit in cultis Peruviae orientalis ad Cuchero'.] Holotype: W; isotype: W.

Spilanthes orizabaensis Sch.Bip. ex Klatt, Leopoldina 23: 145 (1887). Type: 'Mexico, Antigua, Paso Juana, leg. Liebmann No. 599. Herb. Hort. Bot. Hafn. Mirador, leg. Sartorius, Herb. Klatt.' Lectotype (selected by Jansen, 1985: 31): *Sartorius* s.n. – GH (12624); isolectotypes: GH (12625, 12626), MEL.

Spilanthes sartorii Sch.Bip. ex Klatt, Leopoldina 23: 145 (1887), nom. nud. pro syn.

Spilanthes lateraliflora Klatt, Bot. Jahrb. Syst. 8: 43 (1887). Type: 'Guatemala; in humidiusculis pr. Coban Alta Paz, alt. 1300 m ([LEHMANN] n. 1319). Apr. 1882.' Holotype: GH (12617); isotypes: G, K, US (1403361).

Spilanthes lehmanniana Klatt, Bot. Jahrb. Syst. 8: 43 (1887). Type: 'Columbia; Cauca in fruticetis ad Purace, alt. 2650 m ([LEHMANN] n. 3487). – Mart. 1884.' Holotype: GH (12640); isotypes: G, K, US (1403369).

Ceratocephalus beccabunga (DC.) Kuntze, Revis. Gen. Pl. 1: 326 (1891).

Ceratocephalus americanus (L.f.) Kuntze, Revis. Gen. Pl. 1: 326 (1891).
Ceratocephalus diffusus (Poepp.) Kuntze, Revis. Gen. Pl. 1: 326 (1891).
Ceratocephalus repens (Walter) Kuntze, Revis. Gen. Pl. 1: 326 (1891).
Ceratocephalus subhirsutus (DC.) Kuntze, Revis. Gen. Pl. 1: 326 (1891).
Spilanthes beccabunga DC. var. *parvula* B. L. Rob., Proc. Amer. Acad. Arts 27: 176 (1892). Type: 'Wet soil, Flora de Maria, State of Mexico, August, 1890 ([Pringle] n. 3643).' Holotype: ?GH.
Spilanthes disciformis B. L. Rob., Proc. Amer. Acad. Arts 27: 176 (1893). Type: 'Wet meadows, near Guadalajara, May 1890 ([C. G. Pringle] n. 3489).' Holotype: GH (12613); isotype: F (106768).
Spilanthes americana (L.f.) Hieron., Bot. Jahrb. Syst. 29(1): 42 (1900*).[*Note: See Reference section concerning problem with date of publication]
Spilanthes disciformis B. L. Rob. var. *phaneractis* Greenm., Proc. Amer. Acad. Arts 39: 108 (1903). Type: 'MEXICO. State of Michoacan: swamps, Zamora, altitude 1540 m., 1901, and 24 July, 1902, C. G. Pringle nos. 9539, 8637'. Syntypes: GH (Pringle 9539 – 12614; Pringle 8637 – 12615). Isosytype: Pringle 8637, K.
Spilanthes ciliata Kunth var. *diffusa* (Poepp.) A.H. Moore, Proc. Amer. Acad. Arts 42(No. 20): 539 (1907).
Spilanthes americana (L.f.) Hieron. var. *repens* (Walter) A. H. Moore, Proc. Amer. Acad. Arts 42(No. 20): 547 (1907).
Spilanthes cocuyensis Cuatrec., Revista Acad. Colomb. Ci. Exact. 9: 247 (1954). Type: 'Colombia, Dept. Boyacá: Valle del Cocuy, vertientes del lado SE, 3100–3750 m. alt., 8-IX-1938 colect. J. Cuatrecasas 1254'. Holotype: F (1313860).
 Robinson (2006) cited a wide distribution, viz. 'S.E. USA, Mexico, Central America, S. America south to Bolivia and Paraguay.', clearly much broader than the North American and Mexican distribution indicated by Jansen (1985: 35), in large part accounted for by the species concept – see note below. Bolivia (Santa Cruz). Moist, usually disturbed habitats along roadsides, streams, and in cultivated areas.

(0–) 1000–2800 m.

Flowering throughout the year.

Note: With *Acmella oppositifolia* (Lam.) R. K. Jansen having been shown to apply to **Heliopsis buphthalmoides** (Jacq.) Dunal I have followed Robinson (2006) in a broad concept, without recognising subspecies.

Acmella spilantheidoides Cass., Dict. Sci. Nat. 24: 329 (1822), nom. nud. = **Sphagneticola trilobata** (L.) Pruski
Acmella tenella (Kunth) Cass., Dict. Sci. Nat. 24: 331 (1822) = **Acmella radicans** (Jacq.) R. K. Jansen var. **debilis** (Kunth) R. K. Jansen

Acmella uliginosa (Sw.) Cass., Dict. Sci. Nat. 24: 331 (1822).

Spilanthes uliginosa Sw., Nov. Gen. Sp. Pl. Prodr. : 110 (1788). Type: 'Sloane. h. 1. 257/ Jamaica. ♀.' Holotype: (according to Jansen, 1985: 55) Swartz, s.n. – BM; ?isotype: S.

Jaegeria uliginosa (Sw.) Spreng., Syst. Veg., ed. 16, 3: 590 (1826).

Spilanthes lundii DC., Prodr. 5: 622 (1836). Type: [Brazil:] '♂ ad rivulos circa Rio-Janeiro legit cl. Lund. [250] ... (v.s.)'. Holotype: G-DC.

Spilanthes salzmännii DC., Prodr. 5: 623 (1836). Type: [Brazil:] '♂? in pludosis circa Bahiam Brasiliae legit cl. Salzmann. [45] ... (v.s.)'. Holotype: G-DC; isotype: K.

Spilanthes acmella L. var. β *uliginosa* (Sw.) Baker in Mart., Fl. Bras. 6(3): 233 (1884).

Ceratocephalus acmella (L.) Kuntze var. *uliginosa* (Sw.) Kuntze, Revis. Gen. Pl. 1: 326 (1891).

Ceratocephalus acmella (L.) Kuntze var. *depauperata* Kuntze, Revis. Gen. Pl. 1: 326 (1891). Type: 'Trinidad.'

Note: According to Wetter & Zanoni (1985) specimen not yet found in NY.

Spilanthes iabadicensis A. H. Moore, Proc. Amer. Acad. Arts 42(No. 20): 542 (1907). Type: 'Java: J. E. Teijsmann, "ex horto bogoriensi Javae misit, 1869."' Holotype: GH (12651).

Spilanthes charitopsis A. H. Moore, Bot. Jahrb. Syst. 45(4): 427 (1911). Type: 'Brasilien: (W. G. WALPERS. – Herb. Berlin).' Holotype: B†.

Coreopsis acmella (L.) E. H. L. Krause var. *uliginosa* (Sw.) K. Krause, Beih. Bot. Centrabl. 32: 340 (1914).

Spilanthes uliginosa Sw. var. *discoidea* Aristeg., Fl. Venez. 10: 616 (1964). Type: 'San Juan de Los Morros, Edo. Guárico, Venezuela (H. Pittier 10152, enero 1922).' Holotype: ?VEN; isotype: NY (00260009).

Bolivia (Santa Cruz), Brazil, Guyana, Honduras, Panama, Venezuela, West India (Antigua, Dominican Republic, Grenada, Haiti, Jamaica, Martinique, Montserrat, St. Croix, St. Eustatius, St. Kitts, St. Lucia, St. Vincent, Tobago), Africa (Cameroon, Central African Republic, Liberia, Tanzania), Indonesia and Malaysia. Moist, usually disturbed habitats along roadsides, streams, and in cultivated areas.

0–1200 m.

Flowering throughout the year.

Actimeris Raf., Amer. Monthly Mag. & Crit. Rev. : 195 (1819) = **Verbesina** L.

Actinomeris Nutt., Gen. 2: 181 (1818), nom. cons. = **Verbesina** L.

Addisonia Rusby, Bull. Torrey Bot. Club 20: 432 (1893) = **Helogyne** Nutt.

Addisonia boliviana Rusby, Descr. New Sp. S. Amer. Pl. : 147 (1920) = **Helogyne straminea** (DC.) B. L. Rob.

Addisonia virgata Rusby, Bull. Torrey Bot. Club, 20: 432, t. 169. (1893) = **Helogyne virgata** (Rusby) B. L. Rob.

Adenolepis Less., Linnaea 6(3): 510 (1831) = **Bidens** L.

Adeospermum Hook. & Arn., J. Bot. (Hooker) 3(No. 22): 318 (1841) = **Chrysanthellum** Rich. in/ex Pers.

Adenospermum tuberculatum Hook. & Arn., J. Bot. (Hooker) 3(No. 22): 318 (1841) = **Chrysanthellum indicum** DC. ssp. **afroamericanum** B. L. Turner

Adenostemma J. R. Forst. & G. Forst., Char. Gen. Pl. : 89, t. 45 (1776).

Lavenia Sw., Prodr. Veg. Ind. Occ. : 112 (1788). Lectotype: *Lavenia erecta* Sw. = *Adenostemma lavenia* (L.) Kuntze

Type: *Adenostemma viscosum* J. R. Forst. & G. Forst.

Reference

King, R. M. & H. Robinson. (1974). Studies in the Eupatorieae (Asteraceae). CXXVII. Additions to the American and Pacific Adenostemmatinae. *Adenostemma*, *Gymnocoronis* and *Sciadocephala*. *Phytologia* 29(1): 1–20.

Note: *Adenostemma involucreatum* R. M. King & H. Rob. has been reported from Bolivia, from a redetermination of material fo *A. brasilianum*.

Key to species

| | |
|---|------------------------|
| Corollas included within, or level with, involucre, pubescent | <i>A. brasilianum</i> |
| Corollas conspicuously exceeding involucre, glabrous | <i>A. platyphyllum</i> |

Adenostemma brasilianum (Pers.) Cass., Dict. Sci. Nat. 25: 363 (1822).

Verbesina brasiliana Pers., Syn. Pl. 2: 472 (1807). Type: 'Hab. in Brasilia. Vandelli in Herb. Juss. †.' Holotype: P-JU.

**Adenostemma triangulare* DC., Prodr. 5: 113 (1836). Type: [Brazil:] '■ in montosis ad margines rivulorum circa Rio-Janeiro legit cl. Lund. ... (v. s. comm. à Mus. reg. Ber.)' Holotype: G-DC; isotype: B†.

Adenostemma viscosum J. R. Forst. & G. Forst. var. *brasilianum* (Pers.) Benth., Fl. Austral. 3: 463 (1867).

Adenostemma viscosum J. R. Forst. & G. Forst. var. β *triangulare* (DC.) Benth., Fl. Austral. 3: 463 (1867).

**Adenostemma viscosum* J. R. Forst. & G. Forst. var. *brasilianum* (Pers.) Benth., Fl. Austral. 3: 463 (1867).

Lavenia montana Mart. ex Baker in Mart., Fl. Bras. 6(2): 185 (1873), nom. nud. pro syn.

Adenostemma brasilianum (Pers.) Cass. var. *triangulare* (DC.) Malme, Kongl. Svenska Vetenskapsakad. Handl. 12(2): 28 (1933).

Argentina, Bolivia (La Paz, Santa Cruz), Brazil, Paraguay, Uruguay.

In moist areas, especially along ditches, roadsides and streams, humid forest.

0–1500 m.

Flowering throughout the year.

Santa Cruz: Wood et al. 24107 (K, USZ).

Vernacular name: CRAVINHO-DO-MATO (Cabrera & Klein, 1991).

Adenostemma brasilianum (Pers.) Cass. var. *triangulare* (DC.) Malme, Kongl. Svenska Vetenskapsakad. Handl. 12(2): 28 (1933) = **Adenostemma brasilianum** (Pers.) Cass.

Adenostemma gymnocoronis Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): (1873) = **Gymnocoronis spilanthoides** (Hook. & Arn.) DC.

Adenostemma platyphyllum Cass., Dict. Sci. Nat. 25: 363 (1822). Type: 'Nous avons décrit cette espèce sur un échantillon sec, recueilli au Pérou par *Joseph de Jussieu*.' Holotype: P-JU.

Argentina, Bolivia (Santa Cruz), Colombia, Ecuador, Panama, Peru, Venezuela.

In moist areas, especially along ditches, roadsides and streams, rainforest, coffee-plantations [and cocoa-plantations].

0–2000 m

December–June.

Santa Cruz: Wood et al. 24961 (K, USZ).

Adenostemma triangulare* DC., Prodr. 5: 113 (1836) = **Adenostemma brasilianum Cass.

**Adenostemma viscosum* J. R. Forst. & G. Forst. var. *brasilianum* (Pers.) Benth., Fl. Austral. 3: 463 (1867) =

Adenostemma brasilianum Cass.

Adenostemma viscosum var. β *triangulare* (DC.) Benth., Fl. Austral. 3: 463 (1867) = **Adenostemma brasilianum** Cass.

Addisonia Rusby, Bull. Torrey Bot. Club 20: 432 (1920) = **Helogyne** Nutt.

Addisonia boliviana* Rusby, Descr. New Sp. S. Amer. Pl. : 147 (1920) = **Helogyne straminea (DC.) B. L. Rob.

Addisonia virgata Rusby, Bull. Torrey Bot. Club 20: 432 (1893) = **Helogyne virgata** (Rusby) B. L. Rob.

Adventina Raf., New Fl. N. Amer. 1: 67 (1836) = **Galinsoga** Ruiz & Pav.

Adventina ciliata Raf., New Fl. N. Amer. 1: 67 (1836) = **Galinsoga quadriradiata** Ruiz & Pav.

Adventina parviflora Raf., New Fl. N. Amer. 1: 67 (1836) = **Galinsoga parviflora** Cav.

Aequatorium B. Nord., Opera Bot. 44: 59 (1978).

Aequatorium kingii H. Rob. & Cuatrec., Novon, 2(4): 412 (1992) = **Nordenstamia kingii** (H. Rob. & Cuatrec.) B. Nord.

Aequatorium repandum (Wedd.) C. Jeffrey, Kew Bull. 47(2): 292 (1992) = **Nordenstamia repanda** (Wedd.) Lundin

Aetheolaena Cass., Dict. Sci. Nat. 48 (1827).

Lasiocephalus sensu auctt. non Willd. ex Schlchdl. (1814).

Senecio L. sect. *Aetheolaena* (Cass.) O. Hoffm., Nat. Pflanzenfam. 4(5): 301 (1892).

Type: *Cacalia involucrata* Kunth = *Aetheolaena involucrata* (Kunth) B. Nord.

References

Cuatrecasas, J. (1978). Studies in neotropical Senecioneae, Compositae. I. Reinstatement of genus *Lasiocephalus*. Phytologia 40(4): 307–312.

Nordenstam, B. (1978). Taxonomic studies in the tribe Senecioneae (Compositae). Opera Bot. 44: [1–83] 53–56.

Key to species

Involucre 5–6 mm tall; petiole 1–2 cm; lamina 8–16 cm × 2–5 cm

A. loesneri

involucre 8–9 mm tall; petiole 3–4 cm; lamina c. 20 cm × 5–6 cm

A. campanulata

Aetheolaena campanulata (Sch.Bip. ex Klatt) B. Nord., Opera Bot. 44: 54 (1978).

Senecio campanulatus Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud.

(based on *Mandon* 121). Note: Schultz Bipontinus (Feb. 1866) provided a minimal diagnosis of 'involucrum et flores campanulati', which was clearly taken by Klatt as insufficient to validate the name.

**Senecio campanulatus* Sch.Bip. ex Klatt, Leopoldina 23: 9 [1886](1887). Type: 'Bolivia, Viciniis Sorata, inter Laripani et Vani, in silvulis, Mai; leg. G. Mandon No. 121.' Holotype (according to Cabrera, 1985: 84 – but

see note below): P; isotypes: G, GOET, K, LP, NY (00259135, 00259136, 00259137, 00259137), S, US (02515523). Note: Both Cabrera (1985: 84) and Nordenstam (1978: 54) noted that the basionym was published in Leopoldina 24: 126 (1888). However, there is a separately paginated preprint of Leopoldina 23, which, whilst dated 1887, is noted to have been accessioned in K on 4 i 86, and the basionym appears on p. 9 of this work bound in the Klatt Opuscula volume in K. It should also be noted that Solbrig (1965) has indicated that there is good reason to suppose that much material from Klatt's herbarium is in fact in GH following its sale by his daughter, Miss Elizabeth Klatt, and was purchased by Prof. B. L. Robinson for 4,000 German Marks.

Senecio campanulatus Sch.Bip. ex Klatt, Leopoldina 24: 126 (1888). [See note above.]

**Senecio campanulatus* Sch.Bip. ex Klatt var. *glabrescens* Cabrera, Blumea 7(1): 198 (1952). Type: 'Hab.: Spreizend im feuchten Gebüsch über Incacorral, 2500 m alt., Juni 1911, [Herzog] n. 2189, Bl. crème.' Holotype: L(950252192); isotype: LP.

Lasiocephalus campanulatus (Sch.Bip. ex Klatt) Cuatrec., Phytologia 40(4): 309 (1978).

Bolivia (Cochabamba, La Paz), Peru.

Disturbed cloud forest margins, roadsides, secondary scrub.

2500–4000 m.

March–August (–October).

Aetheolaena loesneri (Hieron.) B. Nord., Opera Bot. 44: 54 (1978).

Senecio loesneri Hieron., Bot. Jahrb. Syst. 36(5): 510 (1905). Type: 'Peruvia: crescit inter Chota y Cutervo

(J.[elski] n. 801, m. Junio 1879).' Holotype: B†. Cabrera (1985: 86) indicated there was a 'clastotipo' in MO.

Lasiocephalus loesneri (Hieron.) Cuatrec., Phytologia 40(4): 310 (1978).

Bolivia (La Paz), Peru.

3000–3500 m.

April–June.

Note: Cabrera (1985: 85) suggested that this species was very similar to *Aetheolaena campanulata* and may well be a smaller-headed variety.

Aganippea Moc. ex Sessé ex DC., Prodr. 6: 3 (1838) = **Jaegeria** Kunth

Ageratina Spach, Hist. Nat. Veg. Phan. 10: 286 (1841).

Batschia Moench, Methodus : 567 (1794). Type: *Batschia nivea* Moench = *Ageratina altissima* (L.) R. M. King & H. Rob., non *Batschia* J. F. Gmel., (1791) [BORAGINACEAE]; nec *Batschia* Mutis ex Thunb., 1792 [MENISPERMACEAE], nec *Batschia* Vahl, (1794) [LEGUMINOSAE].

Ageratiopsis Sch.Bip. ex Benth. in Benth. & Hook.f., Gen. Pl. 2: 246 (1873), nom. nud. pro syn. Type:

Eupatorium ageratoides L.f. = *Ageratina altissima* (L.) R. M. King & H. Rob.

Mallinoa J. Coulter, Bot. Gaz. 20: 47 (1895). Type: *Mallinoa corymbosa* J.Coulter = *Ageratina muelleri* (Sch.Bip. ex Klatt) R. M. King & H. Rob.

Kyrstenia Necker ex E. Greene, Leafl. Bot. Observ. 1: 8 (1903). Lectotype: *Eupatorium aromaticum* L. = *Ageratina aromatica* (L.) Spach

Lectotype (selected by King & Robinson, 1970): *Eupatorium aromaticum* L. = *Ageratina aromatica* (L.) Spach

References

King, R. M. & H. Robinson. (1970). Studies in the *Eupatorieae* (*Compositae*). XIX. New combinations in *Ageratina*. Phytologia 19(4): 208–229.

King, R. M. & H. Robinson. (1972). Studies in the *Eupatorieae* (*Asteraceae*): LXXXV. Additions to the genus *Ageratina* with a key to the Costa Rican species. Phytologia 24(2): 79–104.

Robinson, H. (2006). New species of *Ageratina* from Andean South America (*Eupatorieae*: *Asteraceae*). Phytologia 88(2): 154–175.

Turner, B. L. (1997). *Eupatorieae*. In: Turner, B. L., The Comps of Mexico. A systematic account of the family *Asteraceae*. Vol. 1. Phytologia Mem. 11: i–iv, 1–272.

Ageratina acevedoi H. Rob., *Phytologia* 88(2): 171 (2006). Type: 'BOLIVIA. Cochabamba: Prov. Sacaba, new road from Cochabamba to Santa Cruz, Cruce to Tablas monte, 5 km from Represa de Corani, 2000 m, 25 Jul 1994, P. Acevedo-Rdgz, A. Ferruci & M. Fernandez 6577'. Holotype: US(03291715). [The following paratype was given, from some distance away: 'La Paz: Sud Yungas, Pariguaya Plazuela, en el valle seco del río Chunganayo, 16°40'S 67°29'W, 2250 m, 30 Apr 1995, St. Beck 22434'. LPB, US]

Bolivia (Cochabamba, La Paz).

2250 m.

April–August.

Ageratina azangaroensis (Sch.Bip. ex Wedd.) R. M. King & H. Rob., *Phytologia* 19(4): 212 (1970).

**Eupatorium azangaroense* Sch.Bip. ex Wedd., *Chloris Andina* 1: 217 (1857). Types: 'Hab. CARACAS: dans la Sierra-Nevada de Santa-Marta!, h. 2600 m. (Funck, exsicc., n. 391). – ÉQUATEUR: sur le mont Pichincha!, h. 3000–4200 m. (Jameson, exsicc., ann. 1856, n. 52). – PÉROU! (F. de Castelnau). – BOLIVIE: province de Carangas! (d'Orbigny)'. Syntypes: P.

Eupatorium inconspicuum Sch.Bip., *Linnaea* 34(5): 535 (Feb. 1866). Type: [Bolivia:] 'Mandon 260' p.p. Note: Schultz Bipontinus (Feb. 1866) provided a very brief diagnosis after this name, sufficient to validate it. The name as it appeared in *Bull. Soc. Bot. France* 12: 82 (1865) was nom. nud. Isotypes: NY (00169057, 00169058). NY 00169058 is clearly a mixed collection with two stems of this entity and one stem of *Ophryosporus heptanthus* – cf. Robinson's det. on the sheet.

Eupatorium prasiifolium Griseb. var. *glanduliferum* R. E. Fr., *Nova Acta Regiae Soc. Sci. Upsal.*, ser. 4, 1(1): 76 (1905). Types: [Argentina:] 'Prov. Jujuy: Yavi in fissuris rupium, ca. 3400 m. s. m. (1–2 Jan. 1902; FR. 770 et 770 a, florigera); S:a Catalina, ca. 3650 m. s. m. (7 Jan. 1901; KURTZ 11384, floribus et fructibus instructum)'. Syntypes: ?S.

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí), Ecuador, Peru, Venezuela.

Rocky grassland, rocky cliffs.

2600–4500 m.

December–April.

Ageratina calderillensis (Hieron.) R. M. King & H. Rob., *Phytologia* 19(4): 213 (1970).

**Eupatorium calderillense* Hieron., *Bot. Jahrb. Syst.* 40(3): 381 (1908). Type: 'Bolivia: habitat prope Calderillo, alt. s.m. 3000 m solo humido in collibus (K. FIEBRIG n. 3522; 22. m. Martii 1904)'. Holotype: B†; isotypes: GOET, K, S.

Bolivia (Tarija).

3000 m.

March–April.

Ageratina camachensis (Hieron.) R. M. King & H. Rob., *Phytologia* 19(4): 213 (1970).

**Eupatorium camachense* Hieron., *Bot. Jahrb. Syst.* 40(3): 386 (1908). Type: 'Bolivia: habitat prope Camacho, alt. s. m. 2500 m in declivibus abruptis riparum fluvii (K. FIEBRIG n. 2861; 25. m. Aprili 1904)'. Holotype: B†; isotypes: K, LD, S, US (01473176).

Bolivia (La Paz, ?Tarija).

2500 m.

April–May.

Ageratina feuereri H. Rob., *Phytologia* 88(2): 174 (2006). Type: 'BOLIVIA. La Paz: Prov. Bautista Seavedre, Charazani-Tal, linke Talseite oberhalb der Furt bei Cilij, am Weg Richtung Chullina, Veg.-Aufn 289, 2900 m, 4 Apr 1980, T. Feuerer 4068a'. Holotype: US (03066575); isotype: LPB.

Bolivia (La Paz).

2900 m.

March–April.

Ageratina gloeoclada (B. L. Rob.) R. M. King & H. Rob., *Phytologia* 19(4): 222 (1970).

Eupatorium trichotomum Sch.Bip., *Bull. Bot. Soc. France* 12: 81 (1965); *Linnaea* 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 258)

**Eupatorium gloeocladum* B. L. Rob., *Proc. Amer. Acad. Arts* 55: 17 (1919). Type: 'BOLIVIA: Department La Paz, Province Larecaja, in the neighbourhood of Sorata, in temperate region, 2700–3000 m., on Mt. Chilieca, near

Challapampa, July-Sept. 1858, *G. Mandon*, no. 258.' Syntypes: GH, NY. [Type not specified by Robinson and two herbaria cited.] Isosyntypes: K, NY (00169014, 00169015).

Bolivia (La Paz).

Woodland margins, edges of pasture.

2700–3400 m.

July–September.

Ageratina lorentzii (Hieron.) R. M. King & H. Rob., *Phytologia* 19(4): 215 (1970).

Eupatorium lorentzii Hieron., *Bot. Jahrb. Syst.* 22(4–5): 787 (1897). Types: [Argentina:] 'Tucuman: bei der Estancia La Ciénaga in der Sierra de Tucuman (LOR., 25.–31, März 1872, n. 143). Salta: in der Quebrada de San Lorenzo (LOR. u. HIERON., 9. März 1873), bei Yacone in den Vorbergen des Nevado del Castillo (LOR. u. HIERON., März 1873, n. 321).' Syntypes: B†. Ariza Espina (1994: 50) cited the two isosyntypes in *CORD* as 'Salta: Yacone, cerca de Salta, *Lorentz et Hieronymus* 321, III-1873. ... Tucumán: Ciénaga, Sierra de Tucumán, *Lorentz* 143, 25/31-III-1872.'

Argentina, Bolivia (Tarija). Cabrera & Freire (1997: 35) noted this species from Bolivia, although only recorded from Argentina in King & Robinson (1987).

Understory of dry, open, thorn scrub.

1700–3500 m.

March–April.

Ageratina pentlandiana (DC.) R. M. King & H. Rob., *Phytologia* 19(4): 225 (1970).

**Eupatorium pentlandianum* DC., *Prodr.* 5: 157 (1836). Type: 'in Amer. merid. parte centrali nunc Bolivia dictâ legit cl. *Pentland*. ... (v. s. comm. à cl. inv.)'. Syntypes: G-DC. There are two specimens sent from *Pentland*, one dated 1819, the other 1829.

Eupatorium incasicum Wedd., *Chloris Andina* 1: 218 (1857). Type: 'Hab. BOLIVIE: très abondant dans les îles du lac de Titicaca; h. 3900 m. (*Wedd.*)'. Holotype: P.

Bolivia (La Paz), Peru.

2000–4000 m.

Ageratina scopulorum (Wedd.) R. M. King & H. Rob., *Phytologia* 19(4): 217 (1970).

**Eupatorium scopulorum* Wedd., *Chloris Andina* 1: 216 (1857). Types: 'Hab. BOLIVIE et PÉROU: sur les rochers humides, autour du lac Titicaca!, h. 3900 mètres (*Wedd.*)'. Holotype: P.

Bolivia (Cochabamba, La Paz, Potosí), Peru.

Amongst rocks on steep slopes.

830–4000 m.

April–June.

Vernacular name: KINCHAMALI (Perkins, 1913: 222).

Ageratina sternbergiana (DC.) R. M. King & H. Rob., *Phytologia* 19(4): 217 (1970).

**Eupatorium sternbergianum* DC., *Prodr.* 5: 167 (1836). Type: '– in Peruviae collibus Cordillerianis legit cl. *Haenke*. ... (v. s. in h. *Haenk.* ab ill. com. de *Sternberg* comm.)'. Holotype: PR; isotype: G-DC.

Eupatorium heptanthum Sch.Bip., *Bull. Soc. Bot. France* 12: 82 (1865); *Linnaea* 34(5): 535 (Feb. 1866), nom. nud. (based on *Mandon* 260, p.p.)

Eupatorium heptanthum Sch.Bip. ex Rusby, *Bull. New York Bot. Gard.* 4(14): 378 (1907), non Sch.Bip. ex Wedd. (1857) (= **Ophryosporus heptanthus** (Sch.Bip. ex Wedd.) R. M. King & H. Rob.). Types: [Bolivia:] '[*Bang*] (No. 2037)./The same as *Mandon* 260, and apparently collected by *Seemann* in Venezuela.' Syntypes: ?NY.

Bolivia (La Paz, Santa Cruz), Peru.

Upper montane Yungas (Ceja), steep-sided gullies, cloud forest.

(610–) 1500–>4500 m.

January–July.

Note: Britton (1891) cited, under *Eupatorium heptanthum* Sch.Bip. (nom. nud.), that a *Rusby* collection resembled '*E. azangaroense*', q.v. *Ageratina azangaroensis*: 'Near La Paz, 10,000 ft. ([*Rusby*] 1733).', linking it with *Mandon* 260 and *Lechler* 1776 (from Peru). Clearly Britton was referring to part of the *Mandon* 260 collection; see also *Ageratina azangaroensis*.

Ageratina tenuis (R. E. Fr.) R. M. King & H. Rob., *Phytologia* 19(4): 217 (1970).

Eupatorium tenue R. E. Fr., Arkiv Bot. 5(13): 9 (1906). Type: 'Argentinae prov. Jujuy: Sierra S:a Barbara, loco subumbroso in regione *Podocarp*i, ca. 2000 m. s. m. [11/701; FR. 281].' Holotype: S. Argentina, Bolivia (Chuquisaca, Santa Cruz). 1500–2000 m. July.

Ageratiopsis Sch.Bip. ex Benth. in Benth. & Hook.f., Gen. Pl. 2: 246 (1873), nom. nud. pro syn. = **Ageratina** Spach

Ageratum L., Sp. Pl. : 839 (1753); Gen. Pl., ed. 5: 363 (1754).

Carelia Ponted. ex Fabr., Enum. : 85 (1759), non Less. (1832) (= *Radlkoferotoma* Kuntze), nec Juss. ex Cav. (1802)[1803] (= **Mikania** Willd.). Lectotype: **Ageratum conyzoides** L.

Coelestina Cass., Bull. Sci. Soc. Philom. Paris 1817: 10 (1817). Lectotype: *Ageratum corymbosum* Zuccagni
Isocarpha Less., Linnaea 5(1): 141 (1830), p.p. Type: *Isocarpha echioides* Less. = *Ageratum echioides* (Less.) Hemsl.

Ageratum subgen. *Coelestina* (Cass.) Baker in Mart., Fl. Bras. 6(2): 197 (1876).

Ageratum sect. *Coelestina* (Cass.) A. Gray, Syn. Fl. N. Amer. 1(2): 93 (1884).

Ageratum sect. *Stachyofolium* M. F. Johnson, Ann. Missouri Bot. Gard. 58(1): 79 (1971). Type: *Ageratum stachyofolium* B. L. Rob.

Type: **Ageratum conyzoides** L.

References

Johnson, M. F. (1971). A revision of the genus *Ageratum*. Ann. Missouri Bot. Gard. 51(1): 6-88

King, R. M. & H. Robinson. (1975). Flora of Panama II. *Eupatorieae*. Ann. Missouri Bot. Gard. 62(4): 888–1004

King, R. M. & H. Robinson. (1987). *Ageratum*. The genera of the *Eupatorieae* (*Asteraceae*). Monog. Syst. Bot. 22

Sharma, V. H. (1987). Comments on the identity of *Ageratum conyzoides* L., and *A. houstonianum* Mill. – two naturalized weeds in India. Feddes Rep. 98(11–12): 557–560.

Ageratum arsenei B. L. Rob., Contr. Gray Herb. 64: 3 (1922) = **Ageratum conyzoides** L.

Ageratina bimatra (Standley & L. O. Williams) R. M. King & H. Rob., Phytologia 19: 212 (1970) =

Fleischmannia microstemon (Cass.) R. M. King & H. Rob.

Ageratum brachystephanum Regel, Gartenflora 3: 245, t. 108 (1854) = **Ageratum conyzoides** L.

Ageratum ciliare L., Sp. Pl. : 839 (1753) = **Ageratum conyzoides** L.

Ageratum coeruleum Desf., Tabl. Ecole Bot. : 98 (1804), nom. nud. = **Ageratum conyzoides** L.

Ageratum coeruleum Sieber ex Baker in Mart., Fl. Bras. 6(2): 245 (1876), nom. nud. pro syn. = **Hebeclinium macrophyllum** (L.) DC.

***Ageratum conyzoides** L., Sp. Pl. : 839 (1753). Type: 'Habitat in America. ♀'. Note: there is some dispute over the lectotypification of this name. According to Jarvis (2007: 269) Grierson's choice was of Herb. Clifford 396, *Ageratum* 1 (BM-000646956), a specimen which is *Eclipta prostrata* (L.) L.! It would be better to accept Reveal's choice of the Hermann illustration.

Ageratum ciliare L., Sp. Pl. : 839 (1753). Type: 'Habitat in Bisnagarica.' Lectotype (selected by Robinson in Jarvis & Turland, 1998: 351): [icon] '*Centaurium ciliare minus Bisnagaricum, Origani foliis amplioribus, floribus in Umbellis*' in Plukenet, Phytographia: t. 81, f. 4 (1691). Epitype (selected by Robinson in Jarvis & Turland, 1998: 351): [India], 'Karnataka, Hassan District, Hassan', 21 Sep 1971, K.N. Gandhi HFP 2103 (US, No. 2792681).

Ageratum hirtum Lam., Encycl. 1: 54 (1783). Type: 'Cette plant croît au Cap de Bonne-Espérance, & m'a été communiqué par M. Sonnerat. (v.s.)'. Holotype: P-LA (306/12).

Ageratum humile Salisb., Prodr. : 188 (1796), nom. illegit. superfl., based on *A. conyzoides* L.

Ageratum latifolium Cav., Icon. 4: 33, tab. 357 (1797). Type: 'Habitat prope Limam in imperio Peruviano, floretque Iunio ♀ Vidi siccam in herbario Domini Ludovici Née. Nominatur vulgo *Teatina*.' Holotype: MA.

Ageratum coeruleum Desf., Tabl. Ecole Bot. : 98 (1804), nom. nud.

Ageratum hirsutum Lam. in Poir., Encycl. Suppl. 1: 242 (1810). Type: 'Illustr. tab. 672, fig. 2. (Voyez AGÉRATE, n° 1.)'

Sparganophorus obtusifolius Lag., Gen. Sp. Pl. : 25 (1816). Type: 'Hab. in N[ova]. H[ispania]. ♀ Holotype: probably MA if extant.

Cacalia mentrasto Vell., Fl. Flum.: 339 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 69 (1831). Type: 'Habitat maritimis, mediterraneisque. Floret Aug.'

Ageratum cordifolium Roxb., Fl. Ind. 3: 415 (1832). Type: 'Beng.[al] Oochunti. [sic!]' Holotype: ?BM.

Ageratum conyzoides L. var. *hirtum* (Lam.) DC., Prodr. 5: 108 (1836).

Ageratum brachystephanum Regel, Gartenflora 3: 245, t. 108 (1854). Type: '... Wagener aus Colombia ... Caracas.' Holotype: ?LE.

Ageratum suffruticosum Regel, Gartenflora 3: 389, t. 108 (1854). Type: 'Die beistehende Abbildung is nach einem Exemplar gemacht, das ins freie Land gepflanzt, im Garten des Herrn Fröbel prächtig blühete.'

Ageratum nanum Sch.Bip. in Koch & Fintelm., Wochenschr. Gart. Pflanzenk. 1: 26 (1858), nom. nud.

Ageratum muticum Griseb., Fl. Brit. W. I. : 356 (1861). Type: 'HAB. Jamaica!, *Wullschl., March*; [Cuba!, Peru!]' [Note square brackets in original!] Syntypes: ?. Note: one syntype, *March* 1354, is in K and one annotated sheet, but lacking collector, may represent a *Wullschlagel* collection. *Wright* 1631 is proposed as a syntype in GOET.

Ageratum odoratum Vilm., Fl. Pl. Terre, ed. 2 : 42 (1866). [This edition of the work not found.] Note: Ed. 3 cited 'A. odoratum, Hort. Vilmor./Syn. lat. *Ageratum conyzoides*, Lin., var., A. album, Steud.'

Carelia conyzodes [sic! - possible orth. error to be corrected?](L.) Kuntze, Revis. Gen. Pl. 1: 325 (1891).

Carelia conyzodes [sic!](L.) Kuntze [unranked] α *robusta* Kuntze, Revis. Gen. Pl. 1: 325 (1891). Types: 'St. Thomas, Portorico.' Syntypes: NY. [PUERTO RICO. Caguas, 8 Mar 1874, *Kuntze* 235. VIRGIN ISLANDS. St. Thomas, Feb 1874, *Kuntze* 116. - according to Wetter & Zanoni (1985: 329)] Syntype (*Kuntze* 116): NY (00115549). Syntype (*Kuntze* 235): NY (00115550).

Carelia conyzodes (L.) Kuntze [α *robusta* Kuntze] var. *alba* Kuntze, Revis. Gen. Pl. 1: 325 (1891). Type: '?Honkong, Batavia.' Note: No material was cited by Wetter & Zanoni (1985).

Carelia conyzodes (L.) Kuntze [unranked] β *umbrosa* Kuntze, Revis. Gen. Pl. 1: 325 (1891). Type: '?Hongkong.' Note: No material was cited by Wetter & Zanoni (1985).

Carelia conyzodes (L.) Kuntze [β *umbrosa* Kuntze] var. *coerulea* Kuntze, Revis. gen. Pl. 1: 325 (1891). Type: 'Honk Kong.' Holotype: NY (00163096). Note: According to Wetter & Zanoni (1985: 329) this specimen is 'CHINA. Hong Kong, [Victoria Peak], 27 Jan 1875, *Kuntze* 3404.'

Carelia conyzodes (L.) Kuntze [unranked] γ *pusilla* Kuntze, Revis. Gen. Pl. 1: 325 (1891). Type: '?Turong in Anam.' Note: No material was cited by Wetter & Zanoni (1985). See following name.

Carelia conyzodes (L.) Kuntze [γ *pusilla* Kuntze] var. *alba* Kuntze, Revis. Gen. Pl. 1: 325 (1891). Type: ? Wetter & Zanoni (1985: 329) cited the type as 'VIETNAM. Turong [= Da Nang], 24 Feb 1875, *Kuntze* 3598', Holotype: NY (00163097).

Carelia brachystephana (Regel) Kuntze, Revis. Gen. Pl. 1: 325 (1891).

Carelia mutica (Griseb.) Kuntze, Revis. Gen. Pl. 1: 325 (1891).

Ageratum conyzoides L. var. *inaequipaleaceum* Hieron., Bot. Jahrb. Syst. 19: 44 (1895). Type: 'Colombia: crescit ad margines silvarum densarum prope Pacho prov. Cundinamarca, alt. s. m. 1600-2200 m ([*Lehmann*] n. 7482). - Floret mense Januario.' Holotype: B†, but strangely cited as 'Holotype: GH; isotype: NY.' by Johnson. The material in GH (745) is a fragment of the holotype!

Ageratum conyzoides L. f. *album* (Willd.) B. L. Rob., Contr. Gray Herb. 42: 462 (1913).

Ageratum humile Larrañ., Escritos D. A. Larrañaga 1: 406 (1922), nom. illeg., later hom., non Salisbury (1796).

Ageratum arsenei B. L. Rob., Contr. Gray Herb. 64: 3 (1922). Type: 'MEXICO: Cercado near Monterey, Bro. *Arsène*, 12/11 1911'. Holotype: K; isotype: GH (642 - 'slight fragment' from the material in K).

A widespread pantropical weed, indicated by Johnson (1971: 29) as a native of South and Central America but extremely widely introduced. It remains to be seen if both of Johnson's subspecies are present in Bolivia. Bolivia (La Paz, Santa Cruz, Tarija).

Disturbed areas, especially along roadsides, cultivated areas, cattle middens, etc.
0-3000 m.

Flowering throughout the year.

La Paz: Britton (1891) cited 'Mapiri, 5,000 ft. ([*Rusby*] 1643).'

Santa Cruz: Wood et al. 24074 (K, USZ).

Note: Kuntze's infraspecific ranks are extremely difficult to interpret; his first entry would rank his '[unranked] α *robusta*' higher than his 'var. *alba*'. Johnson (1971) stated that they were 'quite probably merely local responses to ecological conditions, they cannot be accorded taxonomic rank.'

Vernacular names: CAMARÁ-OPELA, CATINGA-DE-BODE, CATINGA-DE-BORRÃO, CELESTINA, ERVA-DE-SANTA-LUZIA, ERVA-DE-SÃO-JOÃO, MARIA-PRETA, MENTRASTO, PICÃO-ROXO (Cabrera & Klein, 1991); AGERATUN, BLUETOP, CATINGA DE BODE, CELESTINA, CHUVA, KAVARÁ KATÍ MOROTÍ, NYAMBI, QUEBRA PEDRA, RETENTINA (Freire et al., 2006).

Ageratum conyzoides L. f. *album* (Willd.) B. L. Rob., Contr. Gray Herb. 42: 462 (1913) = **Ageratum conyzoides** L.

Ageratum conyzoides L. var. *hirtum* (Lam.) DC., Prodr. 5: 108 (1836) = **Ageratum conyzoides** L.

Ageratum conyzoides L. var. *inaequipaleaceum* Hieron., Bot. Jahrb. Syst. 18: 44 (1895) = **Ageratum conyzoides** L.

Ageratum cordifolium Roxb., Fl. Ind. 3: 415 (1832) = **Ageratum conyzoides** L.

Ageratum guianense Aubl., Hist. Pl. Guiane 2: 800 (1775) = **Hebeclinium macrophyllum** (L.) DC.

Ageratum hirsutum Lam., in Poir. Encycl. Suppl. 1: 242 (1810). = **Ageratum conyzoides** L.

Ageratum hirtum Lam., Encycl. 1: 54 (1783) = **Ageratum conyzoides** L.

Ageratum humile Larran., Escritos D. A. Larranaga 1: 406 (1922), nom. illeg., later hom. = **Ageratum conyzoides** L.

Ageratum latifolium Cav., Icon. 4: 33 (1797) = **Ageratum conyzoides** L.

Ageratum muticum Griseb., Fl. Brit. W. I. : 356 (1861) = **Ageratum conyzoides** L.

Ageratum nanum Sch.Bip. in Koch & Fintelm., Wochenschr. Gart. Pflanzenk. 1: 26 (1858), nom. nud. = **Ageratum conyzoides** L.

Ageratum odoratum Vilm., Fl. Pl. Terre, ed. 2 : 42 (1866) = **Ageratum conyzoides** L.

Ageratum perplexans M. F. Johnson, Ann. Missouri Bot. Gard., 58(1): 80 (1971) = **Galinsoga quadriradiata** Ruiz & Pav.

Ageratum suffruticosum Regel, Gartenflora 3: 389, t. 108 (1854) = **Ageratum conyzoides** L.

Aglaoendron Remy, Ann. Sci. Nat., ser. 3, 12: 175 (1849) = **Plazia** Ruiz & Pav.

Aglotoma Raf., Fl. Tellur. 2: 44 (1836)[1837] = **Symphotrichum** Nees

Albertinia Spreng. sect. *Isotricha* DC., Prodr. 5: 82 (1836) = **Eremanthus** Less.

Alcina Cav., Icon. 1: 10, t. 15 (1791) = **Melampodium** L.

Alcina minor Cass., Dict. Sci. Nat. 59: 243 (1829) = **Melampodium divaricatum** (Rich. in Pers.) DC.

Alcina ovalifolia Lag., Gen. Sp. Nov. : 32 (1816) = **Melampodium divaricatum** (Rich. in Pers.) DC.

Alcina ovatifolia (Willd.) Jacq.f., Eclog. Pl. 1: 115, t. 78 (1815) = **Melampodium divaricatum** (Rich. in Pers.) DC.

Aldunatea J. Rémy in Gay, Flora de Chile 3: 320, t. 38 (1849) = **Chaetanthera** Ruiz & Pav.

Allendea La Llave & Lex., Nov. Veg. Descr. 1: 10 (1824) = **Liabum** Adans.

Alibum Less., Syn. Gen. Comp. : 152 (1832) = **Munnozia** Ruiz & Pav.

Alomia spilanthis D. Don ex Hook. & Arn., Companion Bot. Mag. 1(No. 8): 238 (1836) = **Gymnocoronis spilanthis** (D. Don ex Hook. & Arn.) DC.

Amblachaenium Turcz. ex DC., Prodr. 7: 93 (1838), nom. nud. pro syn. based on *Oreophila* D. Don = **Hypochoeris** L.

Amblyopappus mendocinus Phil., Anales Univ. Chile 36: 184 (1870) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Amblyopappus neo-mexicana (A. Gray) A. Gray, Torrey Pacif. R. R. Report 4: 106 (1857) = **Schkuhria multiflora** Hook. & Arn.

Ambroa Cabrera, Bol. Soc. Argent. Bot. 6: 91 (1956).

Type: **Amboroa geminata** Cabrera

Reference

Cabrera, A. L. (1956). Un nuevo genero de eupatorieas (Compositae) de Bolivia. Bol. Soc. Argent. Bot. 6(2): 91-93.

Amboroa geminata Cabrera, Bol. Soc. Argent. Bot. 6(2): 92 (1956). Type: 'BOLIVIA - Dep. Santa Cruz, Provincia del Sará (actualmente Ichilo), Cerro del Amboro, entre las piedras de la playa del Isama, 1000 m s.m., leg. J. Steinbach, 3202, 18-X-1916'. Holotype: LP (69860); isotypes: GH (808, 809).
Bolivia (La Paz, Santa Cruz).
Amongst rocks, cloud forest.
1000-1850 m.
October-June.

Ambrosia L., Sp. Pl. : 987 (1753), Gen. Pl. ed. 5: 425 (1754), non *Ambrosia* sensu Hort. ex Bedevian (1936).
Gaertneria Medik., Phil. Bot. 1: 45 (1789), non *Gaertneria* Schreb. (1789), nec *Gaertneria* Retz. (1791), nec
Gaertneria Lam. (1791). Type: *Ambrosia fruticosa* Medik. = **Ambrosia arborescens** Mill.
Franseria Cav., Icon. 2: 78 (1793), nom. cons. Type: *Ambrosia ambrosioides* Cav.
Hemiambrrosia Delpino, Studi Lign. Anem. Comp. Artem. : 16 (1871). Type: *Hemiambrrosia heterocephala*
Delpino, nom. illegit. = *Ambrosia pumila* (Nutt.) A. Gray
Hemixanthidium Delpino, Studi Lign. Anem. Comp. Artem. : 17 (1871). Type: *Hemixanthidium paradoxum*
Delpino, nom. illegit. = *Ambrosia acanthicarpa* Hook.
Xanthidium Delpino, Studi Lign. Anem. Comp. Artem. : 17 (1871). Type: *Xanthidium tenuifolium* Delpino,
nom. illegit. = *Ambrosia confertiflora* DC.
Acanthambrosia Rydb., N. Amer. Fl. 33: 22 (1922). Type: *Acanthambrosia bryantii* (Curran) Rydb., nom. illegit.

Type: *Ambrosia maritima* L.

References

Payne, W. W. (1964). A re-evaluation of the genus *Ambrosia* (Compositae). J. Arnold Arbor. 45(4): 401-438.

Payne, W. W. (1966). Notes on the ragweeds of South America with the description of two new species: *Ambrosia pannosa* and *A. parvifolia* (Compositae). Brittonia 18(1): 28-37.

Robinson, H. (2006). *Ambrosia*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6).
Compositae-Heliantheae, Part I: Introduction, genera A-L. Botanical Institute, Göteborg University,
Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 33-39.

Ambrosia arborescens Mill., Gard. Dict., ed. 8, *Ambrosia* No. 5 (1768). Type: 'The fifth sort is a native of Peru, from whence the younger Jussieu sent the seeds to the royal gardens at Paris, and by the generosity of his brother Dr. Barnard de Jussieu, I was favoured with this plant, which has succeeded in the Chelsea garden, whence it annually perfects its seeds.' Type: ?BM.

Ambrosia fruticosa Medik., Hist. Comment. Acad. Elect. Theodoro-Palatinae 3: 244 (1775), non *Ambrosia fruticosa* DC. (1836), nec *Franseria fruticosa* Phil. (1891). Type: not stated. Note: Payne (1964: 411) commented that the 'good illustration', along with the description left no doubt as to the identity of Medikus' plant, but did not formally lectotypify the name. Robinson (2006: 35) indicated that the lectotype was 'Medicus pl. 20', but not indicating who lectotypified the name, and it may be sensible to take this as the actual lectotypification unless an earlier one is found.

Xanthium fruticosum L.f., Suppl. Pl. : 418 (1782), based on **Ambrosia arborescens** Mill.

Ambrosia frutescens Lam., Encycl. 1: 128 (1783), nom. nud. pro syn. (sub **Ambrosia arborescens** Mill.)

**Franseria artemisioides* Willd., Sp. Pl., ed. 5, 4: 378 (1805), based on *Xanthium fruticosum* L.f., non *Ambrosia artemisioides* Meyen & Walp. (1843).

Xanthium artemisioides (Willd.) Delpino, Studi Lign. Anem. Comp. Artem. : 18 (1871), comb. illegit., non *X. artemisioides* Hook. & Arn. (1841).

Gaertneria artemisioides (Willd.) Kuntze, Revis. Gen. Pl. 1: 339 (1891).

**Franseria conwayi* Rusby, Bull. New York Bot. Gard. 8(No. 28): 130 (1912). Type: [Bolivia:] ' "Santa Cruz, 5000 ft. alt., Aug. 25, 1902. Alta misa" ([R.S. Williams] No. 1464).' Holotype: NY (00169416); isotype: K.

**Franseria recurva* Rusby, Bull. New York Bot. Gard. 8(No. 28): 131 (1912). Type: [Bolivia:] ' " Arequipa, 7500 ft. alt., Aug. 8, 1901" ([R.S. Williams] No. 2527). Holotype: NY (00169417).

Bolivia (Cochabamba, La Paz, Santa Cruz), Colombia, Peru.

Humid montane forests, cultivated areas.

1500–4000 m.

Potentially flowering throughout the year.

Vernacular name: CHACKA CHAPI (Steinbach 13).

Ambrosia artemisiifolia L., Sp. Pl.: 988 (1753). Type: [USA:] 'Habitat in Virginia, Pennsylvania. ♀'. Lectotype (selected by Hind, 1993: 214): Herb. Linn. No. 1114.4 (LINN).

**Ambrosia elatior* L., Sp. Pl.: 987 (1753). Type: 'Habitat in Virginia, Canada ♀'. Lectotype: (selected by Reveal in Jarvis & Turland 1998: 351): Herb. Linn. No. 1114.3 (LINN).

Iva monophylla Walter, Fl. Carol. : 232 (1788). Type: not cited.

Ambrosia elata Salisb., Prodr.: 175 (1796), nom. illegit. superfl. based on *Ambrosia elatior* L.

Ambrosia paniculata Michx., Fl. Bor.-Amer. 2: 183 (1803), nom. illegit., superfl. based on *Iva monophylla* Walter ['HAB. a Canada ad Floridam.']

Ambrosia artemisiifolia L. var. *elatior* (L.) Descourt., Desc. Fl. Ant. 1: 239 (1821).

Ambrosia chilensis Hook. & Arn., J. Bot. 3: 311 (1841). Types: 'Valparaiso; Cuming, (n. 784). Coquimbo; Macrae.' Syntypes: K.

Ambrosia glandulosa Scheele, Linnaea 22(2): 157 (1849). Type: [USA, Texas:] 'Gesellschaftlich auf nacktem Kalksleingeröll im trockenen Flussbette des Cibola, 15 Miles westlich von Neubraunfels. Lindheimer. September.' Holotype: B†.

Ambrosia artemisiifolia L. var. *α jamaicensis* Griseb., Fl. Brit. W. I. : 370 (1861). Type: 'HAB. Jamaica!, M^cNab, in waste places'. Holotype: ?

Ambrosia artemisiifolia L. var. *paniculata* (Michx.) Blank., Rep. (Annual) Missouri Bot. Gard. 18: 173 (1907).

Ambrosia monophylla (Walter) Rydb., N. Amer. Fl. 33: 17 (1922).

Argentina, Bahamas, Bolivia (?), Cuba, Jamaica. Cabrera (1978) suggested a distribution from USA south to the centre of Argentina.

Ambrosia artemisiifolia L. var. *elatior* (L.) Descourt., Desc. Fl. Ant. 1: 239 (1821) = **Ambrosia artemisiifolia** L.

Ambrosia artemisiifolia L. var. *jamaicensis* Griseb., Fl. Brit. W. I. : 370 (1861) = **Ambrosia artemisiifolia** L.

Ambrosia artemisiifolia L. var. *paniculata* (Michx.) Blank., Rep. (Annual) Missouri Bot. Gard. 18: 173 (1907) = **Ambrosia artemisiifolia** L.

Ambrosia chilensis Hook. & Arn., J. Bot. 3: 311 (1841) = **Ambrosia artemisiifolia** L.

Ambrosia elata Salisb., Prodr.: 175 (1796) = **Ambrosia artemisiifolia** L.

Ambrosia elatior* L., Sp. Pl. : 987 (1753) = **Ambrosia artemisiifolia L.

Ambrosia frutescens Lam., Encycl. 1: 128 (1783), nom. nud. pro syn. = **Ambrosia arborescens** Mill.

Ambrosia fruticosa Medik., Hist. Comment. Acad. Elect. Theodoro-Palatinae 3: 244 (1775), non *Ambrosia fruticosa* DC. (1836), nec *Franseria fruticosa* Phil. (1891) = **Ambrosia arborescens** Mill.

Ambrosia glandulosa Scheele, Linnaea 22(2): 157 (1849) = **Ambrosia artemisiifolia** L.

Ambrosia monophylla (Walter) Rydb., N. Amer. Fl. 33: 17 (1922) = **Ambrosia artemisiifolia** L.

Ambrosia paniculata Michx., Fl. Bor.-Amer. 2: 183 (1803), nom. illegit., superfl. = **Ambrosia artemisiifolia** L.

Ambrosia tarapacana Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 50 (1891). Type: [Chile:] 'Habitat ad Pica.' Note: Pizarro (1960: 131) listed two specimens in SGO, 43648 & 65323.

Bolivia (?), Chile.

Amellus P. Browne, Civ. Nat. Hist. Jamaica : 317 (1756), nom. rej., non *Amellus* L. = **Melanthera** Rohr

Amellus asper [sic!](Jacq.) Kuntze [var.] *γ canescens* Kuntze, Revis. Gen. Pl. 1: 305 (1891) = **Melanthera nivea** (L.) Small

Amellus asper [sic!](Jacq.) Kuntze [var.] *γ canescens* Kuntze f. *bicolor* Kuntze, Revis. Gen. Pl. 1: 305 (1891) = **Melanthera nivea** (L.) Small

Amellus asper [sic!](Jacq.) Kuntze [var.] *β glabriusculus* Kuntze, Revis. Gen. Pl. 1: 306 (1891) = **Melanthera nivea** (L.) Small

Amellus asper [sic!] (Jacq.) Kuntze [var.] *α normalis* Kuntze, Revis. Gen. Pl. 1: 305 (1891) = **Melanthera nivea** (L.) Small

Amellus? carolinianus Walter, Fl. Carol. : 213 (1788) = **Eclipta prostrata** (L.) L.

Amellus nivea (L.) Kuntze, Revis. Gen. Pl. 1: 305 (1891) = **Melanthera nivea** (L.) Small

Amellus pedunculatis Ortega ex Willd., Sp. Pl. 3: 2214 (1803), nom. nud. pro syn. = **Tridax procumbens** L.

Amphibecis Schrank, Syll. Ratisb. 1: 86 (1824) = **Centratherum** Cass.

Amphibecis violacea (Schrank) Schrank, Syll. Ratisb. 1: 86 (1824) = **Centratherum punctatum** Cass. ssp. **punctatum**

Amphicalca (DC.) Gardner, London J. Bot. 7: 411 (1848) = **Calea** L.

Ampherephis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 24 (1818) = **Centratherum** Cass.

Ampherephis aristata Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 25 (1818) =

Centratherum punctatum Cass. ssp. **punctatum**

Ampherephis intermedia Link, Abbild. 5: t. 29 (1829) = **Centratherum punctatum** Cass. ssp. **punctatum**

Ampherephis mutica Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 25 (1818) =

Centratherum punctatum Cass. ssp. **punctatum**

Ampherephis pilosa Cass., Dict. Sci. Nat. 57: 346 (1828), nom. illegit. superfl. pro *Ampherephis mutica* Kunth =

Centratherum punctatum Cass. ssp. **punctatum**

Ampherephis pulchella Cass., Dict. Sci. Nat. 57: 346 (1828) = **Centratherum punctatum** Cass. ssp. **punctatum**

Anacis Schrank, Denkschr. Königl. Akad. Wiss. München 5: 5 (1817) = **Coreopsis** L.

Anactinia Remy & J. Gay, Fl. Chilena 4: 8 (1849) = **Nardophyllum** (Hook. & Arn.) Hook. & Arn.

Anacyclus L., Sp. Pl. : (1753)

Anacyclus australis Sieber ex Spreng., Syst. Veg., ed. 16, 3: 497 (1826) = **Cotula australis** (Sieber ex Spreng.) Hook. f.

Anaitis DC., Prodr. 5: 628 (1836) = **Zinnia** L.

? *Anastraphia* D. Don, Trans. Linn. Soc. London 16(2): 295 (1830) = **Gochnatia** Kunth

Ancistrophora A. Gray, Mem. Amer. Acad. 2, 6: 457 (1859) = **Verbesina** L.

Andrieuxia DC., Prodr. 5: 559 (1836) = **Heliopsis** Pers.

Andreuxia mexicana DC., Prodr. 5: 559 (1836) = **Heliopsis bupthalmoides** (Jacq.) Dunal

Andromachia Humb. & Bonpl., Pl. Aequinoct. 2: 104, t. 112 (1809) = **Liabum** Adans.

Andromachia maronii André, Rev. Hort. : 496 (1887) = **Munnozia maronii** (André) H. Rob.

Andromachia solidaginea Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 78 (1818) = **Liabum solidagineum** (Kunth) Less.

Angelianthus H. Rob. & Brettell, Phytologia 28(1): 76 (1974), nom. nov. pro *Liabellum* Cabrera, nom. illegit. superfl. = **Microliabum** Cabrera

Angelphytum G. M. Barroso, Bol. Soc. Argent. Bot. 19(1-2): 9 (1980) = **Dimerostemma** Cass.

Angelphytum aspilioides (Griseb.) H. Rob., Proc. Biol. Soc. Washington 97(4): 965 (1984) = **Dimerostemma aspilioides** (Griseb.) M. D. Moraes

Angelphytum herzogii (Hassl.) Pruski, *Compositae Newslett.* 34: 2 (1999) = ***Dimerostemma herzogii*** (Hassl.)
M. D. Moraes

Antennaria Gaertn. sect. *Mniodes* A. Gray, *Proc. Amer. Acad. Arts* 5: 138 (1862) = ***Mniodes*** (A. Gray) Benth. & Hook.f.

Antennaria Gaertn., *Fruct. Sem. Pl.* 2: 410 (1791).

Type: *Antennaria dioica* (L.) Gaertn.

References

Cabrera, A. L. (1957). Una nueva especie del genero *Antennaria* (Compositae). *Notas Mus. La Plata, Bot.* 19(No. 90): 73–79.

Dillon, M. O. & A. Sagástegui-Alva. (1991). *Antennaria*. In: J. F. Macbride & collab., *Flora of Peru, Family Asteraceae: Part V. Fieldiana, Bot. n.s.* 26 (1422): 9–11.

Antennaria aretioides (Sch.Bip.) A. Gray, *Proc. Amer. Acad. Arts* 5: 139 (1861) = ***Mniodes aretioides*** (Sch.Bip.) Cuatrec.

Antennaria gnaphalioides Standley & Knuth, *Fedde Repert. Beih.* 43: 709 (1928) = ***Pseudognaphalium antennarioides*** (DC.) Anderb.

Antennaria linearifolia Wedd., *Chloris Andina* 1: 150 (1856). Types: 'Hab. PÉROU! (*Pavon, Dombey*).'
Syntypes: P.

Gnaphalium sedoides Klatt, *Linnaea* 42(1): 135 (1878). Type: 'Hab. Peruvia, leg. *Dombey*, Herb. Francavilleanum No. 252.'. Holotype: P; isotype: GH (8364). Note: de Candolle (1880: 388) noted that the Compte de Franqueville's personal herbarium, of some 90,000 specimens, is now in P.

Gnaphalium linearifolium (Wedd.) Franchet, *Bull. Soc. Bot. France* 39: 135 (1892).

Leontopodium linearifolium (Wedd.) Britton, *Bull. Torrey Bot. Club* 19(5): 148 (1892).

Leontopodium linearifolium (Wedd.) B. D. Jacks., *Index Kewensis* 2(3): 53 (1894), comb. superfl.

Bolivia (Chuquisaca, La Paz), Ecuador, Peru.

Rocky slopes, cliffs, amongst rock outcrops.

2500–4000 (–5000) m.

March–July.

La Paz: Wood 11276 (K), Wood 20651 (K).

Note: Cabrera (1957: 79) cited the combination '*Leontopodium linearifolium* (Wedd.) Benth. & Hook.f.'. In *Genera Plantarum* Bentham & Hooker (1873) did not associate the final epithet (*linearifolium*) with the name of the genus (*Leontopodium*). The combination was validated by Britton (1892), and superfluously by Jackson in *Index Kewensis* (1894). In K there is a specimen, Hill 257, collected from 'Pacechac', that was determined by Domke (22.I.[19]35) as '*Gnaphalium linearifolium* (Wedd.) Franchet var. *brevicaulis* var. nov.'; I have been unable to trace any validating publication of this name, although it appears to be a very characteristic plant, but well within the size range of the peduncle indicated by Dillon & Sagástegui-Alva (1991). Domke published one account of Andean Compositae (Domke, 1936) in which several Kew specimens were cited as holotypes, but not this one (c.f. Gerloff et al., 1989 for Domke's publications). Similarly, in his part of the account of Compositae for the Ecuadorian flora no mention was made of this entity (Domke, 1937). All taxa in the Compositae described by Domke, or based on his names, appear to be derived from these two works. Vernacular name: CHAMPITO (Peru) (Dillon & Sagástegui Alva, 1991: 9).

Antennaria monoica Wedd., *Chloris Andina* 1: 150 (1856), nom. illegit. = ***Pseudognaphalium antennarioides*** (DC.) Anderb.

Anthemis L., *Sp. Pl.*: 893 (1753).

Type: *Anthemis maritima* L.

Anthemis buphthalmoides Jacq., Pl. Hort. Schoenbr. 2: 13, t. 151 (1797) = **Heliopsis buphthalmoides** (Jacq.) Dunal

***Anthemis cotula** L., Sp. Pl.: 894 (1753). Type: 'Habitat in Europae ruderatis, praecipue in Ucraina'. Lectotype (selected by Yavin in Israel J. Bot. 19: 145, 1970): *Gerber*, Herb. Linn. No. 1016.16 – LINN.

Anthemis foetida Lam., Fl. France 2: 164 (1778), nom. illegit. superfl. pro *Anthemis cotula* L.

Maruta foetida (Lam.) A. Gray, Nat. Arr. Brit. Pl. 2: 456 (1821).

Maruta foetida (Lam.) Cass., Dict. Sci. Nat. 29: 174 (1823).

Maruta cotula (L.) DC., Prodr. 6: 13 (1838).

Maruta vulgaris Bluff & Fing., Fl. Germ. 2: 392 (1825-33), nom. illegit. pro. *Anthemis cotula* L.

Chamaemelum cotula (L.) All., Fl. Pedemont. : 676 (1785).

Widespread as a weed in both North and South America. Europe, N Africa, W Asia, S Africa, Australia and New Zealand. Argentina, Bolivia (La Paz).

0–1500 m.

Vernacular name: MANZANILLA (Cabrera, 1978: 450).

Anthemis occidentalis Willd., Sp. Pl. 3: 2185 (1804), nom. nud. = **Heliopsis buphthalmoides** (Jacq.) Dunal

Anthemis oppositifolia Lam., Encycl. 1: 576 (1783), nom. illegit. superfl., non L. (1753)[= *Chrysanthellum americanum* (L.) Vatke], based on *Anthemis americana* L.f. = **Heliopsis buphthalmoides** (Jacq.) Dunal

Apargia chillensis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 3 (1818) = **Hypochaeris chillensis** (Kunth) Hieron.

Aphanactis Wedd., Chloris Andina 1: 142 (1856).

Type: *Aphanactis jamesoniana* Wedd.

References

Robinson, H. (1997). New species of *Aphanactis* in Ecuador and Bolivia and new combinations in *Selloa* (Heliantheae: Asteraceae). *Brittonia* 49(1): 71–78.

Turner, B. L. (1980). La taxonomía del género *Aphanactis* (Asteraceae-Heliantheae). *Bol. Soc. Argent. Bot.* 19: 33–44.

Aphanactis boliviana H. Rob., *Brittonia* 49(1): (1997). Type: 'BOLIVIA. La Paz: Prov. B. Saavedra mas arriba de Amarete, 4160 m, 16 Mar 1983, X. Menhofer X-2124'. Holotype: US(03082336); isotypes: LPB, P.

Bolivia (La Paz).

Humid grassland.

4160 m.

March.

Note: It is possible that this is a variant of *A. villosa* S. F. Blake, *J. Wash. Acad. Sci.* 16: 216 (1926), known from Ecuador and Peru.

Aphanopappus Endl., Gen. Pl. Suppl. 2: 43 (1842), nom. illegit. = **Melanthera** Rohr

Aphyllocladus Wedd., Chloris Andina 1: 11 (1855).

Jobaphes Phil., Fl. Atacam.: 27, t. 4 (1860); *Reise Atacama* : 201 (1860). Type: *Jobaphes virgatus* Phil. =

Aphyllocladus denticulatus (Remy) Cabrera

Type: **Aphyllocladus spartioides** Wedd.

Note: Cabrera (1951) used both spellings, *Aphyllocladus* and *Aphylloclados*, cf. Weddell (1855)(*Aphyllocladus*) and Molfino (1953)(*Aphylloclados*).

References

Cabrera, A. L. (1951). Notas sobre Compuestas de la América austral. I. Los géneros afines a "*Plazia*". *Darwiniana* 9(3–4): 363–373.

Molfino, J. F. (1953). Una nueva especie del genero *Aphyllocladus*. Bol. Soc. Argent. Bot. 5(1-2): 30-34.

Aphyllocladus spartioides Wedd., Chloris Andina 1: 11 (1855). Types: 'Hab. BOLIVIE: montagnes arides des dépts. de Potosi et de Chuquisaca!, à une élévation de 3000 á 3500 m. (Wedd.)'. Syntypes: P.

Hyalis spartioides (Wedd.) Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 211 (March-April 1879); Symb. Fl. Argent. : 211 (1879).

Hyalis spartioides (Wedd.) Hieron., Pl. Diaph.: 164 (1882), comb. superfl.

**Plazia spartioides* (Wedd.) Kuntze, Revis. Gen. Pl. 3(3): 167 (1898).

Argentina, Bolivia (Chuquisaca, Potosí, Tarija).

Dry mountain sides, steep scrubby dry slopes.

2200-3500 m.

November-July.

Potosí: Wood 14837 (K).

Aplopappus Cass., Dict. Sci. Nat. 56: 168 (1828) = **Haplopappus** Cass.

Aplopappus sect. ? *Inulopsis* DC., Prodr. 5: 349 (1836) = **Inulopsis** (DC.) O. Hoffm.

Aplopappus sect. ? *Leucopsis* DC., Prodr. 5: 348 (1836) = **Noticastrum** DC.

Aplopappus cinierariifolius Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 9 (1882), nom. nud. pro syn. = **Leptostelma tweediei** (Hook. & Arn.) D. J. N. Hind & G. L. Nesom

Aplopappus ledifolius S. F. Blake, Amer. J. Bot. 14(3): 112 (1927) = **Llerasia ledifolius** (S. F. Blake) Cuatrec.

Aplopappus lucidulus S. F. Blake, Amer. J. Bot. 14(3): 114 (1927) = **Llerasia macrocephala** (Rusby) Pruski

Aplopappus soratensis S. F. Blake, Amer. J. Bot. 14(3): 109 (1927) = **Llerasia soratensis** (S. F. Blake) Cuatrec.

Aplophyllum Cass., Dict. Sci. Nat. 33: 472 (1824) = **Mutisia** L.f.

Archibaccharis lewisii H. Rob., BioLlania, Ed. Esp. 6: 502 (1997) = **Baccharis lewisii** (H. Rob.) Joch. Müller

Argyrochaeta Cav., Icon. 4: 54, t. 378 (1798) = **Parthenium** L.

Argyrochaeta parviflora Cav., Descr.: 233 (1802) = **Parthenium hysterothorus** L.

Armania Bert. ex DC., Prodr. 5: 576 (1836) = **Simsia** Pers.

Arrhenachne Cass., Dict. Sci. Nat. 53: 253 (1828) = **Baccharis** L.

Arrhenachne juncea Cass., Dict. Sci. Nat., ed. 2, 52: 254 (1828) = **Baccharis juncea** (Lehm.) Desf.

Artemisia L., Sp. Pl.: 845 (1753) & Gen. Pl., ed. 5: 367 (1754).

Lectotype (selected by Hitchcock & Green, 1929: 180): *Artemisia vulgaris* L.

***Artemisia absinthium** L., Sp. Pl. : 848 (1753). Type: 'Habitat in Europae ruderatis aridis. [figure four].'

Lectotype (selected by Ling in Jarvis & Turland, 1998: 353): Herb. Clifford: 404, *Artemisia* 7 (BM-000647029). Bolivia (?).

0-1000 m.

Ascalea Hill, Hort. Kew. : 60 (1768) = p.p. **Carduus** L., p.p. **Cirsium** Mill.

Ascalea lanceata Hill, Hort. Kew. : 60 (1768) = **Cirsium vulgare** (Savi) Ten.

Ascalea nutans (L.) Hill, Hort. Kew. : 60 (1768) = **Carduus nutans** L.

Aschenbornia Schauer, Linnaea 19: 16 (1847) = **Calea** L.

Aspilia Thouars, Gen. Nova Madag. 12: 17 (1806).

Type: *Aspilia thouarsii* DC.

Note: Following the mass transfer of species from *Aspilia* to *Wedelia* by Robinson (1992) and Turner (1992) the synonymy of this genus will have to be re-assessed. It is more than likely that the South American element of this genus belongs to another genus entirely, the remnants only (probably the African taxa) belonging in *Aspilia*. Some of Turner's combinations were illegitimate and need to be re-examined. Santos' revision (Santos, 2001) dealt with the Brazilian species in isolation to those in the rest of South America.

References

- Robinson, H. (1975). Studies in the Heliantheae (Asteraceae). V. Two new species of *Aspilia* from South America. *Phytologia* 32(5): 419–425.
- Robinson, H. (1984). Studies in the Heliantheae (Asteraceae). XXXIX. New species of *Aspilia* from Brazil. *Phytologia* 56(4): 262–286.
- Robinson, H. (1992). New combinations in *Elaphandra* Strother (Ecliptinae-Heliantheae-Asteraceae). *Phytologia* 72(2): 144–151.
- Santos, J. U. M. dos (2001). O gênero *Aspilia* Thou. (Asteraceae-Heliantheae) no Brasil. Museu Paraense Emílio Goeldi, Coleção Adolpho Ducke, FUNTEC, Belém, Pará. pp. 301.
- Turner, B. L. (1992). New names and combinations in New World *Wedelia* (Asteraceae, Heliantheae). *Phytologia* 72(5): 389–395.

Key to species

- | | | |
|----|---|--------------------|
| 1. | Phyllaries gradate, imbricate, outer shorter than inner (sect. Squarrosae) | 2 |
| | Outer phyllaries equal to or slightly larger than inner (sect. <i>Aspilia</i>) | 4 |
| 2. | Ray limbs white; leaves lanceolate to linear-lanceolate (4.5–8 × 0.4–1.2 cm), margins entire or subentire | <i>cardenasii</i> |
| | Ray limbs yellow | 3 |
| 3. | Leaves short-petiolate (1–2 mm), leaf margins serrate; phyllary apices erect | <i>elata</i> |
| | Leaves sessile, leaf margins entire or dentate; phyllary apices squarrose | <i>floribunda</i> |
| 4. | Ray limbs white | 5 |
| | Ray limbs yellow | 6 |
| 5. | Leaves ovate-lanceolate, ovate or ovate-elliptic (5–8 × 2.5–3.5 cm), margins markedly serrate-dentate, base acute | <i>leucoglossa</i> |
| | Leaves linear-lanceolate (6–12 × 0.7–1.4 cm), margins remotely mucronate-serrate, base long-attenuate | <i>vieirae</i> |
| 6. | Leaves petiolate, petiole 3–10 mm, leaf base attenuate, leaf margins entire or sparsely dentate | <i>attenuata</i> |
| | Leaves sessile, leaf base cuneiform to rounded, leaf margins repand-serrulate | <i>aurantiaca</i> |

Aspilia attenuata (Gardner) Baker in Mart., Fl. Bras. 6(3): 199 (1884).

Viguiera attenuata Gardner, London J. Bot. 7: 400 (1848). Types: [Brazil:] [Gardner 3861 & 3864] 'HAB. Bushy places near Villa de Arrayas, Province of Goyaz. April, 1840.' Syntypes: BM, K. Lectotype (selected by Santos, 2001: 197): Gardner 3864, BM; isoelectotypes: K, NY × 3, W.

Wedelia attenuata (Gardner) B. L. Turner, *Phytologia* 72(5): 391 (1992).

Bolivia (Santa Cruz), Brazil.

Rocky areas in cerrado, gallery forest and dry grassland.

April.

Note: Santos (2001: 197) also placed *Viguiera asperrima* Gardner into synonymy of *A. attenuata*, although it is also clear that Robinson (1984: 270) clearly regarded them as separate when comparing his new *A. pseudoviguiera*. Clearly a closer examination of material is necessary to support either Santos' or Robinson's hypothesis.

Aspilia aurantiaca Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 183 (1874); Pl. Lorentz.: 136 (1874).

Type: [Argentina:] 'Tucuman, frequens in fruticetis montanis, Cuesta de Berico.' Holotype: Lorentz 264, GOET.

Wedelia aurantiaca (Griseb.) B. L. Turner, *Phytologia* 72(5): 391 (1992).

Argentina, Bolivia (Chuquisaca, Santa Cruz, Tarija). Listed by Cabrera (1978: 360) as present in Bolivia, as var. *aurantiaca*; the other variety, var. *vulcanica* Cabrera present only in Argentina.

Aspilia bolivarana V. M. Badillo, *Ernstia* 23: 14 & fig. 4 (1984) = ***Tilesia baccata*** (L.) Pruski

Aspilia cardenasii H. Rob., *Phytologia* 56(4): 265 (1984). Type: 'BOLIVIA: Santa Cruz: San Micerato-Santiago de Chiquitos. 970 m. Among grasses in sandstone hills. 30-60 cm high, flowers white. II-50. *Cárdenas* 4563'.

Holotype: US (01989964).

Wedelia cardenasii (H. Rob.) B. L. Turner, *Phytologia* 72(5): 391 (1992).

Bolivia (Santa Cruz).

970 m.

February.

Santa Cruz: *Wood* 20698 (K, USZ), *Wood* 22240 (K, USZ), *Wood & Goyder* 16935 (K), *Wood & Haigh* 21901 (K), *Wood & Mamani* 13488 (K), *Wood & Pozo* 25941 (K, USZ), *Wood et al.* 24336 (K, USZ).

Aspilia elata Pilger, *Bot. Jahrb. Syst.* 30(2): 203 (July 1901). Type: [Brazil:] 'Mattogrosso: im Serrado im Cuyabáthal oberhalb von Rosario ([*Meyer*] n. 461 – Blühend im April 1899).' Holotype: B†. Note: Santos (2001: 72–73) refrained from neotypifying this name.

Bolivia (Santa Cruz), Brazil.

Dry grassland.

April.

Aspilia floribunda (Gardner) Baker in *Mart., Fl. Bras.* 6(3): 198 (1884).

Viguiera floribunda Gardner, *London J. Bot.* 7: 401 (1848). Type: 'Hab. Near Villa de Arrayas, Province of Goyaz. May, 1843.' [*Gardner*] 4241. Types: BM, BR, E, G, K, NY × 3, W. Note: Unfortunately, Santos (2001: 98) indicated that the holotype of this name (and the two following) as in G, with isotypes in several other institutions. Regrettably, this appears to have been in ignorance of Gardner's working methods, as Gardner most certainly did not locate the material he described in G. Some of the duplicates had been distributed (by Bentham and Hooker) before Gardner returned from Brazil, many before Gardner's names were published; the 'top set' is in BM for many of the taxa that Gardner described as the Natural History Museum purchased Gardner's herbarium and library after his death in 1849. Santos's choice has to be considered a lectotypification.

Viguiera ramosissima Gardner, *London J. Bot.* 7: 402 (1848). Type: 'Hab. Banks of the Rio Gurgea, Province of Piahy. Aug. 1839.' [*Gardner*] 2650. Types: BM, E, G, K, NY × 3, W. Note: Santos (2001: 98) effectively lectotypified this name based on material in G – see also note above under *Viguiera floribunda*.

Viguiera gracilis Gardner, *London J. Bot.* 7: 402 (1848). Type: 'Hab. In bushy places near San Domingos, Province of Goyaz. May, 1840.' [*Gardner*] 4240. Types: BM, BR, G, K, NY × 3, W. Note: Santos (2001: 98) effectively lectotypified this name based on material in G – see also note above under *Viguiera floribunda*.

Aspilia gracilis (Gardner) Baker in *Mart., Fl. Bras.* 6(3): 198 (1884).

Wedelia floribunda (Gardner) B. L. Turner, *Phytologia* 72(5): 392 (1992).

Bolivia (Santa Cruz), Brazil.

Caatinga, seasonally flooded grassland, river margins, pantanal, cerrado, cerradão, and rocky areas. 455 m.

March–August.

Santa Cruz: *Pozo & Villarroel* 593 (K, USZ), *Wood* 12164 (K), *Wood* 13586 (K), *Wood et al.* 13096 (K), *Wood et al.* 24765 (K, USZ), *Wood et al.* 24848 (K, USZ).

Note: Santos (2001: 98) also placed *Aspilia pseudoviguiera* H. Rob. in synonymy.

Aspilia gracilis (Gardner) Baker in *Mart., Fl. Bras.* 6(3): 198 (1884) = ***Aspilia floribunda*** (Gardner) Baker

Aspilia leucoglossa Malme, *Kongl. Svenska Vetenskaps-Akad. Handl.* 32(5): 62 (1899). Type: [Brazil:] 'Matto Grosso: Cuyabá (In »cerrado« minus denso; loco subaperto, arenoso-glareoso, sicco. 18²⁴/₁₁93. MALME 1160.)' Holotype: S; isotypes: R, S.

Wedelia leucoglossa (Malme) B. L. Turner, *Phytologia* 72(5): 393 (1992).

Bolivia (Santa Cruz), Brazil.

Grassland and cerrado, rocky soils.

700–770 m.

October–December.

Santa Cruz: Wood 25200 (K, USZ), Wood et al. 25237 (K, USZ).

Aspilia lucidula* S. F. Blake, Proc. Biol. Soc. Washington 36: 52 (1923) = **Elaphandra ulei (Hieron.) H. Rob.

Aspilia steinbachii H. Rob. & R. D. Brettell, Phytologia 32(5): 420 (1975) = **Elaphandra ulei** (Hieron.) H. Rob.

Aspilia ulei Hieron., Verh. Bot. Ver. Brand. 1906, 48: 205 (1907) = **Elaphandra ulei** (Hieron.) H. Rob.

Aspilia vieirae H. Rob., Phytologia 56(4): 272 (1984). Type: 'BRAZIL: Rondônia: A 4 km proximo de Vilhena, 12°45'S-60°10'W. Campo. Erva de 40 cm de altura; flores brancas; cálice verde. Solo argiloso. 25/10/1979. M. G. Vieira, J. L. Zaruchi, R. H. Peterson, J. F. Ramos, & C. D. A. Mota 614.' Holotype: INPA; isotype: MG, US (2886237).

Bolivia (Santa Cruz), Brazil.

Grassland and cerrado.

October.

Note: Santos (2001: 120) placed both *A. simpsonae* H. Rob. and *A. vieirae* H. Rob. into synonymy of *A. leucoglossa*. I do not concur with this and keep the species separate in this checklist, the leaf shape, if nothing more, being significantly different.

Aster L., Sp. Pl.: 872 (1753).

Aster L. subgen. *Ascendentes* (Rydb.) Semple, Phytologia 58(7): 430 (1985) = **Symphotrichum** Nees

Aster L. subgen. *Conyzopsis* (Torrey & A. Gray) A. Gray, Proc. Amer. Acad. Arts 16: 99 (1880) =

Symphotrichum Nees

Aster L. sect. *Conyzopsis* Torrey & A. Gray, Fl. N. Amer. 2: 162 (1841) = **Symphotrichum** Nees

Aster L. sect. *Heterastrum* Benth. & Hook. f., Gen. Pl. 2(1): 273 (1873) = **Symphotrichum** Nees

Aster L. sect. *Noticastrum* Benth. & Hook. f., Gen. Pl. 2(1): 273 (1873), p.p. = **Noticastrum** DC.

Aster L. sect. *Oritrophium* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 70 (1818) =

Oritrophium (Kunth) Cuatrec.

Aster L. subgen. *Oxytripolium* (DC.) Torrey & A. Gray, Fl. N. Amer. 2: 161 (1841) = **Symphotrichum** Nees

Aster L. subgen. *Symphotrichum* (Nees) A. G. Jones, Brittonia 32(2): 234 (1980) = **Symphotrichum** Nees

Aster L. subgen. *Virgulus* (Raf.) A. G. Jones, Brittonia 32(2): 233 (1980) = **Symphotrichum** Nees

Aster acaulis* Wedd., Chloris Andina 1: 189 (1857) = **Noticastrum marginatum (Kunth) Cuatrec.

Aster asteroides (Colla) Rusby, Mem. Torrey Bot. Club 4(3): 213 (1893) = **Symphotrichum squamatum**

(Spreng.) G. L. Nesom

Aster bangii Rusby, Mem. Torrey Bot. Club 4(3): 213 (1895), nom. nov. pro *Tripolium conspicuum* Lindl. ex DC.

= **Symphotrichum squamatum** (Spreng.) G. L. Nesom

Aster barcinonensis Sennen, Bull. Géogr. Bot. 24(Nos. 295-297): 242 (1914) = **Symphotrichum squamatum**

(Spreng.) G. L. Nesom

Aster (Apligeni) camporum Gardner, London J. Bot. 7: 79 (1848) = **Inulopsis camporum** (Gardner) G. L. Nesom

Aster cabreriae Ariza, Bol. Soc. Argent. Bot. 36(1-2): 159 (2001) = **Symphotrichum graminifolium** (Spreng.)

G. L. Nesom

Aster divaricatus* L. var. *graminifolius* (Spreng.) Baker in Mart., Fl. Bras. 6(3): 22 (1882) = **Symphotrichum

graminifolium (Spreng.) G. L. Nesom

**Aster exilis* Elliott, Sketch 2: 344 (1823). Note: A note in Nesom (1994: 295) provides doubts about this species

existence. Although listed by Foster (1958: 203), *Index Kewensis* linked *Erigeron multiflorus* Hook. & Arn. to

the name. Reference to '*Aster exilis* Ell. var. *australis* A. Gray' (as a synonym of '*Aster divaricatus* T. and G.

var. *graminifolium* (Spreng.) Baker' was provided in Britton (1892b: 2). Cuatrecasas (1969: 45) suggested that

as '*Aster exilis sensu auct., non Elliot*', the name was a synonym of *Symphotrichum squamatum*.

Aster exilis* Elliott f. *subalpinus* R. E. Fr., Ark. Bot. 5(13): 12 (1906) = **Symphotrichum squamatum (Spreng.)

G. L. Nesom

Aster limnophilus* (Sch.Bip.) Hemsl. & Pearson, J. Linn. Soc., Bot. 35: 86 (1901) = **Oritrophium limnophilum

(Sch.Bip.) Cuatrec.

Aster marginatus* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 71 (1818) = **Noticastrum

marginatum (Kunth) Cuatrec.

- Aster marginatus* Kunth var. γ *argenteus* Wedd., *Chloris Andina* 1: 188 (1957) = **Noticastrum argenteum** Cabrera
- Aster moelleri* (Phil.) Reiche, *Anales Univ. Chile* 109: 338 (1901) = **Symphotrichum squamatum** (Spreng.) G. L. Nesom
- Aster mutisianus* Cuatrec., *Trab. Mus. Nac. Ci. Nat. Jard. Bot. Madrid*, ser. Bot. 29: 21 (1935) = **Oritrophium limnophilum** (Sch.Bip.) Cuatrec.
- Aster perezii* Cuatrec., *Trab. Mus. Nac. Ci. Nat. Jard. Bot. Madrid*, ser. Bot. 29: 20 (1935) = **Noticastrum marginatum** (Kunth) Cuatrec.
- Aster sejaensis* Kuntze, *Revis. Gen. Pl.* 3(3): 131 (1898) = **Diplostephium haenki** (DC.) Wedd.
- Aster sodiroi* Hieron., *Bot. Jahrb. Syst.* 29(1): 20 (1900) = **Oritrophium limnophilum** (Sch.Bip.) Cuatrec.
- Aster sodiroi* Hieron. var. *mutisianus* (Cuatrec.) Cuatrec., *Trab. Mus. Nac. Cienc. Nat. Jard. Bot. Madrid*, ser. Bot. 33: 132 (1936) = **Oritrophium limnophilum** (Sch.Bip.) Cuatrec.
- Aster squamatus* (Spreng.) Hieron., *Bot. Jahrb. Syst.* 29(1): 19 (1900) = **Symphotrichum squamatum** (Spreng.) G. L. Nesom
- Aster squamatus* (Spreng.) Hieron. var. *graminifolius* (Spreng.) Hieron., *Bot. Jahrb. Syst.* 29(1): 19 (1900) = **Symphotrichum graminifolium** (Spreng.) G. L. Nesom
- Aster subtropicus* Morong, *Ann. New York. Acad. Sci.* 7: 139 (1893) = **Symphotrichum squamatum** (Spreng.) G. L. Nesom
- Aster(?) trachyticus* Phil. *Anales Mus. Nac. Chile*, Secc. 2, Bot. 8: 37 (1891) = **Diplostephium meyenii** Wedd.
- **Aster vahlii* (Gaudich.) Hook. & Arn., *Companion Bot. Mag.* 2(No. 14): 49 (1836) = **Symphotrichum vahlii** (Gaudich.) G. L. Nesom
- Aster vahlii* (Gaudich.) Hook. & Arn. var. *tenuifolius* (Phil.) Cabrera, *Revista Chil. Hist. Nat.* 40: 227 (1936) = **Symphotrichum vahlii** (Gaudich.) G. L. Nesom
- Athanasia hastata* Walter, *Fl. Carol.*: 201 (1788) = **Melanthera nivea** (L.) Small
- Athronia* Neck., *Elem. Bot.* 1: 32 (1790), nom. illeg. rej. = **Acmella** Rich.
- Austrobrickellia** R. M. King & H. Rob., *Phytologia* 24(2): 72 (1972).
- Type: *Eupatorium patens* D. Don ex Hook. & Arn. = **Austrobrickellia patens** (D. Don ex Hook. & Arn.) R. M. King & H. Rob.
- References
- Cabrera, A. L. (1978). *Eupatorium patens*. Compositae. In: A. L. Cabrera (dir.), *Flora de la Provincia de Jujuy. Parte X. Coleccion Cientifica del INTA, Buenos Aires. Vol. 13. pp. 120–123.*
- King, R. M. & H. Robinson. (1972). Studies in the Eupatorieae (Asteraceae). LXXXII. A new genus, *Austrobrickellia*. *Phytologia* 24(2): 72–73.
- Austrobrickellia patens** (D. Don ex Hook. & Arn.) R. M. King & H. Rob., *Phytologia* 24(2): 73 (1972).
- Eupatorium ? patens* D. Don ex Hook. & Arn., *Companion Bot. Mag.* 1(No. 8): 242 (1836). Types: 'El Aquadita, province of San Luis, Dr. Gillies [157]. Rio Jersero and Rio Pitanbalo, Tweedie'. Syntypes: K.
- Eupatorium patens* Phil., *Anales Univ. Chile* 36: 178 (1870), nom. illegit. Note: In a separately paginated reprint/preprint in K this appeared on p. 21. Type: [Chile:] 'Prope oppidum Mendoz invenitur.' Holotype: SGO.
- Eupatorium xerolepis* Sch.Bip. ex Baker in Mart., *Fl. Bras.* 6(2): 323 (1876), nom. nud. pro syn.
- **Eupatorium patens* D. Don ex Hook. & Arn. var. *rhodolaena* [sic!] Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 170 (1879). Types: 'J. (α .: "Bras. austr. – Tucuman et S. Luis")'. Syntypes: *Lorentz & Hieronymus* 724, 771, GOET. Note: There are duplicates of *Lorentz & Hieronymus* 748 and 782 from Jujuy, in K, determined by Grisebach which may also represent isosyntypes. Ariza Espinar (1994: 54) listed isosyntypes from CORD as 'Jujuy: En las cercanías de Maimará, *Lorentz et Hieronymus* 771 y 724, 13/15-V-1873.'.
- Mikania tenuiflora* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 174 (1879); *Symb. Fl. Argent.* : 174 (1879). Type/s?: [Argentina:] 'C.: pr. Cordoba.' ?Syntypes: GOET; isosyntype: *Lorentz* 82, K. Note: There are two collections, *Lorentz* 82 and *Hieronymus* 838 in GOET marked as syntypes; a duplicate of *Lorentz*, ex B, is in K.

Eupatorium patens D. Don ex Hook. & Arn. var. *gracilior* Lorentz, Informe Exped. Rio Negro 2, Bot. : 227 (1881)[1883]. Types: 'En las lomas, arriba de la Laguna Narracó; despues, en varios puntos en los valles de los Rios Colorado y Negro.' ?Syntypes: ?CORD. Ariza Espinar (1994: 53) listed the first of the syntypes (in CORD) as 'Buenos Aires, Laguna Narraco, Lorentz et Niederlein s.n., 7-V-1879.' However, Ariza Espinar (2010: 188) later considered the material in CORD as the probable holotype of this name suggesting that Lorentz & Niederlein suggested that the taxon also grew in the other localities; he also mis-cited the varietal epithet as '*gracilis*'.

Eupatorium patagonicum Klatt, Abh. Naturf. Ges. Halle 15: 324 (1881) [p. 4 on pre-/re- print in K]. Type: 'Hab. Patagonia, leg. A. d'Orbigny No. 184.' Holotype: P.

**Eupatorium patens* D. Don ex Hook. & Arn. var. *tomentosum* Hieron., Bot. Jahrb. Syst. 22(4-5): 773 (1897). Type: 'Bolivia: in Ost-Velasco bei 200 m über dem Meeresspiegel (O.KUNTZE, Juli 1892).' Holotype: B†.

Eupatorium vattuonei Hicken, Darwiniana 1(3-4): 146 (1924). Type: 'Quebradas, nº. 180.' [Argentina: Quebrada del Toro, January 1923, I. Vattuone]. Holotype: SI.

Argentina, Bolivia (Chuquisaca, Potosí, Santa Cruz, Tarija), Brazil, Paraguay.

Chaqueña, Prepuna, woodland margins, adjacent irrigation ditches, adjacent hedges of field margins. 0-3500 m.

January-July.

Chuquisaca: Brummitt et al. 19221 (K).

Potosí: Wood & Gutiérrez 23365 (K, USZ).

Austroeupatorium R. M. King & H. Rob., Phytologia 19(7): 433 (1970).

Eupatorium L. sect. *Austroeupatorium* (R. M. King & H. Rob.) Cabrera, Fl. Il. Catarinense. 4 tribo Eupatorieae : 579 (1991).

Type: *Eupatorium inulifolium* Kunth = **Austroeupatorium inulifolium** (Kunth) R. M. King & H. Rob.

References

King, R. M. & H. Robinson (1970). Studies in the Eupatorieae (Compositae). XXVI. A new genus *Austroeupatorium*. Phytologia 19(7): 433-435.

King, R. M. & H. Robinson. (1982a). Studies in the Eupatorieae (Asteraceae). CCXII. Additions to *Austroeupatorium*, *Flyriella*, and *Teixeiranthus*. Phytologia 50(5): 379-384.

King, R. M. & H. Robinson. (1982b). Studies in the Eupatorieae (Asteraceae). CCXV. Additions to *Austroeupatorium* and *Cronquistianthus*. Phytologia 51(3): 179-186.

Austroeupatorium chapareense (B. L. Rob.) R. M. King & H. Rob., Phytologia 19(7): 433 (1970).

**Eupatorium chapareense* B. L. Rob., Contr. Gray Herb. 90: 24 (1930). Type: 'BOLIVIA: Dept. Cochabamba: Prov. Chapare: bushy plain, Chusi near Incachaca, alt. 2300 m., Feb. 18, 1929, Steinbach, no. 9241'. Holotype: GH (7588); isotypes: S, US (01804761).

Bolivia (Cochabamba).

2300 m.

February.

Austroeupatorium decemflorum (DC.) R. M. King & H. Rob., Phytologia 45(6): 465 (1980).

Eupatorium decemflorum DC., Prodr. 5: 154 (1836). Types: '■ in Peruvia (Poeppig!), in vallibus Andium (h. Haenk!) ... (v.s. comm. à cl. Poeppig sub n. 30.)'. Note: Only a duplicate of the Poeppig collection is in G-DC; presumably the Haenke material is in PR.

**Eupatorium mapiriense* Hieron., Bot. Jahrb. Syst. 40(3): 374 (1908). Type: 'Bolivia: habitat prope Mapiri (M. BANG n. 1514; Julio-Augusto 1892; specimina nomine »E. glomeratum DC.« erronee determinata a cl. N. L. BRITTON et H. H. RUSBY edita sunt.' Holotype: B†; isotypes: GH, MO, NY (00169103), US (00050614).

Bolivia (La Paz, Santa Cruz), Ecuador, Peru.

Roadsides, rocky areas.

0-2000 m.

July-August.

Vernacular name: CHILLA SERRANA (Robinson, 2007: 82).

Austroeupatorium inulifolium (Kunth) R. M. King & H. Rob., *Phytologia* 19(7): 434 (1970).

**Eupatorium inulifolium* [as *inulaefolium*] Kunth in Humb., Bonpl. & Kunth, *Nov. Gen. Sp. Pl.* 4 (ed. folio): 85 (1818). Type: [Colombia:] 'Crescit in dumetis juxta urbem Mariquitæ Novo-Granatensium, alt. 430 hex. ■ Floret Junio.' Holotype: P-Bonpl.

Eupatorium molle Kunth in Humb., Bonpl. & Kunth, *Nov. Gen. Sp. Pl.* 4 (ed. folio): 85 (1818). Type: 'Crescit cum praecedente. ■ [Eupatorium inulifolium Kunth, q.v.; the specimen in B-W states 'Honda'] Holotype: P-Bonpl.; isotype: B-W.

Eupatorium suaveolens Kunth in Humb., Bonpl. & Kunth, *Nov. Gen. Sp. Pl.* 4 (ed. folio): 86 (1818). Type: [Colombia:] 'Crescit in temperatis montium Novæ Granatæ prope Sant-Anna, Mariquita, Ibague, alt. 400 – 700 hex. ■ Floret Julio – Septembri.' [Humboldt & Bonpland mss. n. 1815] Holotype: P-Bonpl.

Eupatorium paranaense Hook. & Arn., *Companion Bot. Mag.* 1(No. 8): 241 (1836). Type: 'Marshes of the Parana, and about Buenos Ayres, Tweedie.' Holotype: K

Eupatorium pallidum Hook. & Arn., *Companion Bot. Mag.* 1(No. 8): 241 (1836). Type: 'Uruguay, and Arroy del Medio of Cordova, (n. 1300), Tweedie.' Holotype: K.

Eupatorium pallescens DC., *Prodr.* 5: 154 (1836). Type: '■ in Brasiliae prov. Minarum General. ad Sabara legit cl. Vauthier. ... (v. s. comm. à cl. Vauthier n.273.)' Holotype: G-DC.

Eupatorium pallescens DC. [var.] β *hirsutum* DC., *Prodr.* 5: 154 (1836). Type: '■ in Brasiliae prov. Rio-Grande. (v. s. in h. Mus. reg. Par. à Mus. imp. Bras. sub. n. 789 miss.)' Holotype: P; isotype: G-DC. Note: the G-DC isotype is simply annotated 'var. β/ Rio Grande'

Eupatorium pallescens DC. var. γ *bonariense* DC., *Prodr.* 7: 269 (1838), based on *E. pallidum* Hook. & Arn.

**Eupatorium inulifolium* Kunth f. *suaveolens* (Kunth) Hieron., *Bot. Jahrb. Syst.* 29(1): 11 (1900*).[*Note: see Reference section concerning problem with date of publication]

Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz), Brazil, Colombia, Ecuador, Guayana, Paraguay, Peru, Uruguay, West Indies.

Dry disturbed areas, humid soils, woodland clearings, forest margins.

0–3000 m.

March–September.

Note: Cabrera (1978: 138) also included *E. entriense* Hieron. and *Austroeupatorium entriense* in synonymy, but this is not recognized here. Material determined as *A. neglectum* (B. L. Rob.) R. M. King & H. Rob. by H. Robinson, from Santa Cruz, also appears to be *A. inulifolium*.

Vernacular names: DOCTORCITO, POHÁ MARANGATU, POHĀITE (Cabrera, 1996), CAMBARÁ, EUPATÓRIO (Cabrera & Klein, 1991); DOCTORCITO, UASHITÓK-OLÉ (Freire et al., 2006); TISPUC SACHA (Robinson, 2007).

Austroeupatorium tweedieanum (Hook. & Arn.) R. M. King & H. Rob., *Phytologia* 23(): 394 (1972) =

Hatschbachiella tweedieanum (Hook. & Arn.) R. M. King & H. Rob.

Austroliabum H. Rob. & Brettell, *Phytologia* 28(1): 48 (1974) = **Microliaabum** Cabrera

Austroliabum mulgediifolium (Muschl.) H. Rob. & Brettell, *Phytologia* 28(1): 49 (1974) = **Microliaabum mulgediifolium** (Muschl.) H. Rob.

Austroliabum polymnioides (R. E. Fr.) H. Rob. & Brettell, *Phytologia* 28(1): 49 (1974) = **Microliaabum polymnioides** (R. E. Fr.) H. Rob.

Ayapana Spach, *Hist. Nat. Vég. Phan.* 10: 290 (1841).

Type: *Ayapana officinalis* Spach = *Ayapana triplinervis* (Vahl) R. M. King & H. Rob.

References

King, R. M. & H. Robinson. (1970). Studies in the Eupatorieae (Compositae). XXX. The genus *Ayapana*. *Phytologia* 20(3): 210–212.

King, R. M. & H. Robinson. (1976). Studies in the Eupatorieae (Asteraceae). CLIX. Additions to the genus, *Ayapana*. *Phytologia* 34(1): 57–66.

Key to species

1. Involucres reddish and corollas pink; phyllaries acute to acuminate, outer surface pubescent throughout 2

- Involucres greenish and corollas white; phyllaries obtuse or rounded to truncate, inner
glabrous except apices *A. lanceolata*
2. Phyllaries 4–5-seriate, gradate, outer mostly oblong; florets 30–40 per capitulum *A. amygdalina*
- Phyllaries 2–4-seriate, subimbricate, all linear-lanceolate; florets c. 25 per capitulum *A. stenolepis*

Ayapana amygdalina (Lam.) R. M. King & H. Rob., *Phytologia* 20(3): 211 (1970).

**Eupatorium amygdalinum* Lam., *Encycl.* 2: 408 (1788). Type: Peru, 'Cette plante a été trouvée au Pérou par M. Joseph de Jussieu. (v.s. in h. Juss.)'. Holotype: P-JU.

Eupatorium loniceroides Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 91 (1818). Type: [Colombia:] 'Crescit in siccis, temperatis Andium Novo-Granatensium inter Popayan et Pindamon, alt. 950 hex. ■ Floret Octobri.' [*Humboldt & Bonpland* 'n. 1914'] Holotype: P-Bonpl.

Eupatorium salzmannianum DC., *Prodr.* 5: 159 (1836). Type: '■ circa Bahiam Brasiliae in collibus aridis legit cl. Salzmann. [41] ... (v. s.)' Holotype: G-DC; isotypes: K × 2.

Eupatorium dodonaeifolium DC., *Prodr.* 5: 161 (1836). Type: '■ in Peruvia legit cl. Poeppig. ... (v. s. comm. à cl. Poeppig sub n. 18.)' Holotype: G-DC.

Eupatorium subobtusum DC., *Prodr.* 5: 161 (1836). Types: '■ in Brasiliâ circa Bahiam legit cl. Blanchet (n. 1409!) et in siccis ad montem Sineri prope Cayennam cl. Leprieur! ... (v. s.)' Syntypes: G-DC.

Eupatorium oxychlaenum DC., *Prodr.* 5: 162 (1836). Type: '■ in Bras. prov. Minarum Gener. prope Mariannum legit cl. Vauthier (n. 280!) ... (v. s.)'. Holotype: G-DC.

Eupatorium ixodes Benth., *Ann. Nat. Hist.* 2(8): 108 (Oct. 1838). Type: Savannahs of the Rupunoony. *Schomburgk*, n. 79.' Holotype: K; isotypes: FL, NY (00169068).

'*Eupatorium ixodes* Benth., *J. Bot. (Hooker)* 2(9): 41 (Feb. 1840)', nom. illegit., superfl. Note: this repeats Bentham's earlier publication of the name in the *Annals of Natural History*, q.v.

Eupatorium barclayanum Benth., *Bot. Voy. Sulphur*: 112 (April 1845). Type: [Panama:] 'Isle of Taboga, Bay of Panama.' [*Barclay*, s.n.] Holotype: K. [Note: annotations on p. 182 of this work indicate that Mr Hinds' types are in Herb. Benth.; Mr Barclay's types in Herb. Hook., and; Dr Sinclair's types are in both Herb. Hook. (primarily) and Herb. Benth. (duplicates)]

Bulbostylis (as *Bolbostylis micrantha* Gardner, *London J. Bot.* 6: 449 (1847), nom. nud.

Bulbostylis (as *Bolbostylis elegans* Gardner, *London J. Bot.* 5: 467 (1846). Types: [Brazil:] 'HAB. Serra da Batalha, district of the Rio Preto, Province of Pernambuco (n. 2899) [NB. This is now considered to be in Bahia State], and in dry Campos near the Rio Claro, Province of Minas Geraes (n. 4843), Brazil. Fl. in June.' Syntypes: K (ex herb. Hookerianum). Isosyntype (*Gardner* 2899): K (ex herb. Benthamianum), NY (00162702).

Bulbostylis (as *Bolbostylis tomentosa* Gardner, *London J. Bot.* 5: 468 (1846). Type: [Brazil:] 'HAB. Elevated Campos in the Diamond District, Brazil. Fl. in July.' [*Gardner*] 4844. Types: BM, K.

Bulbostylis (as *Bolbostylis microcephala* Gardner, *London J. Bot.* 5: 468 (1846). Type: [Brazil:] 'HAB. Serra de Araripe, Province of Ceará, Brazil. Fl. from Oct. to Dec.' [*Gardner*] 1734. Types: BM, K, ?US.

Bulbostylis (as *Bolbostylis glandulosa* Gardner, *London J. Bot.* 5: 469 (1846). Type: [Brazil:] 'HAB. Province of Minas Geraes, Brazil.' [*Gardner*] [no number cited]. *Gardner* (1846: 469) also added 'I have unfortunately lost the number and exact locality of this plant, but it exists among my Minas Geraes Collections, there can be no doubt that it is from that province.' Holotype: ?

**Eupatorium loniceroides* Kunth var. β *minarum* Sch.Bip., *Linnaea* 30: 182 (1859/60), nom. nud.

Eupatorium amygdalinum Lam. var. β *elegans* (Gardner) Baker in *Mart., Fl. Bras.* 6(2): 313 (1876).

Eupatorium amygdalinum Lam. var. γ *dissitiflora* Baker in *Mart., Fl. Bras.* 6(2): 314 (1876). Type: [Brazil:] 'Ad Rio Bagagem: *Pohl* n. 281.' Holotype: K (ex herb. Benthamianum); isotypes: K, (ex herb. Hookerianum), W. Note: Although Baker saw, and annotated both sheets at K, only the one cited here as the holotype has 'Rio Bagagem' written on the label.

Eupatorium amygdalinum Lam. var. δ *glandulosa* (Gardner) Baker in *Mart., Fl. Bras.* 6(2): 314 (1876).

Eupatorium glandulosum Sch.Bip. ex Baker in *Mart., Fl. Bras.* 6(2): 314 (1876), nom. nud. pro syn., non Kunth (1818)(= *Ageratina adenophora* (Spreng.) R. M. King & H. Rob.)

**Eupatorium amygdalinum* Lam. var. ϵ *oxychlaenum* (DC.) Baker in *Mart., Fl. Bras.* 6(2): 314 (1876).

Eupatorium glandulosissimum Malme, *Kongl. Svenska Vetenskapskad. Handl.* 32(5): 40 (1899). Type: [Brazil:] 'Matto Grosso: Serra da Chapada, Buriti (In campo aprico, arenoso, graminoso, nebulis saepe humefacto. 18²⁴/94. MALME 1744.)'. Holotype: S.

Eupatorium hasslerianum Chodat, Bull. Herb. Boissier, ser. 2, 3(8): 711 (1903). Type: 'Suffrutex 0,3-0,6, petala roseo-violacea in campo Ipe-hu, Sierra de Maracayu, Nov., [Hassler] n. 5279.' Holotype: G.

Eupatorium oxychlaenum DC. f. *hasslerianum* (Chodat) Hassl., Repert. Spec. Nov. Regni Veg. 11: 175 (1912). Bolivia (Bení, La Paz, Santa Cruz), Brazil (Bahia, Minas Gerais, São Paulo), Colombia, Costa Rica, Ecuador, Guatemala, Guayana, Honduras, Nicaragua, Panama, Paraguay, Peru, Trinidad, Venezuela.

Cerrado, cerrado de altitude, grassland, swamy areas.

0–2000 m.

August–February, although possibly flowering throughout the year in ideal conditions.

Santa Cruz: Wood 12534 (K), Wood 12629 (K), Wood et al. 25119 (K, USZ).

Vernacular names: GUAKO (Cabrera, 1996), COLINDRE (Panama), SANTUARIA (Colombia), MEDINAUS (Peru) (Robinson, 2007).

Ayapana lanceolata R. M. King & H. Rob. Phytologia, 34(1): 59 (1976). Type: 'PERU: San Martin: Prov. & Dist. Lamas, north of San Antonio 2–4 km, along Río Cumbasa in dense jungle. Alt. ca. 1200 ft. Vine to 10 feet; flowers probably white. Oct. 2– Nov. 4, 1937. *Belshaw* 3517'. Holotype: US. Amongst the paratypes King & Robinson (1976: 60) cited: 'BOLIVIA: La Paz: Region tropical, San Carlos b. Mapiri, 750 m, in Gebüsch, Strauch 1 m hoch. August 1907. *Buchtien* 1507 (US); Prov. of S. Yungas, basin of Rio Bopi, San Bartolome (near Calisaya), alt. 750–900 m. Herb. July 1–22, 1939. *Krukoff* 10353 (US).'

Bolivia (La Paz), Peru.

Woodland.

0–900 m.

July–November.

Ayapana pyramidalis (Klatt) R. M. King & H. Rob., Phytologia 20(3): 212 (1970) = **Ayapana stenolepis** (Steetz) R. M. King & H. Rob.

Ayapana stenolepis (Steetz) R. M. King & H. Rob., Phytologia 32(3): 284 (1975).

Eupatorium stenolepis Steetz in Seem., Bot. Voy. Herald : 148 (1854). Type: 'Santiago de Veraguas. [March 1848, *Seemann* 1135]' Holotype: BM; isotype: K.

Eupatorium amygdalinum var. ζ *revoluta* Baker in Mart., Fl. Bras. 6(2): 314 (1876). Type: [Brazil:] 'Inter Rio Abaité et Apollonario: *Pohl* n. 500.' Holotype: K (ex herb. Benthamianum); isotypes: K (ex herb. Hookerianum), W.

Eupatorium revolutum Pohl ex Baker in Mart., Fl. Bras. 6(2): 314 (1876), nom. nud. pro syn.

Eupatorium rhodanthum Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 314 (1876), nom. nud. pro syn.

**Eupatorium pyramidale* Klatt, Abh. Naturf. Ges. Halle 15: 323 (1881), nom. illegit., non D. Don (1825) (= *Vernonia aspera* (Roxb.) Ham. [VERNONIEAE]. [Type (from separate in K, on p. 1): 'Crescit in Provincia Chiquito, leg. A. d'Orbigny No. 680.']) According to Robinson (1920) isotypes: GH (7936, 257144 – both isotypes mounted together). Note: Although Klatt's herbarium was purchased by GH, Herb. Francaville is in P; isotype: G. [See note under *Antennaria linearifolia*]

**Eupatorium amygdalinum* Lam. var. ζ *revolutum* Baker f. *angustifolium* Hieron. ex Kuntze, Revis. Gen. Pl. 3(3): 146 (1898), nom. nud.

**Eupatorium pyramidale* Klatt f. β *angustifolium* B. L. Rob., Contr. Gray Herb. 61: 67 (1920). Type: [Bolivia:] 'SANTA CRUZ: Prov. East Velasco, alt. 200 m., *Kuntze* [VII 92]'. Holotype: NY (00168981); isotype: US (00701906).

Ayapana pyramidalis (Klatt) R. M. King & H. Rob., Phytologia 20(3): 212 (1970).

Bolivia (La Paz, Santa Cruz), Panama.

Ayapanopsis R. M. King & H. Rob., Phytologia 24(5): 382 (1972).

Type: *Eupatorium latipaniculatum* Rusby = **Ayapanopsis latipaniculata** (Rusby) R. M. King & H. Rob.

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King, R. M. & H. Robinson. (1972). Studies in the Eupatorieae (Asteraceae). CIII. A new genus, *Ayapanopsis*. Phytologia 24(5): 382–386.

King, R. M. & H. Robinson. (1975). Studies in the Eupatorieae (Asteraceae). CXLVII. Additions to the genera *Amboroa*, *Ayapanopsis*, and *Hebeclinium* in South America. Phytologia 31(4): 311–316.

Ayapanopsis adenophora R. M. King & H. Rob., *Phytologia*, 24(5): 383 (1972). Type: 'BOLIVIA: Hacienda Casana sobre el camino a Tipuani. 26 IX 1922, Altura sobre el mar 1400 m. *Dr. Otto Buchtien* 7540'. Holotype: US (01399174).
Bolivia (La Paz).
1400 m.
September.

Ayapanopsis beckii H. Rob., *BioLlania*, ed. esp. 6: 509 (1997). Type: 'Bolivia. La Paz: Murillo, valle de Zongo, 1510 m, bosque montano, moderadamente inclinado, sendero, que sube al frente de la planta hidroeléctrica de Cahua, cruzando el río, a un lado del sendero, subarbusto 1.5 m de altura, fértil, pétalos blancos como agujas, 14 Sep. 1991, *Rea, Beck, & Sauvain* 49'. Holotype: US (03329170); isotype: LPB.
Bolivia (La Paz).
Montane woodland.
1510 m.
September–December.

Ayapanopsis didyma (Klatt) R. M. King & H. Rob., *Phytologia* 24(5): 384 (1972).
Eupatorium hecatanthum Klatt, *Ann. Naturhist. Hofmus. Wien* 9: 356 (1894), nom. nud., non (DC.) Baker (1876) (= **Urolepis hecatantha** (DC.) R. M. King & H. Rob.)
**Eupatorium didymum* Klatt, *Ann. K.K. Naturhist. Hofmus.* 9: 356 (1894). Type: 'Hab.: Bolivia, leg. *Cuming*.'
Holotype: W; isotype: GH (7636).
Eupatorium didymum Klatt var. *glandulitectum* B. L. Rob., *Contr. Gray Herb.* 80: 19 (1928). Type: 'ARGENTINA: Prov. Tucumán: Cuesta de San Javier, Aug. 17, 1913, *Castillon*, no. 2960'. Holotype: GH (7637).
Argentina, Bolivia (La Paz, Santa Cruz).
1500–2000 m.
August.

Ayapanopsis euphyes (B. L. Rob.) R. M. King & H. Rob., *Phytologia* 24(5): 384 (1972).
**Eupatorium euphyes* B. L. Rob., *Contr. Gray Herb.* 68: 16 (1923). Type: 'BOLIVIA: Andean region, Unduavi, Nor Yungas, alt. 3300 m., Nov. 1910, *Dr. Otto Buchtien*, no. 3029'. Syntypes: 'US [(01157885)], GH [7662 – apparently 'verified' as holotype by Tuner (1982)]'. Isosyntype: NY (00169006)
Bolivia (La Paz).
3300 m.
November.

Ayapanopsis latipaniculata (Rusby) R. M. King & H. Rob., *Phytologia* 24(5): 385 (1972).
**Eupatorium latipaniculatum* Rusby, *Bull. New York Bot. Gard.* 4(14): 380 (1907). Type: [Bolivia:] ' "A slender shrub, 6 to 10 ft. high, with rose-colored flowers, in rich shaded mould." Sacramento, Yungas, August 20, 1894. ([*Bang*] No. 2386.)'. Holotype: NY (00169079); isotypes: F (163936), GH (7758), K, MO, NY (00169080), S, US (00032981), Z (000053958).
Bolivia (La Paz).
Woodland.
August.

Ayapanopsis triosteifolia (Rusby) R. M. King & H. Rob., *Phytologia* 24(5): 385 (1972).
**Eupatorium triosteifolium* Rusby, *Bull. New York Bot. Gard.* 4(14): 379 (1907). Type: [Bolivia:] ' "A slender shrub, 10 to 12 ft. high, with white flowers; scarce in gravel and mould near the river." Coroico, August 14, 1894. ([*Bang*] No. 2380.)' Holotype: NY (00169246); isotypes: F (163929), K, MO, NY (00169247, 00169248), S, US (00032975), Z (000053959).
Bolivia (La Paz, Santa Cruz).
Riverside evergreen woodland, scrub.
1400–1500 m.
June–September.

?*Ayapanopsis tucumanensis* (Lillo & B. L. Rob.) R. M. King & H. Rob., *Phytologia* 24(5): 385 (1972). Note: Foster (1958: 210) recorded this species, as *Eupatorium tucumanensis*, although only recorded as an Argentinian endemic by King & Robinson (1987). It remains to be seen if the species extends into southern Bolivia.

B

Bacasia Ruiz & Pav., Fl. Peru. Chil. Prodr. : 105, t. 22 (1794) = **Barnadesia** Mutis

Bacasia corymbosa Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 189 (1798) = **Barnadesia corymbosa** (Ruiz & Pav.) D. Don

Baccharidastrum notobellidiastrum (Griseb.) Herter, Rev. Sudamer. Bot. 6: 104 (1939) = **Podocoma notobellidiastrum** (Griseb.) G. L. Nesom

Baccharis L. [unranked] § 7. *Distichae* DC., Prodr. 5: 426 (1835) = **Loricaria** Wedd. [INULEAE]

Baccharis L. sect. *Eupatoriola* O. Hoffm. & Kuntze, Revis. Gen. Pl. 3(3): 133 (1898) = **Polyanthina** R. M. King & H. Rob. [EUPATORIEAE]

Baccharis L., Sp. Pl. : 860 (1753).

Stephananthus Lehm., Sem. Hort. Bot. Hamburg : 14, 18 (1826). Type: *Stephananthus junceus* Lehm. = **Baccharis juncea** (Cass.) Desf.

Arrhenachne Cass., Dict. Sci. Nat. 53: 253 (1828). Type: *Arrhenachne juncea* Cass. = **Baccharis juncea** (Cass.) Desf.

Baccharis L. subg. *Stephananthus* (Lehm.) Heering, Schriften Naturwis. Vereins Schleswig-Holstein 13: 39 (1904).

Baccharis L. sect. *Cuneifoliae* DC., Prodr. 5: 405 (1836). Type: not stated. Lectotype (selected by Cuatrecasas, 1967: 87): *Baccharis cuneifolia* (Lam.) DC.

Baccharis L. sect. *Oblongifoliae* DC., Prodr. 5: 416 (1836). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 87): **Baccharis oblongifolia** (Ruiz & Pav.) Pers.

Achyrobaccharis Sch.Bip. ex Walp., Repert. Bot. Syst. 2: 952 (1843) – without indication of any species.

Psila Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 7: 36 (1891). Type: *Psila caespitosa* Phil. = *Baccharis acaulis* (Wedd. ex R. E. Fr.) Cabrera

Palenia Phil., Anales Univ. Chile 90: 7 (1895). Type: *Palenia delfini* Phil. = *Baccharis nivalis* (Wedd.) Sch.Bip. ex Phil.

Baccharis L. sect. *Psila* (Phil.) Cuatrec., Phytologia 52(3): 168 (1982).

Note: The following infrageneric synonymies follow those in Müller (2006) who treated the Bolivian taxa; doubtless they will be added to as further South American taxa are studied and the genus more fully understood.

Baccharis L. subgen. *Baccharis*

Sergilus Gaertn., Fruct. Sem. Pl. 2: 409 (1791). Type: *Sergilus scoparius* (L.) Gaertn. = *Baccharis scoparia* (L.) Sw.

Tursenia Cass., Dict. Sci. Nat. 37: 480 (1825). Type: not specified, but clearly based on *Baccharis humifusa* Kunth hand *B. sinuata* Kunth

Polypappus Less., Linnaea 4(3): 314 (1829). Type: *Vernonia triplinervia* Spreng. = *Baccharis trineura* Soria & Zardini

Baccharis L. sect. *Discolores* DC., Prodr. 5: 414 (1836). Type: not stated. Lectotype (selected by Cuatrecasas, 1967: 87): *Baccharis phylicoides* Kunth

Baccharis L. sect. *Paniculatae* Heering in Reiche, Fl. Chile 4: 5 (1903). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 88): *Baccharis paniculata* DC.

Baccharis L. sect. *Pedicellatae* Heering in Reiche, Fl. Chile 4: 16 (1903). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 88): *Baccharis lycioides* Remy

Baccharis L. sect. *Cylindricae* Heering in Reiche, Fl. Chile 4: 16 (1903). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 88): *Baccharis tridentata* DC.

Baccharis L. sect. *Microphyllae* Heering in Reiche, Fl. Chile 4: 16 (1903). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 88): *Baccharis patagonica* Hook. & Arn.

Baccharis L. sect. *Involucratae* Heering in Reiche, Fl. Chile 4: 17 (1903). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 88): *Baccharis conferta* Kunth

- Baccharis* L. sect. *Macrophyllae* Heering in Reiche, Fl. Chile 4: 17 (1903). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 88): *Baccharis elaeoides* Remy
- Baccharis* L. sect. *Glomeruliflorae* Heering, Jahrb. Hamburg. Wiss. Anst. 21: 32 (1904). Lectotype (selected by Cuatrecasas, 1967: 88): *Baccharis glomeruliflora* Pers.
- Baccharis* L. sect. *Pinnatae* Cuatrec., Revis. Acad. Colomb. Ci. Exact. 13(49): 65 (1967). Type: *Baccharis buddlejoides* Kunth
- Baccharis* L. sect. *Nitidae* Cuatrec., Revis. Acad. Colomb. Ci. Exact. 13(49): 70 (1967). Type: ***Baccharis nitida*** (Ruiz & Pav.) Pers.
- Baccharis* L. sect. *Serrulatae* Cuatrec., Revis. Acad. Colomb. Ci. Exact. 13(49): 76 (1967). Type: *Baccharis caldasiana* Cuatrec.
- Baccharis* L. sect. *Revolutae* Cuatrec., Revis. Acad. Colomb. Ci. Exact. 13(49): 76 (1967). Type: *Baccharis revoluta* Kunth
- Baccharis* L. sect. *Gladiatae* Cuatrec., Revis. Acad. Colomb. Ci. Exact. 13(49): 85 (1967). Type: *Baccharis marcetiifolia* Benth. [as *marcetiifolia*]
- Baccharis* sect. *Racemosae* Ariza, Bol. Acad. Nac. Ci. 50: 183 (1973). Type: ***Baccharis dracunculifolia*** DC.
- Baccharis*** L. subgen. ***Molina*** (Pers.) Heering, Schriften Naturwiss. Vereins Schleswig-Holstein 13: 40 (1904). *Molina* Ruiz & Pav., Fl. Peruv. Chil. Prodr.: 111, t. 24 (1794), nom. illegit., non *Molina* Schrank (1789) [GRAMINEAE], nec *Molina* Cav. (1790) [MALPIGHIACEAE], nec *Molina* Gay (1833) [EUPHORBIACEAE]. Lectotype (selected by Cuatrecasas, 1967: 87): *Molina latifolia* Ruiz & Pav. = *Baccharis latifolia* (Ruiz & Pav.) Pers.
- Baccharis* L. [unranked] *Molina* Pers., Syn. Pl. 2: 424 (1807).
- Baccharis* L. sect. *Molina* (Pers.) Cuatrec., Revis. Acad. Colomb. Ci. Exact. 13(49): 15 (1967).
- Pingraea* Cass., Dict. Sci. Nat. 41: 57 (1826). Type: *Pingraea angustifolia* Cass. = ***Baccharis glutinosa*** Pers.
- Heterothalamus* Less., Linnaea 5(1): 145 (1830). Type: *Marshallia aliena* Spreng. ('*Melanthera aliena*') = *Baccharis aliena* (Spreng.) Joch. Müller, Syst. Bot. Monogr. 76: 305 (2006).
- Baccharis* L. sect. *Sergilae* DC., Prodr. 5: 424 (1836). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 88): *Baccharis scoparia* (L.) Pers.
- Baccharis* L. sect. *Caulopterae* DC., Prodr. 5: 424 (1836). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 87): ***Baccharis genistelloides*** (Lam.) Pers.
- Baccharis* L. sect. *Trinervatae* DC., Prodr. 5: 399 (1836). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 88): ***Baccharis trinervis*** Pers.
- Baccharis* L. ser. *Aphyllae* Baker in Mart., Fl. Bras. 6(3): (37,) 45 (1882). Type: not cited.
- Baccharis* L. sect. *Aphyllae* (Baker) O. Hoffm. in Engler Nat. Pflanzenfam. 4(5): 171 (1890). Lectotype (selected by Müller, 2006: 136). ***Baccharis aphylla*** (Vell.) DC.
- Baccharis* L. sect. *Corymbosae* Heering, Anales Univ. Chile 111: 155 (1903). Lectotype (selected by Cuatrecasas, 1967: 88): *Baccharis marginalis* DC. = ***Baccharis salicifolia*** (Ruiz & Pav.) Pers.
- Baccharidastrum* Cabrera, Notas Mus. La Plata, Bot. 2(No. 16): 175 (1937). Type: *Baccharidastrum triplivervium* (Less.) Cabrera = ***Baccharis glutinosa*** Pers.
- Baccharis* sect. *Baccharidastrum* (Cabrera) G. L. Nesom, Phytologia 65(3): 170 (1988).
- Pseudobaccharis* Cabrera, Notas Mus. La Plata, Bot. 9(No. 45): 246 (1944). Type: *Heterothalamus spartioides* Hook. & Arn. = *Pseudobaccharis spartioides* (Hook. & Arn. ex DC.) Cabrera = *Baccharis spartioides* (Hook. & Arn. ex DC.) Remy
- Baccharis* L. sect. *Pseudobaccharis* (Cabrera) Cuatrec., Phytologia 52(3): 168 (1982).
- Baccharis* L. sect. *Scandentes* Cuatrec., Revista Acad. Colomb. Ci. Exact. 13(49): 42 (1967). Type: ***Baccharis decussata*** (Klatt) Hieron.
- Baccharis* L. sect. *Subliguliflorae* Giuliano, Darwiniana 39(1-2): 145 (2001). Type: *Baccharis niederleinii* Heering
- Heterothalamulopsis* Deble, A. S. Oliveira & Marchiori, Ci. Florest. (Santa Maria) 14(1): 1 (2004). Type: *Heterothalamulopsis wagenitzii* (F. H. Hellwig) Deble, A. S. de Oliveira & Marchiori = *Baccharis wagenitzii* (F. H. Hellwig) Joch. Müller, Syst. Bot. Monogr. 76: 305 (2006).
- Baccharis*** L. subgen. ***Pteronioides*** Heering, Jahrb. Hamburg. Wiss. Anst. 21, Beih. 3: 15 (1904). Type: *Baccharis pteronioides* DC.
- Baccharis* L. ser. *Angustifoliae* Baker in Mart., Fl. Bras. 6(3): (37,) 55 (1882). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 88): ***Baccharis ulicina*** Hook. & Arn.

Baccharis L. sect. *Angustifoliae* (Baker) O. Hoffm. in Engler & Prantl, Nat. Pflanzenfam. 4(5): 170 (1890). Type: not stated.

Baccharis L. sect. *Tubulatae* Cuatrec., Revista Acad. Colomb. Ci. Exact. 13(49): 82 (1967). Type: *Baccharis grandiflora* Kunth

Baccharidiopsis G. M. Barroso, Sellowia 26: 95 (1975). Type: *Baccharidiopsis pohlii* (Baker) G. M. Barroso = *Baccharis hirta* DC. s.l. (according to Müller, 2006: 225).

Neomolina F. H. Hellwig, Candollea 48: 211 (1993), nom. illegit. non *Neomolina* Honda [GRAMINEAE]. Type: *Neomolina racemosa* (Ruiz. & Pav.) F. H. Hellwig = *Baccharis racemosa* (Ruiz & Pav.) Pers.

Baccharis L. subgen. ***Tarchonanthoides*** Heering, Jahrb. Hamburg. Wiss. Anst. 21, Beih. 3: 26 (1904). Type: not designated. Lectotype (selected by Cuatrecasas, 1967: 88, of sect.): *Baccharis artemisioides* Hook. & Arn.

Baccharis L. sect. *Tarchonanthoides* (as *Tarchonantoides*) (Heering) Cuatrec., Revista Acad. Colomb. Ci. Exact. 13(49): 89 (1967).

Type: *Baccharis halimifolia* L.

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Teodoro Luis, Irmão (1952). Index Baccharidinarum. Contr. Inst. Geobiol. 2: 3–55. [Note: many authors incorrectly cite the authorities of new taxa, names, and combinations, in this work (as well as others) as Malagarriga. Teodoro was the name used whilst he was in the religious order, Malagarriga is one version of his family name used in some later papers, q.v., see also Heras!]

Teodoro Luis, Irmão (1954). Exsiccatae Baccharidinarum. I. Plantae Wilson-Hoehneana. Contr. Inst. Geobiol. 3: 3–9.

A full key to species can be found in Müller (2006).

Baccharis abietina Kuntze, Revis. Gen. Pl. 3(3): 131 (1898) = **Baccharis grisebachii** Hieron.

Baccharis absinthioides Hook. & Arn., Bot. Beechey Voy. : 57 (1832) = **Pluchea absinthioides** (Hook. & Arn.) H. Rob. & Cuatrec. [INULEAE].

Baccharis acaulis (Wedd. ex R. E. Fr.) Cabrera, Bol. Soc. Argent. Bot. 16(3): 255 91975).

Heterothalamus acaulis Wedd. ex Sch.Bip., Linnaea 34(5) 533 (1865); Bull. Soc. Bot. France 12: 81 (1865), nom. nud. (based on Mandon 209).

Psila caespitosa Phil., Anales Mus. Nac. Chile, Bot. 7: 36, tab. 1, fig. 4 (1891). Types: 'Plantae feminea de Machuca 3200 m. s. m., hermaphrodita de Guanaqueros allatae sunt.' Syntypes: Pizarro (1960: 154) cited 43827 & 64394 in SGO.

Heterothalamus acaulis Wedd. ex R. E. Fr., Nova Acta Regiae Soc. Sci. Upsal., ser. 4, 1: 79 (1905). Types: '... teils auf das in der botanischen Abteilung des Reichsmuseums zu Stockholm befindlich, mit ●Köpfchen verschene Mandon'sche Exemplar (N:o 209. Bolivia, Prov. Larecaja, Viciniis Sorata prope Apacheta de Logena in graminosis. Reg. alpina 4000 m. Aug. 1859). ... [Argentina:] Innerhalb des Gebietes sehr gemein. – Moreno in locis salsis subhumidis, 3500 m. s. m. (23 Oct. 1901; FR[IES] 701).' Lectotype (selected by Müller, 2006: 287): ■Fries 701 – S; islectotype: US. Müller (2006: 289) incorrectly cited 'Mandon 109' as the syntype, noting duplicates in G, NY, P, S as ● Mandon 209 was mentioned. Mandon 209 is in K.

**Pseudobaccharis acaulis* (Wedd. ex R. E. Fr.) Cabrera, Notas Mus. La Plata, Bot. 9(No. 45): 248 (1944).

Argentina, Bolivia (Cochabamba, Oruro, Potosí, Tarija), Chile.

Open saline areas.

3200–4600 m.

Baccharis affinis DC., Prodr. 5: 413 (1836) = **Baccharis tridentata** Vahl

Baccharis alamanii (as *alamani*) DC., Prodr. 5: 402 (1836) = **Baccharis salicifolia** (Ruiz & Pav.) Pers. ssp. **salicifolia**

***Baccharis alpina** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 48 (1818). Type: [Ecuador:] 'Crescit cum praecedente. ■ [Baccharis humifusa Kunth, q.v.] 'Crescit in radicibus montis Pichinchæ et Antisanæ, alt. 1500 hex. (Regno Quitensi.) ■ Floret Januario.' [# 2281] Holotype: P-Bonpl.; isotypes: B-W-15567, F (frag.), P.

**Baccharis alpina* Kunth var. β *serpyllifolia* Wedd., Chloris Andina 1: 168 (1856). Type: 'Baccharis serpyllifolia Dcne., mscr., in Herb. Mus. par.' NB. At the end of the description of *B. alpina* Weddell (1855: 169) provided a long list of collections amongst which it must be assumed are types of the infraspecific taxa he earlier described – 'Hab. ÉQUATEUR: Andes de Quito, á la hauteur de 3000 mètres (Humb. et Bonpl.), et jusqu'au niveau des neiges perpétuelles (Jameson, exsicc., ann. 1856, n. 274 et 285). – PÉROU: Cordillères du département de Cuzco et de Tacna, etc., h. 4000-4500 mètr., et sur les rochers des montagnes qui avoisinent le lac de Titicaca! (Gay, Wedd.). – BOLIVIE: Cordillères de la Paz! et de Potosi! à la hauteur de 4000 à 5000 mètres (d'Orbigny, n. 1401; Wedd.).' Syntypes: P. Lectotype (selected by Müller, 2006: 202): 'BOLIVIA. Potosí: Prov. Frías, Potosí, ■ d'Orbigny 1401' – P-218371; islectotypes: BR, G, P-218372, W.

Baccharis alpina Kunth var. γ *surculosa* Wedd., Chloris Andina 1: 168 (1856). Type: apparently not cited according to Müller (2006: 201), but see above. Neotype (selected, as lectotype, by Cuatrecasas, 1969: 219):

'BOLIVIA. La Paz: Prov. Larecaja, vicinias Sorata, inter Choro et Pampa de Chiliata, 3300-3600 m, Feb 1859, ● and ■ Mandon 194' P-218069; isoneotypes: BR, G × 2, GH × 2, GOET, MICH, P-218070, P-218071, W × 2.
Baccharis alpina Kunth var. *imbricatifolia* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 533 (Feb. 1866), nom. nud. (based on Mandon 194 bis).
Baccharis alpina Kunth f. *macrocephala* Hieron., Bot. Jahrb. Syst. 28(5): 590 (1901). Type: 'Ecuador: in solo sterili ad radicem montis vulcanici Guagua-Pichincha, alt. s. m. 4500 m, mense Januario florens (L.[EHMANN] n. 426; 4. Jan. 1881). Lectotype (selected by Cuatrecasas, 1969: 221): US (1403843); isotype: G.
**Baccharis alpina* Kunth var. *nummuloides* Heering, Jahrb. Hamburg. Wiss. Anst. 21, Beih. 3: 35 (1904). Type: 'Bolivien: Ingenieur Franz Germann n. 9, Cordillera real de los Andes. Huayna potosi. 6175 m, Franz Josef-Gletscher, 4900-5200 m [■]' Holotype: HBG. Listed by Foster (1958) as 'var. *nummularioides* Heering'.
Baccharis alpina Kunth var. *macrocephala* (Hieron.) Cuatrec., Anales Ci. Univ. Madrid 4(2): 210 (1935).
Baccharis caespitosa var. *nummuloides* (Heering) Cuatrec., Rev. Acad. Colomb. Ci. Exact. 13(50): 219 (1969).
Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Oruro, Potosí, Tarija), Colombia, Chile, Ecuador, Peru. Grassland, scree and rocky areas in humid or moderately dry areas, Puna Peruana. 3600-5000 m.
December-March.
Vernacular name: PAMPA THOLA (Müller, 2006).

Baccharis alpina Kunth var. *imbricatifolia* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 533 (Feb. 1866), nom. nud. (based on Mandon 194 bis) = **Baccharis alpina** Kunth
Baccharis alpina Kunth f. *macrocephala* Hieron., Bot. Jahrb. Syst. 28(5): 590 (1901) = **Baccharis alpina** Kunth
Baccharis alpina Kunth var. *macrocephala* (Hieron.) Cuatrec., Anales Ci. Univ. Madrid 4(2): 210 (1935) = **Baccharis alpina** Kunth
Baccharis alpina* Kunth var. *nummuloides* Heering, Jahrb. Hamb. Wiss. Anst. 21, beih. 3: 35 (1904) [Given by Foster (1958: 203) as var. *nummularioides* Heering] = **Baccharis alpina Kunth
Baccharis alpina* Kunth var. β *serpyllifolia* Wedd., Chloris Andina 1: 168 (1856) = **Baccharis alpina Kunth
Baccharis alpina Kunth var. γ *surculosa* Wedd., Chloris Andina 1: 168 (1856) = **Baccharis alpina** Kunth
Baccharis amygdalina Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 175 (1874) = **Baccharis punctulata** DC.
Baccharis angulata Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 180 (1879) = **Baccharis darwinii** Hook. & Arn.
Baccharis angulata var. *gracilis* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 73 (1916) = **Baccharis darwinii** Hook. & Arn.

Baccharis aphylla (Vell.) DC., Prodr. 5: 424 (1836).

Chrysocoma aphylla Vell., Fl. Flum.: 324 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 1 (1831). Type: 'Habitat campis mediterraneis. Floret Oct. Nov.' Note: Location of original material unknown. Lectotype (selected by Müller, 2006: 245): original of Fl. Flum. Icones 8: tab. 1 (1831).

Chrysocoma nuda Vell., Fl. Flum.: 335 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 50 (1831). Type: 'Habitat campis apricis mediterraneis. Floret Oct. Nov.' Note: Location of original material unknown. Lectotype (selected by Müller, 2006: 245): original of Fl. Flum. Icones 8: tab. 50 (1831).

**Baccharis aphylla* (Vell.) DC. var. *boliviensis* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 533 (Feb. 1866), nom. nud. (based on Mandon 207).

Bolivia (La Paz, Santa Cruz), Brazil.

Dry open grassland, rocky soils, campos rupestres and cerrado de altitude. 900-2300 m.

October-January.

Baccharis aphylla* (Vell.) DC. var. *boliviensis* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 533 (Feb. 1866), nom. nud. = **Baccharis aphylla (Vell.) DC.

Baccharis aretioides Sch.Bip., Bonplandia 4(4): 51 (1856) = **Mniodes aretioides** (Sch.Bip.) Cuatrec.

***Baccharis articulata** (Lam.) Pers., Syn. P. 2: 425 (1807).

Conyza articulata Lam., Encycl. 2: 94 (1786). Type: 'Cette arbuste croît au Monte Video, dans le Paraguay, où M. Commerson l'a observé. h. (v.s.)'. Holotype: P-LA ■(314/1); isotypes: B, HBG (frag.), P × 3, P-JU.

Molina articulata (Lam.) Less., Linnaea 6(1): 140 (1831).

Pingraea articulata (Lam.) F. H. Hellwig, *Candollea* 48: 217 (1993).

Argentina, Bolivia (Chuquisaca, Santa Cruz), Brazil, Paraguay.

Dry grassland, scrub and open, secondary forest.

1400–2700 m.

Vernacular names: CAÁPÉ GUASÚ, CARQUEIJA, CARQUEJA, CARQUEJA AMARGA, CARQUEJA BLANCA, CARQUEJA CENICIENTA, CARQUEJA CRESPA, CARQUEJA GRIS, CARQUEJILLA, COLA DE YACARÉ, PLANTA DE YAGUARETE, YAGUARETÁ-CAÁ (Freire et al., 2006); CARQUEJA, CARQUEJA CHICA, CARQUEJA MACHO, THULILLA (Müller, 2006).

Baccharis asteroides Bertero ex Colla, *Mem. Reale Accad. Sci. Torino* 38(4–5): 14 (1835) = ***Symphotrichum squamatum*** (Spreng.) G. L. Nesom

Baccharis beckii Joch. Müller, *Syst. Bot. Monogr.* 76: 232 (2006). Type: 'BOLIVIA. Potosí: Prov. Sud Chichas, Cerro Cienguillas NE Tupiza, 3600–3700 m, 2124S, 6541W, 17 Feb 2002, ● and ■ Müller 9061'. Holotype: JE; isotypes: BR, E, G, GH, GOET, HBG, LPB, MICH, MO, NY (00804167), P, UPS.

Bolivia (Chuquisaca, Tarija).

Dry grassland, open scrub on slopes, sometimes along mountain summits.

3000–3700 m.

Baccharis berberifolia Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 57 (1818) = ***Baccharis oblongifolia*** (Ruiz & Pav.) Pers. sensu Müller (2006)

Baccharis boliviensis (Wedd.) Cabrera, *Bol. Soc. Argent. Bot.* 16(3): 256 (May 1975).

Heterothalamus boliviensis Wedd., *Chloris Andina* 1: 179 (1856). Types: 'Hab. BOLIVIE: punas du département de Oruro!, et environs de La Paz! (*d'Orbigny*, n. 1389 et 1545; *Pentland*).' Syntypes: P. Lectotype (selected by Müller, 2006: 218): ♀ and ♂ *d'Orbigny* 1389 – P, ● and ■ isoelectotypes: BR, F (972441), G, O.

Heterothalamus boliviensis Wedd. var. *latifolius* R. E. Fr., *Nova Acta Regiae Soc. Sci. Upsal.*, ser. 4, 1(1): 78 (1905). Types: [Argentina:] 'Prov. Jujuy: Moreno in monte saxoso, 3500 m. s. m. (16 Nov. 1901); FR[IES] 784.– 26 Nov. 1901; FR[IES] 784 a.' Syntypes: S. Isosyntype: *Fries* 784a, UPS × 2.

**Pseudobaccharis boliviensis* (Wedd.) Cabrera, *Notas Mus. La Plata, Bot.* 9(No. 45): 249 (1944).

Pseudobaccharis boliviensis (Wedd.) Cabrera var. *latifolia* (R. E. Fr.) Cabrera, *Notas Mus. La Plata, Bot.* 9(No. 45): 250 (1944).

Psila boliviensis (Wedd.) Cabrera, *Bol. Soc. Argent. Bot.* 5(4): 210 (1955).

Psila boliviensis (Wedd.) Cabrera var. *latifolia* (R. E. Fr.) Cabrera, *Bol. Soc. Argent. Bot.* 5(4): 210 (1955).

Baccharis boliviensis (Wedd.) Cabrera var. *latifolia* (R. E. Fr.) Cabrera, *Bol. Soc. Argent. Bot.* 16(3): 256 (May 1975).

Baccharis boliviensis (Wedd.) Cuatrec., *Phytologia* 31(4): 322 (1st Aug. 1975), nom. superfl.

Argentina, Bolivia (Cochabamba, La Paz, Oruro, Tarija), Chile, Peru.

Open dwarf scrub communities and dry areas on high plateaus, Puna Peruana, Altiplano, Tolillares (Altiplano xeromorphic thorn-scrub), Cardonales orotropicals semiáridos centro altiplánicos (Central Andean semiarid thorn and succulent scrub).

2500–4200 m.

January–April.

Vernacular names: JAMACHI THOLA, THOLA NEGRA, ROMERO THOLA (Müller, 2006).

Baccharis boliviensis (Wedd.) Cuatrec., *Phytologia* 31(4): 322 (1st Aug. 1975), nom. superfl. = ***Baccharis boliviensis*** (Wedd.) Cabrera

Baccharis boliviensis (Wedd.) Cabrera var. *latifolia* (R. E. Fr.) Cabrera, *Bol. Soc. Argent. Bot.* 16(3): 256 (May 1975)

Baccharis brachylaenoides DC., *Prodr.* 5: 421 (1836) = ***Baccharis oblongifolia*** (Ruiz & Pav.) Pers. sensu Müller (2006)

Baccharis brasiliiana L., *Sp. Pl.*, ed. 2: 1205 (1763) = ***Vernonia brasiliiana*** (L.) Druce [VERNONIEAE]

Baccharis brevifolia DC., *Prodr.* 5: 409 (1836) = ***Baccharis linearifolia*** (Lam.) Pers.

Baccharis buchtienii H. Rob. *Phytologia*, 65(1): 38 (1988). Type: 'BOLIVIA: La Paz: Unduavi. Nordyungas. 3250 m. Oct. 1931. Male plant. *Buchtien* 9082'. Holotype: US (01833738).

Bolivia (Cochabamba, La Paz, Santa Cruz), southern Peru.

Open areas in high Andean cloud forests.
(1400–) 2500–3600 m.
August–October.

Note: According to Müller (2006: 48) the NY isotype represents *B. pentlandii* DC. ssp. *pentlandii*.
Vernacular name: CHICLA DE YUNGA (Müller, 2006).

***Baccharis caespitosa** (Ruiz & Pav.) Pers., Syn. Pl. 2: 425 (1807).

Molina caespitosa Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 203 (1798). Type: 'Habitat in Peruviae alpibus, Punas de Bombom dictis in Tarmae Provincia. Floret ab Aprili ad Julium.' Lectotype (selected by Müller, 2006: 83): MA – with annotation 'Molina caespitosa, Bombon'; isolectotypes: B × 2, G × 4, MA, P.

ssp. **caespitosa**

Baccharis odorata Kunth [var.] ♂ *spathulata* Wedd., Chloris Andina 1: 169 (1856). Type/s?: Weddell (1856: 170) cited several specimens after his description of three infraspecific taxa but did not relate the material specifically to each, with the exception of mentioning 'Schultz Bip., in sched. pl. exsicc. Lechleri.' – 'Hab. NOUVELLE-GRENADE: près de Pasto!, h. 2700 mètres (*Humb. et Bonpl.*). – ÉQUATEUR: pâturages froids des Andes de Quito!, h. 3950 mètres (*Jameson*, exsicc., ann. 1856, n. 137). – PÉROU: Cordillères de Carabaya et de Cuzco!, sur les limites supérieures de la végétation arborescente (*Lechler, Gay, Wedd.*). – BOLIVIE: Cordillères de Sorata!, de La Paz! de Potosí!, etc. (*d'Orbigny, Wedd.*).' Lectotype (selected by Müller, 2006: 83): 'PERU. Puno: Prov. Carabaya, Cordillère E Carabaya, Jun-Jul 1848, \Rightarrow Weddell 4736' – P-216294; isolectotype: P-218293.

Baccharis incarum (Wedd.) Perkins f. *prostrata* Cuatrec., Caldasia 10(46): 8 (1967). Type: 'Bolivia, prov. Larecaja, vicin. Sorata prope Ancohuma, 3900 m. alt. IV-1860, *Mandon* 192 (part.)'. Holotype: P; isotype: P. Lectotype (selected by Müller, 2006: 83!): P-218285; isolectotypes: NY, P-218080 (mixed with *B. alpina* and *B. tola* var. *incarum*, P-218286, P-218287, W.

Baccharis tricuneata (L.f.) Pers. var. *minifolia* Cuatrec., Revista Acad. Colomb. Ci. Exact. 13(50): 217 (1969).

Type: 'Mandon 193: Bolivia: Omasuyos, vic. Guarina in graminosis siccis 4000 m alt, III-1859.' Holotype: P-218044; isotypes: BR, GH × 2, NY (00162394, 00162396), P, P-218042, P-218043, W.

Bolivia (Cochabamba, La Paz, Potosí, Tarija), Peru.

Amongst rocks, on scree, banks and grassland in humid areas, Puna Peruana.

(3200–) 3600–5200 m.

March–June.

Baccharis caespitosa (Ruiz & Pav.) Pers. var. *nummuloides* (Herring) Cuatrec., Revista Acad. Colomb. Ci. Exact. 13(50): 219 (1969) = **Baccharis alpina** Kunth

Baccharis calliprinos Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 176 (1874) = **Baccharis salicifolia** (Ruiz & Pav.) Pers.

Baccharis camporum DC., Prodr. 5: 399 (1836) = **Baccharis sessiliflora** Vahl

Baccharis camporum DC. var. *glaucescens* Chodat & Hassl., Bull. Herb. Boissier, sér. 2, 3(8): 716 (1903) =

Baccharis sessiliflora Vahl

Baccharis camporum DC. f. *glaucescens* (Chodat & Hassl.) Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 133 (1916) = **Baccharis sessiliflora** Vahl

Baccharis cana Joch. Müller, Syst. Bot. Monogr. 76: 151 (2006). Type: 'BOLIVIA. Chuquisaca: Prov. Tomina, El Roal, Padilla-Monteagudo, 2200 m, 24 Aug 1997, ● Wood 12601'. Holotype: LPB.

Bolivia (Chuquisaca).

Secondary scrub and woodland on slopes, field margins and roads.

2200 m.

***Baccharis capitalensis** Heering, Jahrb. Hamb. Wiss. Anst. 21, beih. 3: 102 (1916). Types: 'Argentinien.

Tucuman: Dep. Capital, Saladillo, 600 m ü. d. M. in matorrales (*Lillo* n. 7173 – 10. Nov. 1907). Bolivien.

Padcayqa, steiniger Hang, 2000 m ü. d. M. (*K. Fiebrig* n. 2872); Chiquiacá (*K. Fiebrig* n. 3493). Lectotype

(selected by Müller, 2006: 145): *Lillo* 7173 – HBG; isolectotypes: G, GH (3925).

Argentina, Bolivia (Santa Cruz, Tarija).

Scrub and grassland.

(600–) 1500–3200 m.

October–December.

**Baccharis caprariifolia* [as *caprariaefolia*] DC., Prodr. 5: 416 (1836). Types: ‘■ in Brasiliae prov. Rio-Grande (h. Mus. imp. Bras. n. 966 et 968). ... (v. s.)’. Syntypes: P. Note: There appears to be only a duplicate of 968 in G-DC; another specimen in G-DC is that of ‘*Theremin* s.n. 1819’ which is not mentioned in the *Prodromus*. [Note: This is a Brazilian species cited by Foster (1958:); no material from Bolivia has been seen according to Müller (2006)]

Baccharis cassinefolia DC., Prodr. 5: 412 (1836). Types: ‘■ in Brasilâ corcia Rio-Janeiro (*Lund!*), Bahia (Blanch.) ... (v. s.)’. Syntypes: G-DC (but see following notes). Note: The *Lund* collection in G-DC is 128; there are three *Blanchet* collections (76, 1591, 1601) in G-DC, together with a specimen from *Gaudichaud* (not cited in the *Prodromus*) and one ex Herb. Fl. Brasil. (231) sent by Martius. [Noted by Müller (2006: 306) as cited by several authors for Bolivia but this taxon is apparently restricted to Brazil and Uruguay. Probably mistaken for *B. nitida*, *B. papillosa* ssp. *australis* and *B. papillosa* ssp. *longipetiolata*. Müller also noted that it is a synonym of *B. singularis* (Vell.) G. M. Barroso. Various spelling corrections have been applied to the species epithet which are variously in error. De Candolle’s spelling was intentional as the leaves of this species resemble *Cassine* L. in the Celastraceae, not *Cassinia* R.Br. in the Compositae].

**Baccharis cassinoides* DC., Prodr. 5: 412 (1836). Type: ‘■ in Brasiliae prov. Sancti-Pauli. ... (v. s. ■ in h. Mus. reg. Par. à Mus. imp. Bras. sub. n. 477 miss.)’. Holotype: P; isotype: G-DC (fragment of holotype). [Noted by Müller (2006: 306) that it has been cited by several authors for Bolivia but this taxon is apparently restricted to Brazil and Uruguay. Probably mistaken for *B. nitida*, *B. papillosa* ssp. *australis* and *B. papillosa* ssp. *longipetiolata*].

Baccharis chilco Kunth in Humb., Bonpl. & Kunth Nov. Gen. Sp. Pl. 4 (ed. folio): 56 (1818) = **Baccharis linearifolia** (Lam.) Pers. ssp. **chilco** (Kunth) Joch. Müller

Baccharis chilquilla DC., Prodr. 5: 419 (1836) = **Baccharis salicifolia** (Ruiz & Pav.) Pers.

Baccharis cinnamomifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 65 (1818) = **Baccharis pedunculata** (Mill.) Cabrera

Baccharis coerulescens DC., Prodr. 5: 402 (1836) = **Baccharis salicifolia** (Ruiz & Pav.) Pers. ssp. **salicifolia**

Baccharis condensata* Rusby, Descr. New Sp. S. Amer. Pl. : 148 (1920) = **Baccharis platypoda DC.

Baccharis conwayi* Rusby, Bull. New York Bot. Gard. 8(No. 28): 130 (1912) = **Baccharis densiflora Wedd. ssp. **densiflora**

Baccharis cordobensis Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 132 (1916) = **Baccharis linearifolia** (Lam.) Pers.

***Baccharis coridifolia** DC., Prodr. 5: 422 (1836). Types: ‘■ in Brasiliae prov. Rio-Grande et fortè Sancti-Pauli. ... (v. s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 810, 826, 837, 855 et fortè 510 miss.)’. Syntypes: P; isosyntype (826): G-DC. Lectotype (effectively made by Barroso, 1976: 56, albeit in citing ‘Sellow 1893’ as the ‘holótipo’; the same selection was later made by Müller, 2006: 273): *Sello* M.I.B. 826 ● [= d1893] - P; isolectotype: G-DC, R.

ssp. **bicolor** Joch. Müller, Syst. Bot. Monogr. 76: 276 (2006). Type: ‘BOLIVIA. Cochabamba: Prov. Ayopaya, Idependencia-Kami, 3670 m, 29 nov 1981, (● and ■), Beck 7467’. Holotype: JE; isotypes: G, LPB, US (03255863), USZ.

Bolivia (Cochabamba, La Paz).

Steep grassland and open scrub in cloud forest and *Polylepis* forest.

2500–3500 m.

November–December.

ssp. **coridifolia**

Eupatorium montevidense Spreng., Syst. Veg., ed. 16, 3: 417 (1826), non *Baccharis montevidense* Spreng. (1826) (= *Vernonia nitidula* Less.). Type: [Uruguay:] ‘Monte Video. *Sello*.’ Holotype: P.

Argentina, Bolivia (Chuquisaca, Santa Cruz, Tarija), Brazil, Uruguay.

Dry grassland and open scrub, thin rocky soil, Tucumano-Boliviano forest relicts.

1200–2700 m.

January–February.

Vernacular names: AJENJO DEL CAMPO, MÍO, MÍO-MÍO, NEO-NEO, NEOMO, NÍA, NÍO, NIYOP, ÑÍO-ÑÍO, ROMERILLO (Freire et al., 2006); ROMERILLO (Müller, 2006).

Baccharis cotinifolia (Willd.) Urb., Symb. Antill. 3: 406 (1903) = **Baccharis pedunculata** (Mill.) Cabrera
Baccharis crenulata Spreng., Syst. Veg., ed. 16, 3: 465 (1826) = **Raulinoreitzia crenulata** (Spreng.) R. M. King & H. Rob.

Bacchari crispa Spreng., Syst. Veg., ed. 16, 3: 466 (1826) = **Baccharis genistelloides** (Lam.) Pers. ssp. **crispa** (Spreng.) Joch. Müller

Baccharis cylindrica* (Less.) DC., Prodr. 426 (1836) = **Baccharis genistelloides (Lam.) Pers. ssp. **crispa** (Spreng.) Joch. Müller [according to Müller (2006: 198)]

***Baccharis darwinii** Hook. & Arn., J. Bot. (Hooker) 3(No. 17): 39 (1840). Type: 'Port Desire, lat. 47°. C. Darwin, Esq. (n. 397).' Holotype: K; isotype: CGE.

Baccharis angulata Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 180 (1879); Pl. Lorentz.: 180 (1879). Type: [Argentina] 'C.: S. Chica.' Holotype: *Hieronymus* 600, GOET.

**Baccharis heterothalmoides* Britton, Bull. Torrey Bot. Club 19(1): 4 (1892). Type: [Bolivia:] 'Yungas, 4,000 ft. ([Rusby] 1709).' Holotype: NY (00162249).

Baccharis ulicina Hook. & Arn. [var.] β *subintegrifolia* Kuntze, Revis. Gen. Pl. 3(3): 135 (1898). Type: 'Argentina: Cordoba, Ischilin, Paso Cruz 1500 m (No. 91).' [ARGENTINA. Córdoba, Dec 1891, Kuntze s.n. (2 sheets); Ischilin, Nov 1892, Kuntze s.n.; Paso Cruz, cordillera, 34°, 1500 m, Jan 1892, Kuntze 91. – according to Wetter & Zanoni, 1985: 327]. Lectotype (selected by Müller, 2006: 256): 'ARGENTINA. Mendoza: Paso Cruz, "1500 m,' Jan 1892, ●Kuntze s.n.' - NY-162401.

Baccharis angulata Griseb. var. *gracilis* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 73 (1916). Type: [Argentina:] 'Santiago: La Banda (Lillo n. 6070, 4. April 1907, ●in Blüte).' Holotype: HBG.

Baccharis grossidentata Heering (sub. *grossedentata*), Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 73 (1916). Type: [Argentina:] 'Tucuman: Dep. Francas, Vipos, 800 m ü. d. M., an Wegrändern (Lillo n. 3941 – 22. Januar 1905, ■in Blüte).' Holotype: HBG.

Neomolina darwinii (Hook. & Arn.) F. H. Hellwig, Candollea 48: 212 (1993).

Argentina, Bolivia (Cochabamba, La Paz, Potosí).

Dry slopes, often on weathered slate, and in the bottom of dry valleys.

2300–4000 m.

Baccharis debilis* Rusby, Mem. Torrey Bot. Club 6(1): 60 (1896) = **Baccharis trinervis Pers. var. **debilis** (Rusby) Joch. Müller

Baccharis decussata (Klatt) Hieron., Bot. Jahrb. Syst. 28(5): 589 (1901).

Pluchea decussata Klatt, Bot. Jahrb. Syst. 8: 39 (1887). Type: 'Columbia; Cundinamarca, ad margines silvarum pr. Anolamia et Fusagasuga, alt. 1800–2300 m ([LEHMANN] n. 2496). – Febr. 1883.' Holotype: GH (11334).

ssp. **jelskii** (Hieron.) Joch. Müller, Syst. Bot. Monogr. 76: 182 (2006).

Baccharis jelskii Hieron., Bot. Jahrb. Syst. 29(1): 24 (1900*). Types: '[Ecuador] In silvis montis Corazon, alt. s. m. 2400 m (S.[odiro] n. 16/20), specimen masculum); in Peruvia crescit prope Tambillo (JELSKI n. 772, 5. Aug. 1878, specimen masculum; n. 770, 5. Aug. 1878, specimen femineum).' Lectotype (selected by Müller, 2006: 182): *Jelski* 770, B; isolectotypes: BR, MO, US (01619215). [*Note: See Reference section concerning problem with date of publication]. Isosytype (*Jelski* 772): US (01619216).

Baccharis jelskii Hieron. var. *cladotricha* Cuatrec., Mutisia 17: 11 (1953). Type: 'Colombia, Dep. Valle: filo de la Cordillera Occidental, en Las Brisas: monte El Tabor, 1970–2100 m. "Gran bejuco enredadero sobre los árboles. Hoja verdosa-amarillenta. Invólucro amarillo. Flor blanca". Colect. 19-X-1946, J. Cuatrecasas 22269'. Holotype: F (1364927). Cf. Müller (2006: 182) who cited 'Holotype: US; isotype: P.'

Bolivia (Cochabamba, La Paz), Colombia, Ecuador, Peru.

Cloud forest and scrub.

1900–2800 m.

July–October.

***Baccharis densiflora** Wedd., Chloris Andina 1: 175 (1856). Type: 'Hab. BOLIVIE: montagnes des environs de Potosí! (Wedd.).' Lectotype (selected by Müller, 2006: 148): 'BOLIVIA. Potosí: Prov. Frías, près Potosí, Weddell 4090' – P-218142, ■ isotype: P-218143 (●and ■).

ssp. **densiflora**

**Baccharis conwayi* Rusby, Bull. New York Bot. Gard. 8(No. 28): 130 (1912). Type: [Bolivia:] 'Description taken from Rusby's No. 1727 from Unduavi, 8000 ft., Oct. 1885, which is the type.' Lectotype (selected by Müller, 2006: 148): NY (00162221 (●)); isotypes: NY (00162222), NY (00162223), US (00939422).

Bolivia (Chuquisaca, Cochabamba, La Paz).

Dry scrub and open *Polylepis* forest.

2700–4300 m.

October.

Baccharis denticulata D. Don ex DC., Prodr. 7: 282 (1838) = **Baccharis linearifolia** (Lam.) Pers.

Baccharis divergens DC., Prodr. 5: 400 (1836) = **Baccharis trinervis** Pers. var. **rhexioides** (Kunth) Baker

Baccharis douglasii DC., Prodr. 5: 400 (1836) = **Baccharis glutinosa** Pers.

***Baccharis dracunculifolia** DC., Prodr. 5: 421 (1836). Types: '■ in Brasiliae prov. Rio-Grande, ad Sanctam-Catharinam et Rio-Janeiro. ... (v.s. ■ et ● comm. à cl. Lund et in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 817 et 819 miss.)'. Note: *Lund 127* and 'Mus. imp. Bras. 817' are in G-DC. There are also several other collections in G-DC not mentioned in the *Prodromus*, including two by *Bacle* s.n. from Santa Catarina. Lectotype (selected by Müller, 2006: 58): *Lund 127*, ■ G-DC.

Baccharis leptospermoides DC., Prodr. 5: 421 (1836). Type: '■ in Brasiliae prov. Sancti-Pauli. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 482 miss.)'. Holotype: P; isotype: G-DC (a shoot portion).

**Baccharis pulverulenta* Klatt, Abh. Naturf. Ges. Halle 15: 327 (1881). Type: 'Hab.: Peru, Valle grande, leg. A. d'Orbigny No. 1143.' Holotype: P; isotypes: BR, G, GH (95666). [Note: this description appears on p. 7 of the pre/re print in K.]

**Baccharis dracunculifolia* DC. var. *integerrima* Kuntze, Revis. Gen. Pl. 3(3): 132 (1898). Types: 'Bolivia: 2000–4000 m Challapass, Santa Cruz, Tunarigebirge. Paraguay: Concepcion.' NB. All of these types cited, without distinction after the following forma.

**Baccharis dracunculifolia* DC. var. *integerrima* Kuntze f. *subviscosa* Kuntze, Revis. Gen. Pl. 3(3): 132 (1898). Types (see note above): 'Bolivia: 2000–4000 m Challapass, Santa Cruz, Tunarigebirge. Paraguay: Concepcion.' [BOLIVIA. Pass zur oruro & Rio Tapacari, 3800 m, 18 Mar 1892, *Kuntze* s.n.; Cochabamba, 3000 m, 26 Mar 1892, *Kuntze* s.n.; Santa Cruz, May 1892, *Kuntze* s.n.; Tunarigebirge, 4 May 1892, *Kuntze* s.n. PARAGUAY. Concepción, Sep 1892, *Kuntze* s.n. – according to Wetter & Zanoni, 1985: 326]. Lectotype (selected by Müller, 2006: 58): 'Bolivia. Santa Cruz: Santa Cruz, May 1892, ● *Kuntze* s.n.' – NY (00162233). Syntype (Cochabamba, 3000 m, 26 Mar 1892): NY (00162234).

Baccharis dracunculifolia DC. f. *spectabilis* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 143 (1916). Type: [Argentina:] 'Tucuman: Dep. Tafi, Jacochulla, 1800 m ü. d. M., matorrales der Gipfel (*Lillo* n. 3772).' Holotype: HBG; isotype: P.

Widespread: Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí, Santa Cruz, Tarija), Brasil, Paraguay, Uruguay.

Grassland, scrubby areas and open forest, degraded woodland and eroded soils of Boliviano-Tucumano semideciduous forest, Boliviano-Tucumano montane scrub, Matorral serial subhúmedo montano Boliviano-Tucumano.

[0–] 1000–4000 m.

March–June.

Vernacular names: CAÁPÉ GUASÚ, CHILCA, CHILCA-Y, CHILCA MATA OJO, SUNCHO (Freire et al., 2006); JATUN THOLA, ORKHO THOLA, ROMERILLO, THOLA, YURAQ THOLA (Müller, 2006).

Baccharis dracunculifolia* DC. var. *integerrima* Kuntze, Revis. Gen. Pl. 3(3): 132 (1898) = **Baccharis dracunculifolia DC.

Baccharis dracunculifolia* DC. var. *integerrima* Kuntze f. *subviscosa* Kuntze, Revis. Gen. Pl. 3(3): 132 (1898) = **Baccharis dracunculifolia DC.

Baccharis dracunculifolia DC. f. *spectabilis* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 13 (1916) = **Baccharis dracunculifolia** DC.

Baccharis dracunculifolia DC. var. *subdentata* Kuntze, Revis. Gen. Pl. 3(3): 132 (1898) = **Baccharis microdonta** DC.

Baccharis dracunculifolia DC. var. *subdentata* Kuntze f. *subviscosa* Kuntze, Revis. Gen. Pl. 3(3): 132 (1898) = **Baccharis microdonta** DC.

***Baccharis effusa** Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 177 (1874); Pl. Lorentz. : 129 (1874).
Type: 'Tucuman, frequens in ripis pr. Juntas.' Holotype: GOET (2 sheets).
Argentina, Bolivia (Cochabamba, Potosí, Tarija).
Open areas along gravelly river banks.
1700–2500 m.
January–March.

Baccharis eggersii Hieron., Bot. Jahrb. Syst. 28(5): 588 (1901) = **Baccharis trinervis** Pers. var. **rhexioides** (Kunth) Baker

Baccharis erioptera Benth., Ann. Nat. Hist. 2: 441 (1839) = **Pterocaulon alopecuroides** (Lam.) DC.

Baccharis fallax* Kuntze, Revis. Gen. Pl. 3(3): 132 (1898) = **Baccharis pentlandii DC. ssp. **pentlandii**

Baccharis farinosa Pers. ex Spreng. in Ersch & Gruber, Allg. Encycl. 7: 27 (1821), nom. superf. = **Baccharis glutinosa** Pers.

Baccharis fevilleyi DC., Prodr. 5: 403 (1836) = **Baccharis salicifolia** (Ruiz & Pav.) Pers.

Baccharis flexuosa Baker in Mart., Fl. Bras. 6(3): 83 (1882) = **Baccharis quitensis** Kunth

Baccharis floribunda* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): (1818) = **Baccharis latifolia (Ruiz & Pav.) Pers.

***Baccharis genistelloides** (Lam.) Pers., Syn. Pl. 2: 425 (1807).

Conyza genistelloides Lam., Encycl. 2: 93 (1786). Type: 'Cette plant croît au Pérou; elle est commune dans la Province de Tacunga, où M. Joseph de Jussieu l'a observée. On s'en sert pour teindre en verd. h. (v.s.)'.
?Holotype: P-LA (312/18); isotypes: P, P-JU.

Müller (2006: 194–201) had a broad view of this taxon which includes quite distinct taxa, at least in Brazil. The following synonymy is for guidance only.

ssp. **cripsa** (Spreng.) Joch. Müller, Syst. Bot. Monogr. 76: 198 (2006).

Baccharis crispa Spreng., Syst. Veg., ed. 16, 3: 466 (1826). Type: [Uruguay:] 'Monte Video. Sello [d397 = Mus. imp. Bras. 736]'. Holotype: P (218268); isotypes: BR-818440; G-DC × 2, P-218269, W. Type details based on Müller (2006: 198).

Molina crispa (Spreng.) Less., Linnaea 6(1): 141 (1831).

Pingraea crispa (Spreng.) F. H. Hellwig, Candollea 48: 217 (1993).

Cacalia sessilis Vell., Fl. Flum.: 341 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 73 (1831). Type: 'Nomine, qualitate, locis, et mensibus gaudet, ac habitat, quibus decurrens.' Lectotype (selected by Müller, 2006: 198): tab. 73.

Molina trimera Less., Linnaea 6(1): 141 (1831). Types: 'In Brasilia ad fretum St. Catharinae (*Cham.*); pr. Rio Janeiro (*Beyrich*).' Syntype: ?KW.

Molina cylindrica Less., Linnaea 6(1): 144 (1831). Types: not specified '(v. sp. s. ∞)'. Given by Müller (2006: 198) as 'Uruguay. Without locality 1821/1822, ● Sellow d649' - 'Holotype: KW?; isotypes: G-DC, P, W.'
Note: Since Lessing clearly did not cite either a collector nor a single collection Müller's 'typification' should perhaps be regarded as a lectotypification.

Baccharis trimera (Less.) DC., Prodr. 5: 425 (1836).

**Baccharis cylindrica* (Less.) DC., Prodr. 5: 426 (1836).

**Baccharis myriocephala* DC., Prodr. 5: 426 (1836). Types: '■ in Brasiliae prov. Minas Gerais legit cl. Vauthier (pl. exs. n. 265!) et in Bandâ orientali (*Bacle!*) ... (v.s.)'. Lectotype (selected by Joch. Müller, 2006: 198): *Vauthier* 265, G-DC; isolectotypes: G, P × 2, W. There is also a collection *Steven* s.n. in G-DC.

Baccharis genistelloides (Less.) Pers. var. α *trimera* (Less.) Baker in Mart., Fl. Bras. 6(3): 40 (1882).

Baccharis genistelloides (Lam.) Pers. var. δ *cylindrica* (Less.) Baker in Mart., Fl. Bras. 6(3): 41 (1882).

Baccharis genistelloides (Lam.) Pers. var. ϵ *crispa* (Spreng.) Baker in Mart., Fl. Bras. 6(3): 41 (1882).

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija), Brazil, Paraguay, Peru, Uruguay.
Grassland, open scrub and forest, Boliviano-Tucumano montane scrub.
1000–4000 m.

October–July. Probably flowering sporadically throughout the year.

Vernacular names: CARQUEJA (Freire et al., 2006); CARQUEJA, CARQUEJA GRANDE, CHARARA, QUIZMA KUCHU (Müller, 2006).

ssp. **genistelloides**

Molina venosa Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 212 (1798). Types: 'Habitat in Chinchao, Panao, Muña, Huanuci et Tarmae argillosis collibus. Floret Augusto, et Septembri.' Lectotype (selected by Cabrera, 1960: 204): '*Molina venosa*. Dioica sp. nova. *Baccharis*?', MA [marked as B2 in the microfiche sheet 284 of the Ruiz & Pavón herbarium]; isoelectotypes: B-2710, B-2711, MA [B1], P-218103.

Baccharis venosa (Ruiz & Pav.) Pers., Syn. Pl. 2: 425 (1807).

Baccharis genistelloides (Lam.) Pers. var. *venosa* (Ruiz & Pav.) Cuatrec., Anales Ci. Univ. Madrid 4(2): 211 (1935).

Bolivia (Cochabamba, La Paz, Oruro), Chile, Colombia, Ecuador, Peru.

Subalpine and nival grassland (Müller, 2006), Boliviano-Tucumano montane scrub.

3050–4800 m.

Probably flowering throughout the year in ideal conditions.

Vernacular name: QUIZMA KUCHU (Müller, 2006).

Müller (2006: 198) also noted the following hybrid:

Baccharis alpina* × *genistelloides* ssp. *genistelloides

Bolivia (Cochabamba, La Paz), Ecuador, Peru.

Baccharis genistelloides (Lam.) Pers. var. *crispa* (Spreng.) Baker in Mart., Fl. Bras. 6(3): 41 (1882) = ***Baccharis genistelloides*** (Lam.) Pers. ssp. ***crispa*** (Spreng.) Joch. Müller

Baccharis genistelloides (Lam.) Pers. var. *cylindrica* (Less.) Baker in Mart., Fl. Bras. 6(3): 41 (1882) = ***Baccharis genistelloides*** (Lam.) Pers. ssp. ***crispa*** (Spreng.) Joch. Müller

Baccharis genistelloides (Less.) Pers. var. *trimera* (Less.) Baker in Mart., Fl. Bras. 6(3): 40 (1882) = ***Baccharis genistelloides*** (Lam.) Pers. ssp. ***crispa*** (Spreng.) Joch. Müller

Baccharis genistelloides (Lam.) Pers. var. *venosa* (Ruiz & Pav.) Cuatrec., Anales Ci. Univ. Madrid 4(2): 211 (1935) = ***Baccharis genistelloides*** (Lam.) Pers. ssp. ***genistelloides***

**Baccharis gilliesii* A. Gray, Proc. Amer. Acad. Arts 5: 123 (1861). [Cited for Bolivia by several authors, but probably refers to *Baccharis tola* Phil. ssp. *fimbriata* Joch. Müller according to Müller (2006: 306)]

Baccharis glaucescens (Chodat & Hassl.) Soria & Zardini, Candollea 46: 539 (1991) = ***Baccharis sessiliflora*** Vahl

Baccharis glomerata Joch. Müller, Syst. Bot. monogr. 76: 127 (2006). Type: 'BOLIVIA. La Paz: Prov. Murillo, near the Cerro Cuñamani SSE Apaña, ca. 4220 m, 16°34'S, 68°01'W, 27 Jul 1999, ● Müller 7197'. Holotype: JE; isotypes: BR, LPB, NY (00804168).

Bolivia (La Paz).

Grassland and scrub in humid areas.

3700–4300 m.

****Baccharis glutinosa*** Pers., Syn. Pl. 2: 425 (1807). Type: 'Hab. in R. Chilensis ruderatis.' Note: Müller (2006: 248) provided the neotypification cited after the following synonym, suggesting that they were based on the same material.

Molina viscosa Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 207 (1798). Types: 'Habitat in Regni Chilensis ruderatis et aridis locis ad Conceptionis et Puchacay Provincias. Floret Januario, et Februario.' Neotype (selected by Hellwig, 1993): 'Chili 1782, Concepcion, Mart.' [Ruiz & Pavón], ■ G; isoneotype: MA.

Baccharis farinosa Pers. ex Spreng. in Ersch & Gruber, Allg. Encycl. 7: 27 (1821), nom. superfl.

Baccharis viscosa (Ruiz & Pav.) Kuntze, Revis. Gen. Pl. 1: 320 (1891), non *B. viscosa* Lam. (1783) (= *Psiadia integerrima* cf. *Index Kewensis*), nec *B. viscosa* Walter (1788) (= *Pluchea bifrons* cf. *Index Kewensis*).

Pingraea viscosa (Ruiz & Pav.) F. H. Hellwig, Candollea 48: 218 (1993).

Pingraea angustifolia Cass., Dict. Sci. Nat., ed. 2, 41: 58 (1826). Type/s: 'Nous avons fait cette description spécifique et celle des caractères génériques, sur un échantillon sec, que M. Desfontaines a eu la bonté de nous donner, en nous disant qu'il avoit été recueilli dans l'Isle-de-France, et que la même plante est vivant au Jardin du Roi, où on la cultive.' Neotype (selected by Hellwig, 1993: 216): P.

Baccharis douglasii DC., Prodr. 5: 400 (1836). Type: '■ in Californiâ legit cl. Douglas. [41] ... (v.s. ■ comm. à soc. hort. Lond.)'. Holotype: G-DC; isotype: W.

Baccharis medullosa DC., Prodr. 5: 405 (1836). Type: '■ in Brasiliae prov. Rio-Grande. Pl. foem. ign. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub. n. 850 miss.)'. Holotype: P; isotype: G-DC (fragments three leaves and a portion of an inflorescence).

Baccharis pingraea DC., Prodr. 5: 420 (1836). Types: '■ in Chili (*R. et Pav.*?), (*Cham.*!), frequens ad ripas arenosas fluviorum prope Concon (*Poepp.*!), San-Yago (*Bert.*!), Coquimbo (*Gaud.*!) et Valpareiso (*Macr.*!), et in Californiâ (*Cham. ex Less.*), in prov. Rio-Grande (h. imp. Bras.!) et ad Buenos-Ayres (*Bacle!*). Molina linearis var. *R. et Pav. syst. p. 205?* Hook. et Arn. in Beech. bot. 1. p. 57. Molina linearis Less. in *linnaea* 1831. p. 139 et 505.' Lectotype (selected by Müller, 2006: 248): 'CHILE. Valparaiso: ad Concón, ● and ■ *Poeppig* 103 (53), G-DC; isolectotype: M, poss. isolectotype: G-DC. Note: The original collection of the Ruiz & Pavón in MA, B6 on microfiche sheet 283, was determined as *B. pingraea* by Cabrera in 1970.

Baccharis pingraea DC. [var.] β *angustissima* DC., Prodr. 5: 420 (1836). Type: '(v.s. ■ ex *Gaud.* ● ex *Née et Macrae.*)'. Syntypes: G-DC. Lectotype (selected by Müller, 2006: 248): 'CHILE. Valparaiso: Valparaiso, 1825, ● *Macrae* s.n., G-DC.

Baccharis huydobriana Remy in Gay, Fl. Chil 4: 90 (1849). Type: 'Se cria en las provincias centrales.' Müller (2006: 248) cited 'Gay 265' in BR as a syntype.

Baccharis serrulata (Lam.) Pers. [var.] δ *subscandens* Kuntze, Revis. Gen. Pl. 3(3): 134 (1898). Type: 'Argentina: Tucuman (582 L.&H.). Cordoba, in ● Exemplaren.' [ARGENTINA. Cerramis de Tucumán, 6–22 Dec 1872, P.G. Lorentz & G. Hieronymus 582; Córdoba, Dec 1891, Kuntze s.n. – according to Wetter & Zanoni, 1985: 327]. Lectotype (selected by Müller, 2006: 248): 'ARGENTINA. Córdoba: Córdoba, Dec 1891, Kuntze s.n.' – NY (00162334).

Baccharis subpingraea Heering f. *nana* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 106 (1916). Types: [Argentina:] 'Tucuman: Ohne nähere Angabe (*Stuckert* n. 8608 – 25. Febr. 1900). Santa Fé: Cañada de Gomez (*Galander* n. 2 – 19. Dez. 1877. Blütenköpfchen noch nicht entwichelt, n. 21 – 22. Dez. 1877, ● im Aufblühen; n. 30 – 29. Dez. 1877, ● in Blüte und fast reif). Córdoba: Estancia S. Teodoro, Rio I (*Stuckert* n. 13999 – 20 März 1904, n. 15467, 15467 a – 6. Jan. 1906); Altos de Córdoba (*Bodenbender* – März 1896, ● blühend); Sierra Chica, Colanchanga (*Hieronymus* – Febr. 1882, ■ ● in Blüte und Frucht); Las Peñas (*Lorentz* n. 681), ebenda auf steinigem Hügeln (*Lorentz* n. 180 – Febr. 1871); ohne nähere Angabe (*Stuckert* n. 1307, 6. Jan. 1897 – 1510, 17. Jan. 1897 – 1664, 7. Febr. 1897 – 4506, 10. April 1898 – 6244, 22. Jan. 1899 – 6247, 22. Jan. 1899 – 8851, 14. März – 9789, 10. April 1900 – O. Kuntze, Dez. 1891, ● in Blüte). Buenos Aires: Coronel Suarez (*Stuckert* n. 17378 – 3. März 1907). Entrerios: Kolonie S. José an Wegen (*Lorentz*, Fl. Enrer. n. 651 – 1. Febr. 1876, ● in Blüte). Paraguay. *B. nana* Chodat & Haßler!, Pl. Hassl. III p. 715. San Juan, auf Sandboden (*Haßler* n. 76).'

Baccharis subpingraea Heering f. *pseudulicina* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 106 (1916). Types: [Argentina:] 'Córdoba: In den Pampas bei der Laguna de Pocho (*Hieronymus* [705] – 21. – 23. März 1877). Buenos Aires: Olavaria, Estancia Rocha (*C. Osten* n. 40 – 13. Febr. 1886). Rio Negro: Bei Fortin Iniciativa, verbreitet (*Niederlein*, Exped. nach dem Rio Negro – 23. April 1879, ■ ● in Blüte). Pampa, ohne nähere Angabe (*Niederlein*, ■ in Blüte).' Syntype: *Hieronymus* 705 21-23 03 1877, GOET (7846).

Baccharis subpingraea Heering f. *borealis* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 107 (1916). Types: [Argentina:] 'Entrerios: In dem Arroyo Yucari chico (*Lorentz* n. 1046); Concepcion del Uruguay, gemein zwischen Gebüsch, überall häufig im Kamp zwischen Gebüsch an Wegrändern (*Lorentz*, Fl. Ur. n. 17, 18). Corrientes: Itusaingo (*Niederlein*, Deutsche Arg. Mis. Exp. Rio Alto Paraná); ohne nähere Angabe (ohne Sammler). Gran Chaco: Coloni Resistencia (*Niederlein*, Deutsche Arg. Mis. Exped.)'. Syntype: *Lorentz* 1046, GOET (7847).

Baccharis subpingraea Heering f. *punctulata* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 108 (1916). Types: '[Argentina:] Entrerios: Concepcion del Uruguay, verbreitet an Wegen, zwischen Gebüsch, im Kamp (*Lorentz*, April 1877, ■ – *Lorentz* n. 587. – *Niederlein* n. 140). Uferwald des Arroyo Villaguay (*Lorentz*, Fl. Entrer. n. 1575). Paso de Santa Lucia auf dem lichten Vorlande am Saume des subtropischen Waldes (*Lorentz*, Fl. Entrer. n. 641). Uruguay. Salto in Hecken, Rincon del Dayman (*C. Osten* n. 5479); ohne nähere Angabe, Campos in niedrig gelegenen Gegenden (*Arechavaleta* n. 54).' Syntype: *Lorentz* 1575, GOET (7848).

Argentina, Bolivia (Chuquisaca, La Paz, Santa Cruz, Tarija), Brazil (Pernambuco), Chile, Colombia, Paraguay, Peru, Uruguay, USA (California).

Secondary habitats in moist or moderately dry areas, roadsides and plantations.

300–3400 m.

September–January.

Vernacular names: CHILCA, SUNCHO (Freire et al., 2006).

Note: In several floras the name is synonymized with *B. salicifolia*. Barroso & Bueno (2002: 883), under *B. medullosa*, also synonymized the Brazilian name *B. prenanthoides* Baker p.p. (citing *Warming* 187 – lefthand specimen), and Teodoro Luis (1958: 286) also cited *B. conoclidia* Sch.Bip., a nom. nud. (based on *Blanchet* 3720)

also under *B. medullosa*. Teodoro Luis (1957: 13), albeit under '*B. serrulata* var. *pingraea* Baker' had also synonymized the names '*Conyza montevidensis* Spreng.', '*B. serrulata* var. *stenophylla* Hook. & Arn.', *Molina linearis* (considered a separate Chilean entry by Müller and by Hellwig), and '*B. penillozeana* Remy' – a name not in *Index Kewensis*; this warrants further study.

Baccharis gnidiifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 61 (1818). Type: 'Crescit in scopulosis nobilissimi montis Chimborazo, alt. 1700 hex. ■ Floret Junio.' Holotype: P-Bonpl.; isotypes: B-W-15590-1, P (fragm.).

Baccharis semiserrata DC., Prodr. 5: 419 (1836), nom. illegit., non *Baccharis semiserrata* DC., Prodr. 5: 404 (1836).

NB. It would appear that Müller (2006: 270) considered, albeit cited that the name was a contemporaneous homonym, that this name had a type, citing 'Holotype: G-DC; isotype: P' presumably for '■ in Peruviae Andium valibus legit cl. Haenke. ... (v.s. comm. in h. Haenke à cl. de Sternberg miss.)'. However, Haenke's material was clearly in PR, the material in G-DC a duplicate.

**Baccharis sternbergiana* Steud., Nomencl. Bot. ed. 2, 1: 179 (1840), nom. nov. et illegit. based on *B. semiserrata* DC., Prodr. 5: 404 (no. 38).

**Baccharis hemiprionodes* Buek, Index Gen. Spec. 1: x [sic! according to Müller, 2006: 270; it should be 'v!'] (1842), nom. superfl.

Neomolina gnidiifolia (Kunth) F. H. Hellwig, Candollea 48: 212 (1993).

Bolivia (La Paz), Ecuador, Peru.

Dry grassland and scrub on slopes.

3100–4000 m.

**Baccharis grandicapitulata* Hieron., Bot. Jahrb. Syst. 36(5): 481 (1905). Types: 'Peruvia: crescit prope Cutervo (J.[elski] n. 778, m. Aprili 1879, specimen masculinum; et n. 773, m. Majo 1879, specimen femineum). [Cited for Bolivia by Foster (1958) but of uncertain determination according to Müller (2006: 307). Cuatrecasas (1967: 4) lectotypified the name based on *Jelski 773* – US (01234191).]

Baccharis graveolens Sch.Bip., Bonplandia 4(4): 51 (1856) = **Loricaria graveolens** (Sch.Bip.) Wedd.

**Baccharis grindeliifolia* [as *grindeliaefolia*] Wedd., Chloris Andina 1: 176 (1856). Type: 'PÉROU!. Cordillères du département de Cuzco (Gay). [Cited for Bolivia by Foster (1958) but Bolivian material refers to *Baccharis salicifolia* ssp. *salicifolia* according to Müller (2006: 307)]

Baccharis grisebachii Hieron., Bol. Acad. Nac. Córdoba 4: 36 (1881). Types: [Argentina:] 'Más, nuestra planta es también característica de parages bastantes elevados (la encontré también en la Sierra de Famatina, cerca de un punto llamado la Encrucijada (aproximativamente 2800 metros sobre el nivel del mar) y cerca del Corral Colorado (aproximativamente 3200 metros) y con el *Dr. Lorentz* en la Cordillera de Jujui entre El Ojo de Agua y la Abra de las Cortaderas y en la Quebrada Honda del terriorio de Tarija (aquí una variedad que llaman con el nombre vulgar: Quinchamal, con cabezuelas femeninas cuyos receptáculos tienen forma de cono obtuso, de 2 mm. de altura), y sería curioso que vuelve la misma planta á hallarse en la provincia del Rio Grande del Brasil, en donde la planta de De Candolle es indígena. ... El *Dr. Echegaray* ha recolectado nuestra planta en la Quebrada del Leoncito; en Diciembre, con flores.' Lectotype (selected by Müller, 2006: 222): 'ARGENTINA. La Rioja: La Incrucijada, Sierra Famatina, 1879, ● and ■ *Hieronymus & Niederlein* s.n.', BR; isolectotypes: G, P.

Baccharis abietina Kuntze, Revis. Gen. Pl. 3(3): 131 (1898). Type: 'Chile: 1600 m Paso Cruz.' ['CHILE. Paso Cruz, 1600 m, Jan 1892, *Kuntze* s.n. (2 sheets)' – according to Wetter & Zanoni, 1985: 326]. Syntypes: NY 162202, 162203. Note: Müller (2006: 222) did not select a lectotype.

Argentina, Bolivia (Potosí, Tarija).

Grassland and scrub on scree, often along permanent and seasonal rivulets.

3000–4100 m.

Note: Müller (2006: 223) recorded a hybrid, *B. grisebachii* × *torricoi* from Bolivia (Potosí).

Vernacular name: QUINCHAMAL (*Hieronymus*, 1881: 38).

Baccharis grossidentata Heering (sub. *grossedentata*), Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 73 (1916) = **Baccharis darwinii** Hook. & Arn.

Baccharis hemiprionodes* Buek, Index Gen. Spec. 1: x [sic! according to Müller, 2006: 270; it should be 'v!'] (1842), nom. superfl. = **Baccharis gnidiifolia Kunth [Foster (1958: 203) list the epithet as *hemiprionoides*].

Baccharis heterothalamoides* Britton, Bull. Torrey Bot. Club. 19(1): 4 (1892) = **Baccharis darwinii Hook. & Arn.

Baccharis humilis Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 92 (1882) = **Baccharis linearifolia** (Lam.) Pers.
Baccharis huydobriana Remy, Fl. Chil 4: 90 (1849) = **Baccharis glutinosa** Pers.
Baccharis incarum (Wedd.) Perkins, Bot. Jahrb. Syst. 49: 224 (1913) = **Baccharis tola** Phil. ssp. **santelicis** (Phil.) Joch. Müller var. **incarum** (Wedd.) Joch. Müller
Baccharis incarum (Wedd.) Heering, Jahrb. Hamburg. Wiss. Anst., 31, Beih. 3: 153 (1916). comb. illegit., superfl. = **Baccharis tola** Phil. ssp. **santelicis** (Phil.) Joch. Müller var. **incarum** (Wedd.) Joch. Müller
Baccharis incarum (Wedd.) Cuatrec., Phytologia 9:7 (1963), comb. illegit. superfl. = **Baccharis tola** Phil. ssp. **santelicis** (Phil.) Joch. Müller var. **incarum** (Wedd.) Joch. Müller
Baccharis incarum (Wedd.) Perkins f. *prostrata* Cuatrec., Caldasia 10: 8 (1967) = **Baccharis caespitosa** (Ruiz & Pav.) Pers. ssp. **caespitosa**
Baccharis iresinoides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 63 (1818) = **Baccharis salicifolia** (Ruiz & Pav.) Pers. ssp. **salicifolia**
Baccharis jelskii Hieron., Bot. Jahrb. Syst. 29(1): 24 (1900) = **Baccharis decussata** (Klatt) Hieron. ssp. **jelskii** (Hieron.) Joch. Müller
Baccharis jelskii Hieron. var. *cladotricha* Cuatrec., Mutisia 17: 11 (1953) = **Baccharis decussata** (Klatt) Hieron. ssp. **jelskii** (Hieron.) Joch. Müller

***Baccharis juncea** (Lehm.) Desf., Cat. Hort. Paris (ed. 3) : 163 (1829). Müller (2006: 284) based the authors' citation on '(Cassini) Desfontaines' assuming that Cassini first validated the name. At the very least Cassini's name is a later homonym, if not a combination in his genus *Arrhenachne*.

Stephananthus junceus Lehm., Ind. Sem. Hort. Hamb. 18 (1826), nom. nud. Note: Müller (2006: 284) noted the holotype as in S and isotype in BR-823542. The original publication is variously cited as 'Ind. Sem. Hort. Hamb.' and 'Sem. Hort. Bot. Hamburg'. However, a reprint in K would suggest that the full title, in which this name appeared, is 'Verzeichniss der Topfpflanzen und der im Lande ausdauernden Staudengewächse welche im Hamburgischen botanischen Garten adgegeben werden können.' in the first section 'A. Hauspflanzen.' As it appears in this work both the generic name and binomial are nom. nud.

Stephananthus junceus Lehm., Flora 10(1, 6): 96 (1827). Type: not stated, but based on cultivated material in Hamburg Botanic Garden. Note: Lehmann, in the paper 'II. Neue Schriften. 2. Semina in horto botanico Hamburgensi 1826 collecta quae pro mutua commutatione offeruntur.' appears to have validated the names in the earlier seed list, the footnote on p. 96 effectively validating the generic name with the derivation from Greek into Latin being stated.

Arrhenachne juncea Cass., Dict. Sci. Nat., ed. 2, 52: 254 (1828). Types: 'Nous avons fait cette description spécifique, et celle des caractères générique, sur des échantillons secs de l'herbier de M. Desfontaines, provenant d'individus cultivés dans les serres du Jardin du Roi, et qu'on croit originaires du Sénégal.' [Müller (2006: 284) at this point included Cassini's name as the basionym of *B. juncea*, not Lehmann's! Syntypes were noted as being in FI.]

ssp. **clavata** Joch. Müller, Syst. Bot. Monogr. 76: 284 (2006). Type: 'BOLIVIA. Tarija: Prov. Avilez, upper Rio Rosario near Rosario, ca. 3700 m, 2155S, 6507W, 27 Feb 2002, ● and ■ Müller 9212'. Holotype: JE; isotypes: BR, G, GH, HBG, LPB, MICH, MO, NY (00804163), P.

Argentina, Bolivia (Cochabamba, La Paz, Oruro, Potosí, Tarija), Peru.
 Open, often saline areas along rivulets and ponds, marshy sedge grassland.
 2500–4000 m.
 December–January.

Baccharis kuntzeana* Teodoro, Contr. Inst. Geobiol. 2: 46 (1952) = **Baccharis papillosa Rusby ssp. **papillosa**

Baccharis lanceolata* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 63 (1818) = **Baccharis salicifolia (Ruiz & Pav.) Pers. ssp. **salicifolia**

***Baccharis latifolia** (Ruiz & Pav.) Pers., Syn. Pl. 2: 424 (1807).

Molina latifolia Ruiz & Pav., Syst. Veg. Peruv. Chil. : 208 (1798). Type: 'Habitat in Peruviae ruderatis et campis prope Muña et Rondos vicis. Floret toto anno.' Lectotype (selected by Cabrera, 1960: 198): '*Molina latifolia*, Ancochuta.' MA [sheet marked as A2 on microfiche sheet 283 of the Ruiz & Pavón herbarium and determined by Cuatrecasas as the holotype]; isotypes: B × 2, MA [A1, also determined by Cuatrecasas as the isotype], P.

Pingraea latifolia (Ruiz & Pav.) F. H. Hellwig, Candollea 48: 217 (1993).

**Baccharis floribunda* Kunth in Humb., Bonpl. Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 64 (1818). Type: [Colombia:] 'Crescit in Andibus Novo-Granatensium prope Almaguer et in convalli fluminis Yacanatacu, alt. 830 – 1200 hex. ■ Floret Novembri.' [Humboldt & Bonpland no. 2089']. Holotype: P-Bonpl. (■); isotypes: B-W (15594), F (972360), P × 4.

Baccharis polyantha Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 64 (1818). Type: 'Crescit cum praecedente ? ■ [B. buddlejoides Kunth : 'Crescit in Peruvia? ■]. Holotype: P-Bonpl.; isotypes: B-W (15587), F (974475), P × 3.

**Baccharis riparia* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 65 (1818). Type: [Ecuador:] 'Crescit in convallibus Regni Quitensis prope Guamote et rio Chambo, alt. 1300 – 1600 hex. ■ Floret Julio.' [Humboldt & Bonpland 'no. 3197. Rio Chambo'] Holotype: P-Bonpl.; isotype: F (frag.)

**Pluchea glabra* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 183 (March-April 1879), Symb. Fl. Argent. : 183 (1879). Type: [Argentina:] 'O.: Oran, versus S. Andres.' [ARGENTINA. Salta: Dept. Orán, San Andrés, Lorentz & Hieronymus 537.' – (Müller, 2006: 138). Holotype: GOET.

Vernonia otavalensis Gilli, Feddes Repert. 94: 313 (1983). Type: [Ecuador:] 'Eucalyptus-Wald bei Otavalo, 2500 m, 16. 7. 1975, fl. [Gilli] 413.' Holotype: W.

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija), Colombia, Ecuador, Peru, Venezuela.

Somewhat weedy in disturbed sited in cloud forest, bosque Tucumano, scrub in upper subandean forests, grassland and scrub, Ceja vegetation, Yungas, Boliviano-Tucumano montane scrub. 1300–4200 m.

July–November.

Vernacular name: HUMA CHILLCA (Müller, 2006).

Note: Navarro (2002: 375) recorded two species of 'Chillca' for areas of scrub in high pastures in 'Bosque húmedos Boliviano-Tucumanos del subandino superior (Boliviano-Tucumano upper subandean humid forests)'. The two species were *Baccharis gaudichaudiana* and *B. latifolia*. Müller did not record *B. gaudichaudiana* for Bolivia – doubtless Navarro's record was for a member of the *B. genistelloides* complex.

Baccharis laxa Gardner, London J. Bot. 4: 121 (1845) = ***Baccharis trinervis*** Pers.

Baccharis laxiflora* Rusby, Bull. New York Bot. Gard. 8(No. 28): 129 (1912) = *Baccharis pulchella*** Sch.Bip. ex Griseb.

Baccharis lepidota Gilli, Feddes Repert. 94: 306 (1983) = ***Baccharis nitida*** (Ruiz & Pav.) Pers.

Baccharis leptocephala DC., Prodr. 5: 413 (1836) = ***Baccharis linearifolia*** (Lam.) Pers.

Baccharis leptospermoides DC., Prodr. 5: 421 (1836) = ***Baccharis dracunculifolia*** DC.

Baccharis lessingiana DC., Prodr. 5: 414 (1836) = ***Gochnatia polymorpha*** (Less.) Cabrera

Baccharis lewisii (H. Rob.) Joch. Müller, Syst. Bot. Monogr. 76: 186 (2006).

Archibaccharis lewisii H. Rob., BioLlania, Ed. Esp. 6: 502 (1997). Type: 'Bolivia. La Paz: Inquisivi. Along the Río Irupaya, ca. 3 km NE of Quime, 16°57'S, 67°12'W, 2800 m, this area marks the upper point (along river) of subtropical shrublands, rather chapparal-like in aspect, thin shrub supported by other shrubs in deep shade of river cliff woods, flowers white, uncommon, 14 Aug. 1988, Lewis 881,072'. Holotype: US (03185494); isotypes: LPB, MO.

Bolivia (La Paz).

Rivurine forest.

2800 m.

Note: It was Müller's opinion (2006: 186–187) that *Archibaccharis lewisii* H. Rob. fitted well within a group consisting of *B. decussata* (Colombia south to Bolivia), *B. anomala* (Argentina, Brazil, Paraguay and Uruguay) and *B. auriculigera* Hieron. (Ecuador and Peru). Müller noted differences from *Archibaccharis* and it is kept in *Baccharis* in the present Checklist. The species is still only known from the male type material.

Baccharis lilloi Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 78 (1916). Types: [Argentina:] 'Tucuman: Dep. Tafi, El Rincón, 2250 m ü. d. M., Barrancas (Lillo n. 7533 – 4. Februar 1908, ■●); La Ciénaga, 2600 m ü. d. M., zwischen Felsen (Lillo n. 3703 – 16. April 1904, ■●); ohne nähere Angabe (Lorentz und Hieronymus, Fl. arg. n. 677 – 10.–17. Januar 1874, von O.Kuntze als *B. hemiprionoides* Buek bestimmt).' Lectotype (selected by Müller, 2006: 188): Lillo 7533 ● and ■– HBG; isolectotype: G.

Argentina, Bolivia (Tarija).

Alpine and subalpine grassland, scrub, and open *Alnus* forest (Müller, 2006).
2900–4000 m.

Baccharis linearifolia (Lam.) Pers., Syn. Pl. 2: 425 (1807).

Conyza linearifolia Lam., Encycl. 2: 92 (1786). Type: 'M. Commerson a trouvé cette plante dans l'Isle de Bourbon. [h]. (v.s.)'. Lectotype (selected by Müller, 2006: 100): P-LA (313/4), basal right branch; isoelectotypes, all ● P × 2, P-JU.

Molina prostrata Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 204 (1798). Type: 'Habitat in Peruviae altis et silvaticis locis, versus Pillao et Panao tractus. Floret à Julio ad Septembrem.' Lectotype (selected by Müller, 2006: 100): MA ● [sheet marked B8 of microfiche sheet 283 of the Ruiz & Pavón herbarium]. Also noted by Müller (2006: 100) were 'isoelectotypes' in B, G (a fragment according to Müller), MA [B7], OXF, and P. Anderberg et al. (1996: 26) noted a further possible Pavón collection in S. Note: Müller (2006: 104) indicated that the choice made by Cuatrecasas (1969), who had earlier selected material in G, was inadmissible as lectotype material.

**Baccharis prostrata* (Ruiz & Pav.) Pers., Syn. Pl. 2: 425 (1805).

Baccharis brevifolia DC., Prodr. 5: 409 (1836). Type: '■ in campis editis prov. Sancti-Pauli Brasiliae legit cl. Lund fl. nov. ... (v.s. comm cl. Lund.)'. Holotype: G-DC [● Lund 849].

Baccharis leptcephala DC., Prodr. 5: 413 (1836). Types: '■ in Brasiliae prov. Rio-Grande (herb. imp. Bras. n. 950, 977 et 948) et Rio-Janeiro (Blanch.! [78]) ... (v.s.)'. Syntypes: G-DC. Note: 'h. imp Bras.' syntypes in P. Müller (2006: 100) did not select a lectotype.

Baccharis subdentata DC., Prodr. 5: 408 (1836). Types: '■ in Brasiliae prov. Minas-geraes (Vauth.! pl. exs. n. 839, et Santci-pauli (h. imp. Bras. n. 474). ... (v.s.)'. According to Müller (2006: 100), the Vauthier syntypes is 839, but I note that '339' is actually cited in the *Prodromus*. The 'h. imp. Bras. 474' syntype is not represented in G-DC, only in P. Müller (2006: 100) did not select a lectotype.

**Baccharis tridentata* Vahl [var.] [β]? *pluridentata* DC., Prodr. 5: 409 (1836). Type: '■ circa Bahiam in dumetis legit cl. Blanchet [1036]. ... (v.s.)'. Holotype: G-DC.

Baccharis denticulata D. Don ex DC., Prodr. 7: 282 (1838). Type: '(Don mss. ex Arn.! in litt. 1836) ... ■ in Patagonia boreali. ... (v.s. ● et ■ comm. à cl. Arnott.)'. Holotype: ?GL. Note: there is no material illustrated in the microfiche of G-DC.

Baccharis xerophila Mart., Flora 24, Beibl. 2: 11 (1841). Type: '[Brazil:] [Herb. Fl. Bras. 437] 'Planta mascula. ... Crescit in agris altis siccis, in mediterraneis Prov. Bahiensis, prope Jacobina rel. Hamadryas.' Müller (2006: 100) noted that this collection consisted of male and female material and that syntypes were in BR, G, HBG, JE, M × 4, W. However, since Martius only mentioned male material in his description, and this was based on material in his own collection, before the *Herb. Fl. Bras.* distribution it is likely that the material in BR is the most significant and from which the selection of lectotype should be made. BR will also provide evidence of the original collector of the material, likely *Lhotsky*, the material corresponding to *Lhotsky* 780.

Baccharis subcapitata Gardner, London J. Bot. 7: 85 (1848). Type: [Brazil:] 'HAB. Dry upland Campos between Arrayas and San Domingos, Province of Goyaz. May, 1840.' [Gardner] 4251.

Baccharis varians Gardner, London J. Bot. 7: 84 (1848). Types: [Brazil:] 'HAB. In dry Campos near Villa de Arrayas, Province of Goyaz ([Gardner] 3839), and near Formigas, Province of Minas Geraës ([Gardner] 4913). [Note: This taxon is apparently polytypic. *Gardner* 4913 is still accepted as this species. *Gardner* 3839 was considered by Barroso to be **Baccharis leptcephala** DC.]

Baccharis rufescens Spreng. var. *δ varians* (Gardner) Baker in Mart., Fl. Bras. 6(3): 63 (1882).

Baccharis rufescens Spreng. var. *η leptcephala* (DC.) Baker in Mart., Fl. Bras. 6(3): 64 (1882).

Baccharis humilis Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 92 (1882). Types: 'Habitat in campis Brasiliae centralis; e. gr. in prov. Minas Geraës ad Lagoa Santa: *Warming!*; in campis nuperrime crematis prov. Goyaz: *Riedel!*; inter Diamantina et Veraba legitima: *Burchell* n. 5758!; in camis nuper ustis ad Santa Anna: *Lund!*; praeterea: *Sello* n. 1969! *Pohl* n. 441!' [Müller, 2006: 101, did not lectotypify this name].

Baccharis rotundifolia Spreng. var. *stuckertii* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 131 (1916). Types: [Argentina:] 'Córdoba: Ohne genaueren Standort (*Stuckert* n. 6680, 8761); Canals (*Stuckert* n. 18675 – 24. März 1908); Estancia S. Teodoro, Rio Primeiro (*Stuckert* n. 14093, 14002, 15720); Altoso de Córdoba (Bodenbender – März 1896, ■ in Blüte); Sierra Chica, Tunti (*Stuckert* n. 2268 – Febr. 1897). Santa Fé: Cañada de Gomez (*Galander* – 28. Dez. 1877, steril). ... Córdoba: Huerta Grande (*Stuckert* n. 1793 – 17. Febr. 1897). ... Herb. *Stuckert*, bei Córdoba 1896 gesammelt (ohne Nummer) ...' Lectotype (selected by Müller, 2006: 101): *Stuckert* 1793 – HBG.

Baccharis cordobensis Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 132 (1916). Types: [Argentina:] 'Córdoba: Ohne genauere Standortsangabe (*Stuckert* n. 2462 — Dez. 1896 ▣). Entrerios: Arroyito (*Lorentz*, Fl. Entrer. n. 1306 — Köpfchen noch nicht entwickelt (als *B. cuneifolia* DC).’ Lectotype (selected by Müller, 2006: 101): *Stuckert* 2462 — HBG; isolectotype: G.

Baccharis subrufescens Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 136 (1916). Types: [Argentina:] 'Córdoba: Canals (*Stuckert* n. 1516, 17. Jan. 1897, n. 18677, 24. März 1908).’ Syntypes: HBG.

Baccharis sessilifolia Vahl var. *stuckertii* (Heering) Cabrera, Revista Mus. La Plata, Secc. Bot. 17: 117 (1941).

Baccharis subdentata DC. var. *incogitata* Teodoro, Contr. Inst. Geobiol. 3: 8 (1954), nom. nud.

Baccharis tricuneata (L.f.) Pers. var. *ruiziana* Cuatrec., Rev. Acad. Colomb. Ci. Exact. 13(50): 214 (1969) (based on *Molina prostrata* Ruiz & Pav., q.v.).

Baccharis pedersenii Cabrera, Darwiniana 16(1–2): 410 (1970). Type: [Argentina:] 'Entre Ríos, Federación, Santa Ana, barranca arenosa del río Uruguay, A. Burkart 21.975'. Holotype: SI. Müller (2006: 101) mentioned 'Holotype: LP; isotypes: BR, P.' which is confusing.

Widespread (according to Müller (2006): Colombia south to central Argentina, and Guayana Highlands to northern Patagonia.

Boliviano-Tucumano montane scrub, ancient clearings and deforested areas on eroded soils in *Podocarpus parlatoarei* forest.

1000–3050 m.

January–March.

Note: Müller had a very broad concept of this species! Pruski's determination of *Killeen & Peña* 7205 perhaps supports this!

ssp. **chilco** (Kunth) Joch. Müller, Syst. Bot. Monogr. 76: 108 (2006).

Baccharis chilco Kunth in Humb., Bonpl. & Kunth Nov. Gen. Sp. Pl. 4 (ed. folio): 56 (1818). Type: [Colombia:] 'Crescit prope Santa Ana. ▣ Floret Julio. [Bonpland 5910]' Holotype: P-Bonpl.; isotypes F (972092 –fragment), P × 2.

Baccharis patiensis Hieron. var. *pluridentata* Hieron., Verh. Bot. Vereins Prov. Brandenburg 48: 203 (1907).

Type: 'Nach *Ule* tritt die Art als ½ bis 1 ½ m hoher Strauch auf und findet sich häufig auf den Pampas bei Tarapoto in Peru (n. 6470, under welcher Nummer auch die Varietät lag; Oktober 1902).’ Holotype: B†.

Lectotype (selected by Müller, 2006: 108): ● and ▣ HBG.

Colombia south to Bolivia (El Beni, La Paz, Santa Cruz), Paraguay.

Dryish grassland and open scrub of the humid areas along the eastern side of the Andes.

1000–2400 m (but apparently up to 4000 m in Peru).

December–January.

Vernacular names: CHILCA CHILCA, PAICHAÑA DE BAJIO (Müller, 2006).

[ssp. *linearifolia*

Baccharis rufescens Spreng., Syst. Veg., ed. 16, 3: 464 (1826). Type: 'Monte Video. *Sello*.’ Holotype: P.

Baccharis leptophylla DC., Prodr. 5: 423 (1836). Type: '▣ in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 993 miss.)’. Holotype: P; isotype: G-DC.

Baccharis rufescens Spreng. var. η *leptophylla* (DC.) Baker in Mart., Fl. Bras. 6(3): 63 (1882).

Baccharis pseudotenuifolia Teodoro var. *leptophylla* (DC.) Giuliano, Monogr. Syst. Bot. Missouri Bot. Gard. 74: 1245 (1999) comb. superfl.

**Baccharis paucidentata* DC., Prodr., 5; 420 (1836). Types: 'in Brasiliae prov. Rio-Grande (h. Mus. imp. Bras. sub n. 823 et 840), et ad Buenos-Ayres? ... (v.s.)’. Lectotype (selected by Müller, 2006: 104): 'Sello [M.I.B.] 840 [= d1101]' G-DC; isolectotypes: P × 3.

Baccharis tenuifolia DC., Prodr. 5: 423 (1836), nom. illegit. non *Baccharis tenuifolia* L. (1753). Type: '▣ in Brasiliae prov. Sancti-Paulo. ... (v.s. ● in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 512 miss.)’. Holotype: P; isotype: G-DC.

Baccharis rufescens Spreng. var. β *tenuifolia* (DC.) Baker in Mart., Fl. Bras. 6(3): 63 (1882).

Baccharis tenuifolia DC. var. *leptophylla* (DC.) Malme, Kongl. Svenska Vetenskapsakad. Handl. 32(5): 51 (1899).

Baccharis pseudotenuifolia Teodoro, Contr. Inst. Geobiol. 2: 46 (1952), nom. nov. pro *Baccharis tenuifolia* DC.

[Note: Teodoro (1952: 46) quite clearly cited this name, not Malagarriga as is sometimes cited] Argentina, Brazil, Paraguay, Uruguay.]

ssp. **polycephala** (Wedd.) Joch. Müller, Syst. Bot. Monogr. 76: 105 (2006).

**Baccharis polycephala* Wedd., *Chloris Andina* 1: 173 (1856). Type: 'Hab. BOLIVIE: montagnes des départements de potosi et de Chuquisaca!, h. 2500 à 3500 mètres (Wedd.).' Lectotype (selected by Müller, 2006: 105): BOLIVIA: 'Montagnes des départements de Potosi et de Chuquisaca!, h. 2500 à 3500 mètres.' [Potosí: Prov. Frías, Potosí], \Rightarrow Weddell 4091' - P-218322; isolectotypes: F (970316), P-218323.

Baccharis microphylla Kunth var. *linearifolia* Wedd. ex Sch.Bip., *Bull. Soc. Bot. France* 12: 81 (1865), nom. nud.

Baccharis pedalis Sch.Bip. ex Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 182 (March-April 1879), *Symb. Fl. Argent.*: 182 (1879). Type: 'O.: Tarija. (Brasil.)'. Syntypes: *Lorentz & Hieronymus* 866, *Riedel* 527 \times 2, GOET. Lectotype (selected by Müller, 2006: 105): 'BOLIVIA. Tarija: Prov. Gran Chaco, Cuesta de Buyuyu; 15 June 1873, \Rightarrow *Lorentz & Hieronymus* 866.' - GOET.

Baccharis rufescens Spreng. var. ε *pedalis* (Sch.Bip. ex Griseb.) Baker in Mart., *Fl. Bras.* 6(3): 64 (1882).

**Baccharis microphylla* Kunth var. (?) *pulverulenta* Rusby, *Mem. Torrey Bot. Club* 3(3): 56 (1893). Types:

[Bolivia:] 'Vic. La Paz, 10,000 ft., 1889 ([Bang] 74). = *Rusby* 1566.' Lectotype (selected by Müller, 2006: 105): *Rusby* 1566, NY (ex Columbia College Herbarium); isolectotypes: F (166161), MICH, NY (ex College of Pharmacy Herbarium). Isosyntype (*Bang* 74): NY (00162275, 00162276), US (00062672 - det. by Müller).

Note: Müller (2006: 96) cited the *Bang* 74 syntype under *Baccharis tola* Phil. ssp. *santelicis* (Phil.) Joch. Müller var. *incarum* (Wedd.) Joch. Müller.

**Baccharis pflanzii* Perkins, *Bot. Jahrb. Syst.* 49: 224 (1913). Type: 'Bolivien: Palca-La Paz, 3900 m ü. M. (PFLANZ n. 67. - Im November 1907 blühend).' Holotype: B \dagger .

Bolivia (Chuquisaca, Cochabamba, Potosí, Santa Cruz, Tarija), Argentina, Peru.

Dryish grassland, open scrub and open forests along the eastern slopes of the Andes and on the northern Altiplano.

1300–4300 m.

February–March.

Vernacular names: CHINI THOLA, MACHA THOLA, ÑACA THOLA, PAMPA THOLA, PICANA, PICHANILLA, THOLA, THOLILLA, THOLILLO (Müller, 2006).

Baccharis linifolia DC., *Prodr.* 5: 420 (1836) = ***Baccharis salicifolia*** (Ruiz & Pav.) Pers. ssp. ***salicifolia***

Baccharis longifolia DC., *Prodr.* 5: 402 (1836) = ***Baccharis salicifolia*** (Ruiz & Pav.) Pers. ssp. ***salicifolia***

Baccharis longipes Kunze ex DC., *Prodr.* 5: 401 (1836) = ***Baccharis salicifolia*** (Ruiz & Pav.) Pers.

Baccharis lucida Meyen, *Reise um die Erde* 1: 460 (1834) = ***Parastrephia lucida*** (Meyen) Cabrera

Baccharis magellanica* (Lam.) Pers. var. *subviscosa* Kuntze, *Revis. Gen. Pl.* 3(3): 133 (1898) = *Baccharis tola*** Phil. ssp. ***santelicis*** (Phil.) Joch. Müller var. ***incarum*** (Wedd.) Joch. Müller

Baccharis magellanica (Lam.) Pers. var. *viscosissima* Kuntze, *Revis. Gen. Pl.* 3(2): 133 (1898) = ***Baccharis tola*** Phil. ssp. ***tola*** var. ***viscosissima*** (Kuntze) Joch. Müller

Baccharis mandonii Sch.Bip., *Bull. Soc. Bot. France* 12: 81 (1865); *Linnaea* 34(5): 533 (Feb. 1866), nom. nud. (based on *Mandon* 199) = ***Baccharis mandonii*** Sch.Bip. ex Klatt

****Baccharis mandonii*** Sch.Bip. ex Klatt, *Leopoldina* 25 (11–12): 108 (1889). Type: [Bolivia:] 'Hab. Prov.

Larecaja, Viciniis Sorata, via ad Lacatia prope rivum in silvulis. Reg. subalpina 3300–3400 m, Aug. 1858. Leg.

G. *Mandon*, No. 199.' Holotype (cited by Müller, 2006: 239): GH (♂); isotypes: F (932348), G \times 2, GH \times 2, NY \times 3 (00162268, ...), P \times 5, W. Note: Klatt's paper (Klatt, 1889) was also published as a re-paginated

reprint/preprint?, and it is quite clear that in the first section (I. Compositae Guatemalenses et Costaricenses ex Herb. Mus. Berol. determinatae et novae descriptae.) material was described from B; the second section (II. Miscellanea.) had much material cited from B, although the location of the type of this name was not stated.

Baccharis mandonii Sch.Bip., *Bull. Soc. Bot. France* 12: 81 (1865); *Linnaea* 34(5): 533 (Feb. 1866), nom. nud. (based on *Mandon* 199).

Baccharis markoi H. Rob., *BioLlania*, *Ed. Esp.* 6: 503 (1997). Type: '(male): Bolivia. La Paz: Inquisivi,

"Pavionani", on the slope above Pavionani Fork of the Río Chimú below headwaters divide with the Río Janko Kalani, 7 km N of Choquetanga, grasslands at treeline, both grazed and ungrazed with small patches of trees along river, *Weinmannia* and *Gynoxys* are common trees, 16°48'S, 67°18'W, 3500–3600 m, small scattered 1 m high shrub along river, phyllaries purple-black, inflorescence white, 8 Apr. 1991, *Lewis* 38,505'. Holotype: US (03315239); isotypes: LPB, MO.

Bolivia (Cochabamba, La Paz).

Open areas in cloud forest, *Pernettya* heath, open scrub, and near swamps and ponds.

3200–4000 m.

- **Baccharis mapirensis* Rusby, Mem. Torrey Bot. Club 6(1): 61 (1896) = **Baccharis quitensis** Kunth
Baccharis marginalis DC., Prodr. 5: 402 (1836) = **Baccharis salicifolia** (Ruiz & Pav.) Pers.
 Baccharis marginalis* DC. var. *coerulescens* (DC.) Heering, Schriften Naturwiss. Vereins Schleswig-Holstein 13: 46 (1904) = **Baccharis salicifolia (Ruiz & Pav.) Pers. ssp. **salicifolia**
Baccharis marginalis DC. var. *coerulescens* (DC.) Heering ex Reiche, Fl. Chil. 4: 11 (1905), comb. superfl. = **Baccharis salicifolia** (Ruiz & Pav.) Pers. ssp. **salicifolia**
Baccharis marginalis DC. var. *longipes* (Kunze ex DC.) Heering, Anales Univ. Chile 111: 160 (1903) = **Baccharis salicifolia** (Ruiz & Pav.) Pers.
 **Baccharis marginalis* DC. var. *vinimea* Heering ex Reiche, Fl. Chil. 4: 10 (1905). Listed by Foster (1958: 204) but was not mentioned by Müller (2006).
Baccharis markoi H. Rob., BioLlania, Ed. Esp. 6: 503 (1997) = **Baccharis mandonii** Sch.Bip. ex Klatt
 Baccharis medullosa* DC., Prodr. 5: 405 (1836) = **Baccharis glutinosa Pers. [acc. to Müller, 2006]
Baccharis meridionalis Heering & Dusén, Ark. Bot. 9(15): 26 (1910) = **Baccharis microdonta** DC.

Baccharis microdonta DC., Prodr. 5: 416 (1836). Type: 'in Brasiliae prov. Sancti-Pauli. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 485 miss.)'. Holotype: P; isotype: G-DC.
Baccharis sebastianopolitana Baker in Mart., Fl. Bras. 6(3): 65 (1882). Types: [Brazil:] 'Habitat prope Rio de Janeiro: Glaziou n. 2627! Barclay!; [Uruguay:] prope Montevideo: Sello n. 21!, 391! 586! 804! 1931! 2256! 2292! 2298!' Lectotype (selected by Cabrera, 1959: 33): Glaziou 2627 - K; isolectotypes: BR, P × 3.
Baccharis dracunculifolia DC. var. *subdentata* Kuntze, Revis. Gen. Pl. 3(3): 132 (1898). Types: 'Argentina: Tucuman (1024 Lor[entz]. & Hier[onymus]). Paraguay: Concepcion. Uruguay: Rio Santa Lucia.' [ARGENTINA. Sierra de Tucumán, 12 Jan 1873, P.G.Lorentz & G. Hieronymus 1024. PARAGUAY. Concepción, Sep 1892, Kuntze s.n.' - according to Wetter & Zanoni, 1985: 326]. Lectotype (selected by Müller, 2006: 114): Lorentz & Hieronymus, 1024 - NY (00162237); isolectotype: GOET.
Baccharis dracunculifolia DC. var. *subdentata* Kuntze f. *subviscosa* Kuntze, Revis. Gen. Pl. 3(3): 132 (1898). No distinction was made by Kuntze in citing the material (see var. above) between the variety and its forma.
Baccharis meridionalis Heering & Dusén, Ark. Bot. 9(15): 26 (1910). Types: [Brazil:] 'In der Hochebene sowohl im Übergangsbereich zwischen dem Urwald der Serra do Mar und dem typischen Campo, wie auch an den Rändern der Waldinseln des Camposgebietes z. B. bei Roça Nova, Serrinha, Capão Grande, Ponta Grossa u. s. w. Nr. 3956 und 4212 (November 1904) und 7925 (April 1909).' Syntypes: HBG. Lectotype (selected by Müller, 2006: 114): Dusén 7925 (Ponta Grossa, 4 Apr 1909) - HBG; isolectotypes: BR, G.
 Argentina, Bolivia (Chuquisaca, Cochabamba, Santa Cruz, Tarija), Brazil, Paraguay, Uruguay.
 Scrub and open forest (Müller, 2006), rocky slopes.
 900–2700 m.
 November–December.
 Vernacular name: THOLA (Müller, 2006).

- **Baccharis microphylla* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 55 (1818). [This is a species of the northern Andes according to Müller (2006: 307), but cited for Bolivia by a number of authors. The Bolivian material is, according to Müller (2006: 307) = **Baccharis caespitosa** (Ruiz & Pav.) Pers., **Baccharis linearifolia** (Lam.) Pers. ssp. **polycephala** (Wedd.) Joch. Müller, **Baccharis papillosa** Rusby ssp. **integrifolia** Joch. Müller, **Baccharis tola** Phil. var. **incarum** (Wedd.) Joch. Müller]
 Baccharis microphylla* Kunth var. β *incarum* Wedd., Chloris Andina 1: 170 (1856) = **Baccharis tola Phil. ssp. **santelicis** (Phil.) Joch. Müller var. **incarum** (Wedd.) Joch. Müller
 Baccharis microphylla* Kunth var. *integrifolia* Wedd. ex Sch.Bip. = pp. **Baccharis tola Phil. var. **incarum** (Wedd.) Joch. Müller, **Baccharis linearifolia** (Lam.) Pers. ssp. **polycephala** (Wedd.) Joch. Müller, **Baccharis papillosa** Rusby ssp. **integrifolia** Joch. Müller
Baccharis microphylla Kunth var. *linearifolia* Wedd. ex Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865), nom. nud. = **Baccharis linearifolia** (Lam.) Pers. ssp. **polycephala** (Wedd.) Joch. Müller
 Baccharis microphylla* Kunth var. (?) *pulverulenta* Rusby, Mem. Torrey Bot. Club 3(3): 56 (1893) = **Baccharis linearifolia (Lam.) Pers. ssp. **polycephala** (Wedd.) Joch. Müller
Baccharis microphylla Kunth var. *rhomboidea* Wedd. ex Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865), nom. nud. = ? **Baccharis papillosa** Rusby ssp. **integrifolia** Joch. Müller
Baccharis microphylla Kunth var. *viscosa* Wedd. ex Sch.Bip., Bull. Soc. Bot. France 12: 81 (1965), nom. nud. = **Baccharis linearifolia** (Lam.) Pers. ssp. **polycephala** (Wedd.) Joch. Müller & **Baccharis tola** Phil. var. **incarum** (Wedd.) Joch. Müller

Baccharis mirabilis Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 91 (1916) = **Baccharis salicifolia** (Ruiz & Pav.) Pers.

Baccharis multiflosculosa Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 79 (1916). Type: [Argentina:] 'Tucuman: Dep Tafi, 2200 m ü. d. M., in „barrancas“ (Lillo n. 8649 – 29. Nov. 1908).’ Holotype: HBG ● and ♁ isotype: G.

Bolivia (Tarija), Argentina.

Rocky slopes in bosque Tucumano.

2600–2700 m.

Baccharis multisulcata Baker in Mart., Fl. Bras. 6(3): 45 (1882) = **Baccharis orbignyana** Klatt

Baccharis myriocephala* Baker in Mart., Fl. Bras. 6(3): 93 (1882) = **Baccharis genistelloides (Lam.) Pers. ssp. **crispa** (Spreng.) Joch. Müller [in Müller’s extremely broad concept of *B. genistelloides*]

Baccharis myrtilloides Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 176 (1874) = **Baccharis tucumanensis** Hook. & Arn.

Baccharis myrtilloides Griseb. f. *angustifolia* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 128 (1916) = **Baccharis tucumanensis** Hook. & Arn.

***Baccharis nitida** (Ruiz & Pav.) Pers., Syn. Pl. 2: 425 (1807).

Molina nitida Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 204 (1798). Type: 'Habitat in Peruviae, altis et silvaticis locis, varsus Pillao et Panao tractus. Floret à Julio ad Septembrem.' Lectotype (selected by Cabrera, 1960: 199): ' "Lima. Clasis 19. Baccharis axillaris. F. P. c. 1.65.c.d. ex Chinchao" '. MA (male) [marked as B1 on sheet 283 of the microfiche of the Ruiz & Pavón herbarium]; isotypes: B, F (971636 – fragments), MA-frag., OXF, P × 2. Note: There are also other sheets of this taxon in the Ruiz & Pavón herbarium, A7 and A8 of microfiche sheet 283 that may represent type material.

Baccharis prinoides Kunth in Humb., Bonpl. & Kunth., Nov. Gen. Sp. Pl. 4 (ed. folio): 56 (1818). Type: [Peru:] 'Crescit regione calida Provinciae Jaen de Bracamoros, in ripa Amazonum fluvii prope confluentem Chinchipen, alt. 200 hex. ■ Floret Augusto.' [Humboldt & Bonpland 93/16 - 'no. 1917? 2145? Jaen'; Humboldt & Bonpland 93/17 - 'no. 1917']. Holotype: P-Bonpl. (●); isotypes: B-W (15599), P × 4.

Baccharis oronocensis DC., Prodr. 5: 422 (1836). Type: '■ in Peruviae montanis Oronocensibus legit cl. Haenke. ... (v.s. in h. Haenk. ab ill. de Sternberg comm.)'. Holotype: G-DC.

Baccharis lepidota Gilli, Feddes Repert. 94: 306 (1983). Type: [Ecuador:] 'Wald bei El Corazon, 1470m, 28. 6., fl. [Gilli] 242.' Holotype: W.

Bolivia (Cochabamba, La Paz, Santa Cruz, Tarija), Argentina, Colombia, Ecuador, Peru, ?Venezuela.

Evergreen forest and scrub in humid areas.

1100–2700 m.

September–October.

Müller (2006: 121) listed several other species after his account of *B. nitida*, including *B. amambayensis* Zardini & Soria, *B. dentata* (Vell.) G. M. Barroso, *B. rivularis* Gardner, *B. erectiflora* Steyerm. and *B. schomburgkii* Baker. The suggestion was that the status of the last two should be reviewed, although it is clear that the three former were 'not closely related to *B. nitida*' but why they were mentioned is unclear other than their similarity with axillary racemes 'overtopped by the subtending leaves'.

Baccharis oblanceolata* Rusby, Mem. Torrey Bot. Club 6(1): 61 (1896) = **Baccharis oblongifolia (Ruiz & Pav.) Pers. [in Müller’s very broad concept of this species!]

Baccharis oblongifolia (Ruiz & Pav.) Pers., Syn. Pl. 2: 424 (1807).

Molina oblongifolia Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 203 (1798). Type: 'Habitat in Peruviae altis frigidis in Caxatambo Provincia versus Cheuchin. Floret à Majo ad Septembrem.' Holotype: MA [B2 on microfiche sheet 283 of the Ruiz & Pavón herbarium, determined as the holotype by Cuatrecasas in 1963]; isotypes: B (frag.), G, OXF.

Baccharis berberifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 57 (1818). Type: [Ecuador:] 'Crescit cum praecedente ? ■ [B. quitensis, q.v. 'Crescit in alta planitie Quitensis ad radices montis ignivomi Rucu-Pichincha, alt. 1500 hex. ■ Floret Junio.']. Holotype: P-Bonpl.; isotypes: B-W-15595, P × 2.

Baccharis brachylaenoides DC., Prodr. 5: 421 (1836). Type: '■ in Brasiliae monte Cercovado augusto flor. legit cl. Lund. ... (v.s. comm. à cl. Lund.)'. Note: There are two *Lund* collections in G-DC – [604 ● 609 ■] – and it is likely that de Candolle based his description on *Lund* 609 since a male plant is specifically mentioned.

Baccharis venulosa DC., Prodr. 5: 421 (1836). Type: '■ in Peruviae montibus oronocensibus legit cl. Haenke. ... (v.s. in h. Haenke à cl. de Sternberg comm.)'. Holotype: G-DC, ■ isotypes: B, M, P.

Baccharis oblanceolata Rusby, Mem. Torrey Bot. Club 6(1): 61 (1896). Type: [Bolivia:] 'Mapiri, July–Aug., 1892, ([Bang] 1490)'. Lectotype (selected by Müller, 2006: 279): NY (00162280); isotypes: F (165907), G × 2, GH, HBG (frag.), MICH, MO, NY (00162281), UPS, US (00046763), W, Z × 2 (000003081, 000003082).

Psila brachylaenoides (DC.) Aristeg., Fl. Venez. 10(1): 316 (1964).

Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz), Brazil, Peru, Venezuela.

Grassland, scrub and open cloud forest, Ceja. vegetation, Yungas.

900–3800 m.

[Müller (2006) took an extraordinarily broad view of this taxon including diverse elements, suggesting, and finally including (in herbarium determinations) *B. grandimucronata*, *B. ligustrina* and *B. vismioides*].

Baccharis obtusifolia* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 51 (1818). [A species of the northern Andes according to Müller (2006); Bolivian material referred to by many authors is best assigned to *Baccharis papillosa*** Rusby ssp. ***papillosa***]

Baccharis odorata* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 52 (1818). [Cited by various authors for Bolivia, but Bolivian material is referred to *Baccharis caespitosa* (Ruiz & Pav.) Pers. and *Baccharis papillosa*** Rusby ssp. ***papillosa*** according to Müller (2006: 307)].

Baccharis odorata Kunth [var.] β *latifolia* Wedd., Chloris Andina 1: 169 (1856) = ***Baccharis papillosa*** Rusby ssp. ***papillosa***

Baccharis odorata Kunth [var.] δ *spathulata* Wedd., Chloris Andina 1: 169 (1856) = ***Baccharis caespitosa*** (Ruiz & Pav.) Pers. ssp. ***caespitosa***

Baccharis oppositifolia* Kuntze, Revis. Gen. Pl. 3(3): 133 (1898) = *Polyanthina nemorosa*** (Klatt) R. M. King & H. Rob. [EUPATORIEAE]

****Baccharis orbignyana*** Klatt, Abh. Naturf. Ges. Halle 15: 327 (1881). Type: [Bolivia:] 'Hab: Chiquitos, leg. A. d'Orbigny No. 883.' Holotype: P; isotypes: GH, P, W. [The protologue appears on p. 7 of the pre-/re- print in K.]

Baccharis multisulcata Baker in Mart., Fl. Bras. 6(3): 45 (1882). Type: [Brazil:] 'Habitat in prov. Minas Geraës ad Lagoa Santa: Warming.' Holotype: K.

Bolivia (Santa Cruz), Brazil.

Cerrado, cerrado de altitude and campos rupestres, amongst rocks or on rocky slopes, grassland.

1000–1600 m.

October–November.

Baccharis oronocensis DC., Prodr. 5: 422 (1836) = ***Baccharis nitida*** (Ruiz & Pav.) Pers.

Baccharis oxyodonta* DC. var. *punctulata* (DC.) Baker in Mart., Fl. Bras. 6(3): 77 (1882) = *Baccharis punctulata*** DC.

Baccharis oxyphylla DC., Prodr. 5: 400 (1836) = ***Baccharis trinervis*** Pers. var. ***rhexioides*** (Kunth) Baker

****Baccharis papillosa*** Rusby, Bull. New York Bot. Gard. 8(No. 28): 129 (1912). Type: [Bolivia:] ' "Fifteen ft. high; La Paz, 11,500 ft., Aug. 23, 1901" ([R.S. Williams] No. 2347)'. Holotype: NY (00162291); isotype: US (01131032).

ssp. ***australis*** Joch. Müller, Syst. Bot. Monogr. 76: 70 (2006). Type: 'BOLIVIA. Chuquisaca: Prov. Oropeza, Cajamarca ca. 30 km hacia Ravelo, ca. 3300 m, 9 Oct 1984, ■ Beck 8826'. Holotype: JE; isotypes: HBG, LPB. Bolivia (Chuquisaca, Cochabamba, Potosí).

Open forest and scrub in humid areas.

3100–4200 m.

August–December.

Vernacular names: THOLA, THOLA MACHO (Müller, 2006).

ssp. **chaparensis** Joch. Müller, Syst. Bot. Monogr. 76: 77 (2006). Type: 'BOLIVIA, Cochabamba: Prov. Chapare, gorge of Rio Apaza N Represa Corani, road Cochabamba-Villa Tunari, ca. 3200 m, 17°12'S, 65°54'W, 8 Mar 2002, ● and ■ Müller 9264'. Holotype: JE; isotypes: BR, G, GH, HBG, LPB, MO, NY (00804158), P.

Bolivia (Cochabamba).

Wet grassland and open scrub in cloud forest, peaty soil.

2500–4000 m.

November–March.

ssp. **integrifolia** Joch. Müller, Syst. Bot. Monogr. 76: 78 (2006). Type: 'BOLIVIA. La Paz: Prov. Inquisivi, above Titi Amaya (N Quime), ca. 3400 m, 16°55'S, 67°12'W, 1 Aug 1999, ● Müller 7276'. Holotype: JE; isotypes: BR, LPB, NY (00804161).

Bolivia (Cochabamba, Santa Cruz), Ecuador, Peru.

Scrub and grassland of the ceja, cloud forest and páramo.

3000–4800 m.

August–April.

Vernacular name: THOLA DE ALTURA (Müller, 2006).

ssp. **kessleri** Joch. Müller, Syst. Bot. Monogr. 76: 81 (2006). Type: 'BOLIVIA. Cochabamba: Prov. Chapare, gorge of Rio Apaza N Represa Corani, road Cochabamba-Villa Tunari, ca. 3200 m, 17°12'S, 65°54'W, 8 Mar 2002, ● and ■ Müller 9275'. Holotype: JE; isotypes: BR, E, G, GH, HBG, LPB, MICH, MO, NY (00804159), P.

Bolivia (Cochabamba).

Open forest and scrub of cloud forest and ceja.

3200–3500 m.

March–May.

Note: This ssp. occurs at exactly the same place as ssp. *chaparensis*.

ssp. **longipedicellata** Joch. Müller, Syst. Bot. Monogr. 76: 75 (2006). Type: 'BOLIVIA. La Paz: Prov. Larecaja, Planicia de Icharani E Laripata, ca. 3250 m, 15°45'S, 68°39'W, 30 Aug 1999, ● Müller 7595'. Holotype: JE; isotypes: BR, GH, LPB, MO, NY (00804170).

Bolivia (La Paz), Peru.

Open cloud forest and scrub in humid areas.

2700–3900 m.

August–September.

Vernacular name: SUINOMOYA (Müller, 2006).

ssp. **papillosa**

Baccharis odorata Kunth var. *β latifolia* Wedd., Chloris Andina 1: 169 (1856). Type/s: – see discussion under *B. caespitosa* ssp. *caespitosa*. Lectotype (selected by Müller, 2006: 67): 'BOLIVIA. La Paz: Prov. Murillo, Chivesivi, vallée S de La Paz, 8500–12,000 ft, 1839, Pentland s.n.' – P-218255 – right hand branch.

**Baccharis vitis-idaea* Kuntze, Revis. Gen. Pl. 3(3): 135 (1989), non *B. vitis-idaea* [sic!] Oliver ex Thurn (1886) = ?*Baccharis ligustrina* DC. Type: 'Bolivia: 4000 m zwischen oruro und Rio Tapacari.' Holotype: ? – according to Wetter & Zanoni (1985: 339) no type specimen has yet been found in NY.

**Baccharis kuntzeana* Teodoro, Contr. Inst. Geobiol. 2: 46 (1952), nom. nov. pro *Baccharis vitis-idaea* Kuntze.

[Note: Teodoro (1952: 46) used his religious name not his family name, Malagarriga, as incorrectly cited by Müller (2006: 67)]

Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí).

Dry grassland and open scrub, piso Puneño, Puna Peruana.

2700–4400 m.

Vernacular names: CHUA CHUA, MUYU THOLA, ORKHO THOLA, PALTA THOLA (Müller, 2006).

ssp. **yungensis** Joch. Müller, Syst. Bot. Monogr. 76: 73 (2006). Type: 'BOLIVIA. La Paz: Prov. Inquisivi, Cerro Cruz Pata NW Quime, ca. 3350 m, 16°58'S, 67°13'W, 30 Jul 1999, ● Müller 7246'. Holotype: JE; isotypes: BR, LPB, MO, NY (00804160).

Bolivia (Cochabamba, La Paz).

Forest and scrub in humid areas.

2800–3700 m.

July–August.

Vernacular names: MUNTI THOLA, THOLA (Müller, 2006).

Baccharis parviflora (Ruiz & Pav.) Pers., Syn. Pl. 2: 425 (1807) = **Baccharis salicifolia** (Ruiz & Pav.) Pers. ssp. **salicifolia**

Baccharis patiensis Hieron. var. *pluridentata* Hieron., Verh. Bot. Vereins Prov. Brandenburg 48: 203 (1907) = **Baccharis linearifolia** (Lam.) Pers. ssp. **chilco** (Kunth) Joch. Müller

Baccharis paucidentata* DC., Prodr. 5: 420 (1836) = **Baccharis linearifolia (Lam.) Pers. ssp. **linearifolia** [in Müller's broad concept of this species]

Baccharis pedalis Sch.Bip. ex Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 182 (March–April 1879) = **Baccharis linearifolia** (Lam.) Pers. ssp. **polycephala** (Wedd.) Joch. Müller

Baccharis pedersenii Cabrera, Darwiniana 16: 410 (1970) = **Baccharis linearifolia** (Lam.) Pers.

Baccharis pedunculata (Mill.) Cabrera, Bol. Soc. Argent. Bot. 7: 240 (1959).

Conyza pedunculata Mill., Gard. Dict. ed. 8: Conyza no. 15 (1768). Type: 'The fifteenth sort ... This grows naturally at Campeachy, from whence the seeds were sent me by Mr. Robert Millar.' According to Müller (2006: 179) 'Holotype: not located; not at BM, Vickery, pers. comm, March 2003'.

Eupatorium cotinifolia Willd., Phytogr. : 11 (1794). Type: [Martinique:] 'Habitat in Martinica. ■ *Insert.*' Holotype: B-W-15147.

Baccharis cinnamomifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 65 (1818). Type: [Ecuador:] 'Crescit cum præcedente ? ■ [*B. riparia*, q.v. 'Crescit in convallibus Regni Quitensis prope Guamote et rio Chambo, alt. 1300 – 1600 hex. ■ Floret Julio.'] Holotype: P-Bonpl. (●); isotypes B-W-15570, P × 3.

Baccharis speciosa DC., Prodr. 5: 399 (1836). Type: '■ in montanis Guadalupae junio flor. legit cl. Perrottet. ... (v.s. comm. à cl. Perrottet.)'. Note: Müller (2006: 179) suggested there were syntypes in G-DC, even though the *Prodromus* account might suggest only one *Perrottet* collection. The material referred to by Müller is the only one with a precise date, '28 Juin 1824'.

Baccharis splendens Heering, Schriften Naturwiss. Vereins Schleswig-Holstein 13: 48 (1904). Types: [Costa Rica:] 'Hierher gehören *Pittier & Durand* n. 4932, 1706, 7175.' Lectotype (selected by Müller, 2006: 179): 'COSTA RICA. Puntarenas: Río Ceibo près de Buenos Aires, Jan 1892, ● *Pittier* 6623, *Pittier & Durand*, Pl. Costaric. exs. 4932', M.

Baccharis cotinifolia (Willd.) Urb., Symb. Antill. 3: 406 (1903).

Pseudobaccharis cotinifolia (Willd.) Teodoro, Contr. Inst. Geobiol. 2: 47 (1952).

Bolivia (Cochabamba, El Beni, La Paz, Santa Cruz), Colombia, Costa Rica, Dominica, Guatemala, Martinique, Mexico, Peru, Venezuela.

Open areas in humid montane forests.

400–1600 m.

January–July.

Baccharis pendula Heering, Jahrb. Hamburg, Wiss. Anst. 31, Beih. 3: 86 (1916) = **Baccharis quitensis** Kunth

***Baccharis pentlandii** DC., Prodr. 5: 416 (1836). Type: '■ in Republ. Boliviana Amer. austr. legit cl. *Pentland* et mecum comm. ... (v.s.)'. Holotype: G-DC.

ssp. **pentlandii**

**Baccharis fallax* Kuntze, Revis. Gen. Pl. 3(2): 132 (1898). Type: 'Bolivia: 3500 m zwischen Cochabamba und Rio Juntas.' [Bolivia. Zwischen Cochabamba und Rio Juntas, 3500 m, 13–21 Apr 1892, *Kuntze* s.n.' – according to Wetter & Zanoni, 1985: 326] Holotype: NY (00162245); isotype: B†.

**Baccharis rubricaulis* Rusby, Bull. New York. Bot. Gard. 8(No. 28): 129 (1912). Type: [Bolivia:] ' "Four feet high. La Paz, 11,500 ft., Aug. 18, 1901" ([*R.S. Williams*] No. 2301).' Holotype: NY (00162323); isotype: US (01098895). Note: Both the NY holotype and the US isotype suggest that this is a typographic error and should be *Williams* 2361!

Baccharis vernicoso-splendida Herzog, Veg. Erde 15: 176 (1923), nom. nud. Based according to Müller (2006: 299) on *Herzog* 2463 [BOLIVIA. Cochabamba: Prov. Chapare, Chocayatal bei Cochabamba, ● and ■], B, L, M; a duplicate is also in S.

Bolivia (Cochabamba, La Paz), Peru.

Scrub and open forest in cloud forest and dry valleys, Puna Peruana, Bosque semidecídúo ontano Boliviano-Tucumano (Boliviano-Tucumano montane semideciduous forest), Matorral serial subhúmedo montano Boliviano-Tucumano, Altiplano, roadsides and field margins.

1700–4300 m.

April–November. Probably flowering throughout the year.

Vernacular name: CHILCA (Müller, 2006).

ssp. **sculpta** (Griseb.) Joch. Müller, Syst. Bot. Monogr. 76: 156 (2006).

Baccharis sculpta Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 175 (1874); Pl. Lorentz. : 127 (1874). Type:

[Argentina:] 'Tucuman, ubi constituit formationem distinctam in jugo m. Cuesta de Junta, unde descendit cum rivulis Cienega versus et pr. Tafi. Catamarca, frequens in convalle Granadillas pr. Belen, ubi ascendit ad Vayas altas – 9000'. Syntypes: Lorentz 131, 546, 621, GOET. Lectotype (selected by Müller, 2006: 156):

'ARGENTINA. Tucumán: Dept. Tafi, Cuesta de Juntas und Cienega, 23 Mar 1872, ● Lorentz 131', GOET.

Pluchea montana Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 184 (March–April 1879); Symb. Fl. Argent. : 184 (1879). Type: [Argentina:] 'T.: Tucuman, pr. Cienega.' 'ARGENTINA. Tucumán: Dept. Tafi, Cienega, Jan

1874, Lorentz & Hieronymus 676.' – Müller, 2006: 156. Holotype: GOET.

Argentina, Bolivia (Chuquisaca, Cochabamba, Oruro, Potosí, Tarija).

Along rivers, dry valley bottoms, pasture, scrub, field and road margins and banks.

2600–4100 m.

December–April.

Vernacular name: CHILCA (Müller, 2006).

**Baccharis perulata* Kuntze, Revis. Gen. Pl. 3(3): 133 (1898) = *Baccharis densiflora* Wedd. ssp. *perulata* (Kuntze)

Joch. Müller – Cited by Foster (1958: 204), although this is an Argentinian species according to Müller (2006: 151).

Baccharis peruviana Cuatrec., Caldasia 10(46): 23 (1967) is cited for material from Bolivia by Cuatrecasas

(1967b), but according to Müller (2006: 307) material is referable to **B. papillosa** Rusby ssp. **integrifolia**

Joch. Müller and **B. phyllicoides** Kunth

Baccharis pflanzii* Perkins, Bot. Jahrb. Syst. 49: 224 (1913) = **Baccharis linearifolia (Lam.) Pers. ssp.

polycephala (Wedd.) Joch. Müller

Baccharis phylliciformis Meyen, Reise um die Erde 2: 31 (1835) = **Parastrephia lucida** (Meyen) Cabrera

Baccharis phyllicoides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 49 (1818). Type:

'Crescit in devexis Parami de Guamani, alt. 1720 hex. (Regno Peruviano.) ■ Floret Novembri.' [*Humboldt & Bonpland* 'no. 3516. Guamani']. Holotype: P-Bonpl; isotypes B-W-15583, P).

Bolivia (La Paz), Ecuador, Peru.

Grassland and low scrub in humid areas along the eastern side of the Andes, rocky banks, steep hillsides, Puna.

[2000–] 2700–3900 m.

June–November.

Vernacular name: ÑACA (Müller, 2006).

Baccharis pingraea DC., Prodr. 5: 420 (1836) = **Baccharis glutinosa** Pers.

Baccharis pingraea DC. [var.] β *angustissima* DC., Prodr. 5: 420 (1836) = **Baccharis glutinosa** Pers.

Baccharis pingraea var. *longipes* (Kunze ex DC.) Heering, Jahrb. Hamburg. Wis. Anst. 21, Beih. 3: 18 (1904) =

Baccharis salicifolia (Ruiz & Pav.) Pers.

Baccharis pinnatifida Klatt, Abh. Naturf. Ges. Halle 15: 327 (1881) = **Baccharis ulicina** Hook. & Arn.

Baccharis platypoda DC., Prodr. 5: 409 (1836). Type: '■ in Brasilia (herb. L'Hér.!) prov. Minarum General. ad Mariannam (*Vauth!* pl. exs. n. 283). ... (v.s.)'. Lectotype (selected by Giuliano, 2005: 535): '*Vauthier* 283', G-DC; isolectotypes: G, GH, P × 2, W.

**Baccharis syncephala* Sch.Bip. ex Rusby, Bull. New York Bot. Gard. 4(14): 386 (1907). Type: [Bolivia:] '([Bang] No. 2261.)' Holotype: NY (00162391); isotypes: E, G × 2, GH, M, MICH, MO, NY (00162392), UPS × 2, W.

**Baccharis condensata* Rusby, Descr. New Sp. S. Amer. Pl. : 148 (1920). Type: ' " A shrub, 6 feet, near Ingles-Ingles, 6,000 feet altitude, Bolivia, August 16, 1902." (R.S. Williams, No. 1445.)' Holotype: NY (00162220 – although this may be an isotype); isotype: UC (946437 – det. by Rusby).

Bolivia (La Paz), Brazil, Peru.

Grassland, dry scrub, open gallery forest and campos rupestres.

1000–2700 m.

February–September.

Note: Müller (2006: 129) quite incorrectly referred to this species as a 'Shrub 1–3 m' – it is quite clearly a tree in some areas!

Baccharis plucheiformis Kuntze (sub *pluchaeiformis*), Revis. Gen. Pl. 3(3): 134 (1890) = **Baccharis pulchella** Sch.Bip. ex Griseb.

Baccharis polifolia Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 176 (1874); Pl. Lorentz. : 128 (1874). Type: [Argentina:] 'Catamarca, ubi fruticeta praecipue format in planitie alta Laguna blanca et pr. fodinas Las Capillitas alt. 10–11000'.' Syntypes: Lorentz 337, 433, GOET. Lectotype (selected by Müller, 2006: 225): 'ARGENTINA. Catamarca: Las Capillitas, 7 Jan 1872, \Rightarrow Lorentz 337', GOET.

Argentina, Bolivia (Tarija).

Dry open slopes, often forming shrubberies.

3800 m.

January.

Baccharis polyantha Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 64 (1818) = **Baccharis latifolia** (Ruiz & Pav.) Pers.

Baccharis polycephala* Wedd., Chloris Andina 1: 173 (1856) = **Baccharis linearifolia (Lam.) Pers. ssp. **polycephala** (Wedd.) Joch. Müller

Baccharis potosiensis H. Rob., BioLlania, Ed. Esp. 6: 504 (1997). Type: '(female & male): Bolivia. Potosí: Prov. Cornelio Saavedra, pasando Retiro, 2600 m, bosque seco, suelo pizarroso con pequeñas laminas de pizarra, exp. W, fuertemente inclinado, color café con algo de materia, xerofítico con cactus columnares, arbusto 1 m, resionso, roca madre pizarra, 30 Mar. 1993, Torrico & Peca 287'. Holotype: US (03258420); isotypes: BOLV, LPB.

Bolivia (Chuquisaca, Potosí).

Open scrub in dry valleys, rough pasture.

2100–3200 m.

February–April.

Baccharis prinoides Kunth in Humb., Bonpl. & Kunth., Nov. Gen. Sp. Pl. 4 (ed. folio): 56 (1818) = **Baccharis nitida** (Ruiz & Pav.) Pers.

Baccharis prostrata* (Ruiz & Pav.) Pers., Syn. Pl. 2: 425 (1805) = **Baccharis linearifolia (Lam.) Pers.

Baccharis pseudotenuifolia Teodoro, Contr. Inst. Geobiol. 2: 46 (1952) = **Baccharis linearifolia** (Lam.) Pers. ssp. **linearifolia**

Baccharis pulchella* Sch.Bip., Bull. Soc. Bot. France 2: 81 (1865), nom. nud. = **Baccharis pulchella Sch.Bip. ex Griseb.

***Baccharis pulchella** Sch.Bip. ex Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 181 (March–April 1879), Symb. Fl. Argent. (1879). Types: 'Mandon pl. boliv. 185. ... Ct. (Boliv.)'. Note: The following citation was provided by Granda Paucar & Giuliano (2004: 79) 'BOLIVIA. Dpto Larecaja: vicinis Sorata, Nov 1858–Mar 1859. Holotype: GOET; isotypes: K (photo LP), LP, NY (photo LP)'. However, the GOET type database indicates that *Schickendantz* 295 and *Mandon* 185 were the syntypes. Lectotype (selected by Müller, 2006: 265): 'BOLIVIA. La Paz: Prov. Larecaja, Sorata, 2600–2700 m, 1858–1859, \bullet and \Rightarrow *Mandon* 185.' – GOET (left branch, \bullet); possible isolectotypes: BR, G, GH \times 3, HBG (frag.), MO (frag.), NY \times 4 (00162305, 00162306), P \times 6, S, W \times 2.

**Baccharis pulchella* Sch.Bip., Bull. Soc. Bot. France 2: 81 (1865), nom. nud.

Baccharis plucheiformis Kuntze (sub *pluchaeiformis*), Revis. Gen. Pl. 3(3): 134 (1890). Type: 'Argentina: Al Norte del Pan de Azucar in Sierra Chica de Cordoba (*Hieronymus*)'. [' ARGENTINA. Prov. Córdoba, Al Norte del

Pan de Azucar in Sierra Chica de Córdoba, 10 Nov 1877, *G. Hieronymus* s.n.' – according to Wetter & Zanoni, 1985: 327]. Holotype: NY-162301.

Baccharis subsculpta Hochr., Bull. New York Bot. Gard. 6(21): 292 (1910). Types: 'In Peruvia interiore (*Matthews* no. 564), in Herb. N. Y. Bot. Gard.; idem in Herb. Kew sub (*Matthews* no. 758), Cuesta of Perruchuca.' Lectotype (selected by Granda Paucar & Giuliano, 2004: 709): *Matthews* 758 – K (photo LP).

**Baccharis laxiflora* Rusby, Bull. New York Bot. Gard. 8(No. 28): 129 (1912). Type: [Bolivia:] '“Two ft. high; La Paz, 11,500 ft., Aug. 16, 1901” ([R.S. Williams] No. 1675).' Holotype: NY (00162258).

**Baccharis sternbergiana* Steud. var. *pubescens* Perkins, Bot. Jahrb. Syst. 49: 225 (1913). Type: 'Bolivien: Palca-La Paz, 3700 m ü. M. (K. PFLANZ n. 162. – Im Juni 1909 blühend).' Holotype: B†.

Baccharis pulchella Sch.Bip. ex Griseb. var. *grisea* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 78 (1916). Types: [Argentina:] 'Tucuman: Dep. Capital, cercos (*Lillo* n. 7110 – 24. Spet., ☞● n. 3199 – 29. September, ☞●).' Lectotype (selected by Müller, 2006: 265): *Lillo* 7110 ☞&●– HBG.

Neomolina pulchella (Sch.Bip. ex Griseb.) F. H. Hellwig, Candollea 48: 213 (1993).

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz), Peru.

Open scrub and grassland in dry to moderately humid areas.

1700–4200 m.

August–January.

Vernacular names: MURA MURA, TIAN TIAN (Müller, 2006).

Baccharis pulchella Sch.Bip. ex Griseb. var. *grisea* Heering = ***Baccharis pulchella*** Sch.Bip. ex Griseb.

Baccharis pulverulenta* Klatt, Abh. Naturf. Ges. Halle 15: 327 (1881) = *Baccharis dracunculifolia*** DC.

Baccharis pumila Joch. Müller, Syst. Bot. Monogr. 76: 124 (2006). Type: 'BOLIVIA. Tarija: Prov. Avilez, ca. 10 km W Camacho, ca. 4200 m, 28 Feb 2002, (●and ☞, Müller 7241'. Holotype: JE; isotypes: BR, LPB, NY (00804169).

Bolivia (Tarija).

Steep rocky slopes in alpine grassland.

4200 m.

February–March.

Baccharis punctulata DC., Prodr. 5: 405 (1836). Type: '■ in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 970 miss.)'. Holotype: P; isotype: G-DC.

Baccharis melastomifolia (as *melastomaefolia*) Hook. & Arn., J. Bot. (Hooker) 3: 25 (1841). Type: [Argentina:] 'Moist woods of Tucuman. Tweedie (n. 1185).' Holotype: K.

Baccharis amygdalina Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 175 (1874); Pl. Lorentz.: 127 (1874).

Type: 'Tucuman, in pratis montanis pr. Siambon.' Holotype: Lorentz 213, GOET.

**Baccharis oxyodonta* DC. var. *punctulata* (DC.) Baker in Mart., Fl. Bras. 6(3): 77 (1882).

Pingraea punctulata (DC.) F. H. Hellwig, Candollea 48: 218 (1993).

Bolivia (Chuquisaca, Santa Cruz), Brazil, Argentina, Paraguay, Uruguay.

Open forest, scrub and occasionally in grassland, stream or river margins.

1400–2300 m.

November–May.

Vernacular name: CHILCA (Freire et al., 2006).

Baccharis purpurascens Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 96 (1916) = ***Baccharis salicifolia*** (Ruiz & Pav.) Pers. ssp. ***salicifolia***

Baccharis quadrangularis Meyen, Reise um die Erde 1: 460 (1834) = ***Parastaphia quadrangularis*** (Meyen) Cabrera

****Baccharis quitensis*** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 57 (1818). Type: [Ecuador:] 'Crescit in alta planitie Quitensis ad radices montis ignivomi Rucu-Pichincha, alt. 1500 hex. ■ Floret Junio.' Holotype: P-Bonpl; isotypes: B-W-15600, F (970376 – fragments), P (frag.).

**Baccharis flexuosa* Baker in Mart., Fl. Bras. 6(3): 83 (1882). Type: [Brazil:] 'Habitat in prov. Minas Geraës, in silvis ad Lagoa Santa: Warming!' Holotype: K- 67796; isotype: HBG (frag.).

Pingraea flexuosa (Baker) F. H. Hellwig, Candollea 48: 217 (1993).

- **Baccharis mapirensis* Rusby, Mem. Torrey Bot. Club 6(1): 61 (1896). Type: [Bolivia:] 'Between Mapiri and Tipuani, July–Aug., 1892 ([Bang] 1481).' Lectotype (selected by Müller, 2006: 175): NY (00162269); isotypes: E, F (77691), G × 2, GH, M, MICH, MO, NY (00162270), S, US (00046764), W.
- Baccharis pendula* Heering, Jahrb. Hamburg. Wiss. Anst. 31, 3 Beih.: 86 (1916 – certainly post May 1915). Type: [Argentina:] 'Jujuy: Sierra Santa Barbara in Gebüsch, an schattigen Orten, ca. 2000 m ü. d. M. ([11.VII. 1901,] R. E. Fries, Exp. Suec. Chac. And. n. 282).' Holotype: HBG; isotype: S.
- Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija), Brazil, Ecuador.
Scrub and forest in humid areas, dry forest, disturbed woodland, rocky slopes.
400–3100 m.
September–December.
- **Baccharis resinosa* Kunth var. *truncatifolia* Perkins, Bot. Jahrb. Syst. 49: 224 (1913). [Type: 'Bolivien: Palca-La PAZ, 3800 m ü. M. (PFLANZ n. 68. – Im November 1907 blühend).'] Holotype: B†] = **Baccharis resinosa** Kunth or **Baccharis papillosa** Rusby according to Müller (2006: 298).
- **Baccharis retusa* DC., Prodr. 5: 412 (1836) [According to Müller (2006, 307) several reports from Bolivia probably refer to **Baccharis linearifolia** (Lam.) Pers. ssp. **chilco** (Kunth) Joch. Müller]
- **Baccharis rhexioides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 66 (1818) = **Baccharis trinervis** Pers. var. **rhexioides** (Kunth) Baker
- **Baccharis riparia* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 65 (1818) = **Baccharis latifolia** (Ruiz & Pav.) Pers.
- Baccharis rotundifolia* Spreng., Syst. Veg., ed. 16, 3: 465 (1826) = **Baccharis sessiliflora** Vahl
- Baccharis rotundifolia* Spreng. var. *stuckertii* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 131 (1916) = **Baccharis linearifolia** (Lam.) Pers.
- Baccharis rotundifolia* Spreng. f. *subcuneata* Malme, Kongl. Svenska Vetenskapsakad. Handl. 12(2): 81 (1933) = **Baccharis sessiliflora** Vahl
- **Baccharis rubricaulis* Rusby, Bull. New York Bot. Gard. 8(No. 28): 129 (1912) = **Baccharis pentlandii** DC. ssp. **pentlandii**
- Baccharis rufescens* Spreng. var. η *leptocephala* (DC.) Baker in Mart., Fl. Bras. 6(3): 64 (1882) = **Baccharis linearifolia** (Lam.) Pers.
- Baccharis rufescens* Spreng. var. ϵ *pedalis* (Sch.Bip. ex Griseb.) Baker in Mart., Fl. bras. 6(3): 64 (1882) = **Baccharis linearifolia** (Lam.) Pers. ssp. **polycephala** (Wedd.) Joch. Müller
- Baccharis rufescens* Spreng. var. δ *varians* (Gardner) Baker in Mart., Fl. Bras. 6(3): 63 (1882) = **Baccharis linearifolia** (Lam.) Pers.
- Baccharis sagittalis** (Less.) DC., Prodr. 5: 425 (1836).
- Molina sagittalis* Less., Linnaea 6(1): 144 (1831). Types: '(*Baccharis genistelloides* Poepp. coll. pl. chil. 1. n. 210 nec Pers.). ... Chile pr. Talcagnano cel. de Chamisso; in crepidinibus angustis Valparaiso Maj. Poeppig.' Lectotype (selected by Müller, 2006: 206): 'CHILE. Valparaíso: Valparaíso, ●and ♣ Peoppig 210', G-DC ♣ isoelectotypes: MO × 2.
- Baccharis sagittalis* (Less.) DC. [var.] β *poepigii* DC., Prodr. 5: 425 (1836). Type: '■in Chili. *Baccharis venosa* ? seu *Baccharis tripterix* Poepp.! coll. Chil. I. n. 210 diar. 46. (v.s.)' Holotype: G-DC.
- Pingraea sagittalis* (Less.) F. H. Hellwig, Candollea 48: 218 (1993).
- Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz), Brazil, Chile, Ecuador, Paraguay, Peru.
Wet grassland in areas of cloud forest.
2800–3400 m.
Vernacular names: CARQUEJA, QUINSA CUCHU (Müller, 2006).
- Baccharis sagittalis* (Less.) DC. [var.] β *poepigii* DC., Prodr. 5: 425 (1836) = **Baccharis sagittalis** (Less.) DC.
- ***Baccharis salicifolia** (Ruiz & Pav.) Pers., Syn. Pl. 2: 425 (1807).
- Molina salicifolia* Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 210 (1798). Type: 'Habitat in Peruviae altis montibus, copiosè ad Pillao et Acomayo tractus. Floret à Majo ad Septembrem.' Lectotype (selected by Müller, 2006: 159): MA, 'Molina salicifolia' probably written by Ruiz'; isotypes B × 2, MA. Note: The lectotype sheet had previously been determined as the holotype by Cuatrecasas in 1963.
- Baccharis viminea* DC., Prodr. 5: 400 (1836). Type: [USA:] '■in Californiâ legit cl. Douglas. ... (v.s. comm. ab hon. soc. hort. Lond.)'. Holotype: G-DC.

- Baccharis longipes* Kunze ex DC., Prodr. 5: 401 (1836). Type: '(Kunze! in Poepp. coll. 2. n. 104) ... ■ in lapidosis inundatis Rio de Chili legit cl. Poeppig. ... (v.s. ex coll. Poepp.)'. Holotype: G-DC; isotype: P.
- Baccharis marginalis* DC., Prodr. 5: 402 (1836). Types: '■ in versuris et ripis Chancay et Cercado prov. Peruviae (R. et Pav.) ad Valparaíso Chilensium (Gaud!). *Molina parviflora* R. et Pav. syst. 209? *Baccharis parviflora* Pers. ench. 2. p. 425 n. 47? non Poir. ... Ad stirps Chilensis certè eadem ac Peruviana? (v.s. ■ et ● comm. cl. Gaudichaud.)'. Lectotype (selected by Cuatrecasas, 1969: 204, as 'holotype'): *Gaudichaud* s.n., G-DC; isolectotype: P.
- Baccharis fevillei* DC., Prodr. 5: 403 (1836). Types: '■ in Peruviae (Gaud!), ripis (R. et Pav.), ad sinum Chorillo (MacRae!), et circa Limam (Abadia!). *Conyza frutescens*, etc. Fenill. per. w. p. 750. t. 37. *B. striata* R. et Pav. syst. 207 excl. syn.? *B. ivaeifolia* Peruviana (nec *Capensis*) auct. ... (v.s.)'. Lectotype (selected by Cuatrecasas, 1967: 6): G-DC. Note: Cuatrecasas actually cited '*Gaudichaud*, Lima, *Baccharis fevillei* (G, holotypus), photo F.M. 37716.' but on the previous page had cited '*Dombey*, Perou, isótipo (syntypus) de *Baccharis fevillei* DC. (P) ...', although no such material was explicitly cited by de Candolle.
- Baccharis chilquilla* DC., Prodr. 5: 419 (1836). Type: '■ in dumetis et sylvaticis scariosis secus flumina ad Quillota Chilensium octobr. flor. legit cl. Bertero. ... (v.s.)'. Holotype; G-DC; isotypes: P × 3, W.
- Baccharis calliprinos* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 176 (1874); Pl. Lorentz. : 129 (1874). Type: [Argentina:] 'Catamarca, in convalle inferiori pr. Nacimiento, ubi fruticeta praecipue constituit. [Lorentz 423]' Holotype: GOET.
- Baccharis marginalis* DC. var. *longipes* (Kunze ex DC.) Heering, Anales Univ. Chile 111: 160 (1903).
- Baccharis pingraea* var. *longipes* (Kunze ex DC.) Heering, Jahrb. Hamburg. Wiss. Anst. 21, Beih. 3: 18 (1904).
- Baccharis mirabilis* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 91 (1916). Type: [Argentina:] 'Mendoza: Quebrado del Toro, Cerro Pelado, ca. 2400 m ü. d. M. an Bächen sehr häufig (F. Kurtz n. 9403 – 18. – 22. Jan. 1897, ■)'. Holotype: HBG.
- Pingraea salicifolia* (Ruiz & Pav.) F. H. Hellwig, Candollea 48: 218 (1993).
- Pingraea marginalis* (DC.) F. H. Hellwig, Candollea 48: 218 (1993).

ssp. *salicifolia*

- Molina parviflora* Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 209 (1798). Type: 'Habitat in versuris et ripis Chancay et Cercado Provinciarum. Floret per totum annum.' Holotype: MA [B5 on microfiche 283 of the Ruiz & Pavón herbarium and determined as the holotype by Cuatrecasas in 1963 – there are two stems on the sheet, the larger righthand one from a female plant]; isotype: B, frag.
- Baccharis parviflora* (Ruiz & Pav.) Pers., Syn. Pl. 2: 425 (1807).
- Baccharis iresinoides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 63 (1818). Type: [Ecuador:] 'Crescit in calidis Provinciae Bracamorensis juxta Passo de Matara, alt. 430 hex. ■ Floret Augusto.' Holotype: P-Bonpl.; isotype: P, frag.
- Baccharis lanceolata* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 63 (1818). Type: 'Crescit in litore Oceani Pacifici prope Santa Peruvianorum. ■ Floret Octobri.' [Humboldt & Bonpland 3757]. Holotype: P-Bonpl. (■); isotypes: B-W (15588) × 2, F (974463), GH (3947 – fragment), P.
- Baccharis alamanii* DC. (sub *alamani*), Prodr. 5: 402 (1836). Type: '■ in Mexico legit cl. Alaman. ... (v.s. comm. à cl. inv.)'. Holotype: G-DC.
- Baccharis coerulescens* DC., Prodr. 5: 402 (1836). Types: '■ in Mexico circa Matamoras legit cl. Berlandier (pl. exs. n. 2343) ... (v.s. comm. a cl. invent.)'. Müller (2006: 160) did not lectotypify this name by noted 'Syntypes: G (■); G-DC, two sheets with different collection dates (●), W (●)'.'
- Baccharis linifolia* DC., Prodr. 5: 420 (1836). Type: '- in Mexico ad Real del Monte ex h. Haenke. ... (v.s. in h. Haenke à cl. de Sternberg miss.)'. Holotype: G-DC.
- Baccharis longifolia* DC., Prodr. 5: 402 (1836). Types: '■ in Mexico circa urbem legit cl. Berlandier flor. augosto (pl. exs. n. 624 et 653). ... (v.s. ■ et ● à cl. inv. comm.)'. Müller (2006: 160) did not lectotypify this name but noted the syntypes '*Berlandier* 624 (G-DC, W)' and '*Berlandier* 653 (G, G-DC)'.'
- Baccharis marginalis* DC. var. *coerulescens* (DC.) Heering, Schriften Naturwiss. Vereins Schleswig-Holstein 13: 46 (1904).
- Baccharis marginalis* DC. var. *coerulescens* (DC.) Heering ex Reiche, Fl. Chil. 4: 11 (1905), comb. superfl.
- Baccharis salicifolia* (Ruiz & Pav.) Pers. var. *longifolia* (DC.) Cuatrec., Rev. Acad. Colomb. Ci. Exact. 13(50): 212 (1969).
- Baccharis purpurascens* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 96 (1916). Type: [Argentina:] 'Tucuman: Dep. Tafi, Ufer des Rio Tafi (Lillo n. 4106 – 18. Febr. 1905, ■ ● in Blüte)'. Holotype: HBG.

Southwestern USA south to Patagonia. Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí, Santa Cruz, Tarija), Brazil, Mexico, Paraguay, Peru, USA.

River banks, floodplains, often forming thickets.

0–3600 m.

February–March.

Vernacular names: CHILCA, MUCSUMU AQUÍ, PALO CORAZÓN, SINTA (Müller, 2006).

Baccharis salicifolia (Ruiz & Pav.) Pers. var. *longifolia* (DC.) Cuatrec., Rev. Acad. Colomb. Ci. Exact. 13(50): 212 (1969) = ***Baccharis salicifolia*** (Ruiz & Pav.) Pers. ssp. ***salicifolia***

****Baccharis saliens*** Rusby, Bull. New York Bot. Gard. 4(14): 387 (1907). Type: [Bolivia:] ‘ “Scarce in wet forest-mould; climbing; flowers white.” Unduavi, September, 1894. ([Bang] No. 2493.)’ Lectotype (selected by Müller, 2006: 290): NY (00162328); isolectotypes: F (163986), GH, MICH, MO, NY (00162329), US (00032835). Bolivia (Cochabamba, La Paz, Santa Cruz), Peru – suggested by Müller (2006).

var. ***saliens***

Bolivia (Cochabamba, La Paz).

Cloud forest and ceja.

2500–3500 m.

July–August.

var. ***solomonii*** (H. Rob.) Joch. Müller, Syst. Bot. Monogr. 76: 293 (2006).

Baccharis solomonii H. Rob., Phytologia 65(1): 40 (1988). Type: ‘BOLIVIA: La Paz: Sud Yungas. 3.2 km S of (below) Chuspipata on road to Chulumani, elev. 2900–3000 m. Cloud forest, disturbed, with *Brunellia*, *Clusia* and *Weinmannia* 16°18’S, 67°49’ W. Scandent, up to 4 m, Corollas white, foetid smelling. Male plant. 28 Sept. 1985. *Solomon and Nee* 14257’. Holotype: US (03109466); isotypes: LPB, MO.

Bolivia (La Paz).

Cloud forest.

2100–3200 m.

Baccharis samensis Joch. Müller, Syst. Bot. Monogr. 76: 121 (2006). Type: ‘BOLIVIA. Tarija: Prov. Méndez, descent W from summit of ridge W of Tarija by road to Camargo, 3500 m, 7 Mar 2000, ● *Wood* 15965’.

Holotype: LPB; isotypes: JE, K.

Argentina, Bolivia (Tarija).

Alpine grassland, rocky slopes, thin soil.

3400–3800 m.

January–February.

Baccharis santelicensis Phil. ssp. *chrysophylla* F. H. Hellwig, Mitt. Bot. Staatssamml. München 29: 318 (1990) =

Baccharis tola Phil. ssp. ***santelicensis*** (Phil.) Joch. Müller var. ***chrysophylla*** (F. H. Hellwig) Joch. Müller

Baccharis saxatilis Joch. Müller, Syst. Bot. Monogr. 76: 52 (2006). Type: ‘BOLIVIA. Chuquisaca: Prov. Calvo, Muyupampa (Vaca Guzmán) – Ipati, near summit, ca. 1600 m, 19°49’S, 63°43’W, 15 Mar 2002, ● and ■ Müller 9344.’ Holotype: JE; isotypes: BR, G, GH (230543), HBG, LPB, MO, NY (00804165).

Bolivia (Chuquisaca, Santa Cruz).

‘Rocky slopes in mesic deciduous forest’ (Müller, 2006).

1600–1900 m.

Vernacular name: OLIVO (Müller, 2006).

Baccharis scandens* (Ruiz & Pav.) Pers., Syn. Pl. 2: 424 (1807) [According to Müller (2006: 307) several reports of this species are referable to misidentified collections of *Baccharis serranoi*** H. Rob.]

Baccharis sculpta Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 175 (1874); Pl. Lorentz.: 127 (1874) =

Baccharis pentlandii DC. ssp. ***sculpta*** (Griseb.) Joch. Müller

Baccharis sebastianopolitana Baker in Mart., Fl. Bras. 6(3): 65 (1882) = ***Baccharis microdonta*** DC.

**Baccharis semiserrata* DC., Prodr. 5: 404 (1836). [According to Müller (2006: 307) material referable to this Brazilian species from Santa Cruz is belongs to *B. microdonta*.]

Baccharis semiserrata DC., Prodr. 5: 419 (1836), nom. illegit. = **Baccharis gnidiifolia** Kunth

Baccharis serranoi H. Rob., BioLlania, Ed. Esp. 6: 505 (1997). Type: '(female): Bolivia. La Paz: Laraceja, Sorata, 6-8 km hacia Consata, 3150 m, al borde del camino, arbusto trepador, apoyandose, flores amarillas, frutos, dentro de una ladera húmeda, 27 May 1991, Beck 19,885'. Holotype: US (03241453); isotypes: JE, LPB. Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz).

Scrub and open forest, *Alnus* scrub, sometimes adjacent to streams, steep slopes and banks. 2300–3500 m.

February–June.

Vernacular name: LANKHO LANKHO (Müller, 2006).

**Baccharis serrulata* (Lam.) Pers., Syn. Pl. 2: 423 (1807) was cited by Foster (1958: 204) but this is a Brazilian and Venezuelan species and is not found in Bolivia according to Müller (2006: 137).

Baccharis serrulata (Lam.) Pers. var. *subscandens* Kuntze, Revis. Gen. Pl. 3(3): 134 (1898) = **Baccharis glutinosa** Pers.

Baccharis sessiliflora Vahl, Symb. Bot. 3: 97 (1794). Type: 'Habitat in Brasilia. ■' [Monte video. *Commerson* s.n. ded. Dn Thouin.] Holotype: C.

Baccharis rotundifolia Spreng., Syst. Veg., ed. 16, 3: 465 (1826). Type: [Uruguay:] 'Monte Video. *Sello*.' Holotype: P; isotypes G-DC, P.

Baccharis camporum DC., Prodr. 5: 399 (1836). Type: [Brazil:] '■ in campis editis prov. Sancti-Pauli Brasiliae legit cl. *Lund* [850]. *Chrysocoma decussata* fl. flum. 8. t. 9? quae foliis alternis gaudet. Habitus hujus stirpis et plurimarum in campis Brasiliae obviis praecipue ex cl. *Lund* tribuenitus more vulgatissimo igne destruendi herbas camporum, undè rhizoma induratur et quotannis ampliatur (v.s. ●comm. à cl. *Lund*.)'. Holotype: G-DC; isotype: P.

Baccharis cephalotes DC., Prodr. 5: 421 (1836). Type: '■ in Brasiliae prov. Sancti-Pauli. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 476 miss.)'. Holotype: P; isotype: G-DC.

Baccharis camporum DC. var. *glaucescens* Chodat & Hassl., Bull. Herb. Boissier, sér. 2, 3(8): 716 (1903). Type: [Paraguay:] 'Frutex 0,5-1, petala cremea, in campis in regione cursus superioris fluminis Apa, Dec. [*Hassler*] n. 8306; patalis albis, [*Hassler*] n. 8306a.' Lectotype (selected by Soria & Zardini, 1991): *Hassler* 8306, G; isoelectotypes: G × 3, P.

Baccharis camporum DC. f. *glaucescens* (Chodat & Hassl.) Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 133 (1916).

Baccharis glaucescens (Chodat & Hassl.) Soria & Zardini, *Candollea* 46: 539 (1991).

Baccharis rotundifolia Spreng. f. *subcuneata* Malme, Kongl. Svenska Vetenskapsakad. Handl. 12(2): 81 (1933).

Type: [Brazil:] 'Turma 23¹³/₄₀₉ ([*Dusén*] n. 7985). Hab. in campo.' Holotype: S; isotype: G.

Bolivia (Santa Cruz), Brazil, Paraguay, Uruguay.

Grassland, open scrub and open dry forest, cerrado.

600–900 m.

March–April.

Note: Müller (2006) sank all of the variation of this taxon under the name *B. sessiliflora* noting only that the narrow-leaved plants were recognized by de Candolle as *B. camporum*, stating variation in leaf shape and margin type as the reason.

Baccharis sessilifolia Vahl var. *stuckertii* (Heering) Cabrera, Revista Mus. La Plata, Secc. Bot. 17: 117 (1941) = **Baccharis linearifolia** (Lam.) Pers.

Baccharis solomonii H. Rob. Phytologia, 65(1): 40 (1988) = **Baccharis saliens** Rusby var. **solomonii** (H. Rob.) Joch. Müller




Baccharis spartea* sensu auctt. non Benth., Bot. Voy. Sulphur : 114 (1845) [According to Müller (2006: 307) all reports of this species are apparently based on misidentified collections of **Baccharis subalata].

Baccharis speciosa DC., Prodr. 5: 399 (1836) = **Baccharis pedunculata** (Mill.) Cabrera

Baccharis splendens Heering, Schriften Naturwiss. Vereins Schleswig-Holstein 13: 48 (1904) = **Baccharis pedunculata** (Mill.) Cabrera

Baccharis sternbergiana* Steud., Nomencl. (ed. 2) 1: 179 (1840) = **Baccharis gnidiifolia Kunth

Baccharis sternbergiana* Steud. var. *pubescens* Perkins, Bot. Jahrb. Syst. 49: 225 (1913) = **Baccharis pulchella Sch.Bip. ex Griseb.

***Baccharis subalata** Wedd., *Chloris Andina* 1: 174 (1856). Type: 'Hab. BOLIVIE: parties élevées de la Cordillère de Sorata! (Wedd.)'. Lectotype (selected by Müller, 2006: 212): 'Weddell, s.n.', P  isotype: P  and  = *Baccharis spartea* sensu auctt. non Benth., *Bot. Voy. Sulphur* : 114 (1845).

var. **subalata**

Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz), Peru.
Open areas in cloud forest, Puna Peruana, Ceja vegetation, Yungas.
2500–3900 m.
April–August.
Vernacular names: ROMERILLO, THOLA (Müller, 2006).

var. **vargasii** Joch. Müller, *Syst. Bot. Monogr.* 76: 214 (2006). Type: 'BOLIVIA. Santa Cruz: Prov. Caballero, 1 km E Siberia, 3000-3-5- m, 1749S, 6445W, 26 Jul 1996, ● *Vargas et al.* 5043'. Holotype: NY (00688460); isotype: USZ.

Bolivia (Cochabamba, Santa Cruz).
Scrub and open cloud forest.
2600–3100 m.
July–October.
Vernacular names: CHINA THOLA, THOLA, THOLA DEL MONTE (Müller, 2006).

Baccharis subcapitata Gardner, *London J. Bot.* 7: 85 91848) = **Baccharis linearifolia** (Lam.) Pers.

Baccharis subdentata DC., *Prodr.* 5: 408 (1836) = **Baccharis linearifolia** (Lam.) Pers.

Baccharis subdentata DC. var. *incogitata* Teodoro, *Contr. Inst. Geobiol.* 3: 8 (1954) = **Baccharis linearifolia** (Lam.) Pers.

Baccharis subopposita DC., *Prodr.* 5: 413 (1836) = **Baccharis tridentata** Vahl

Baccharis subopposita DC. var. *affinis* (DC.) Baker in Mart., *Fl. Bras.* 6(3): 91 (1882) = **Baccharis tridentata** Vahl

**Baccharis subpenninervis* Sch.Bip., *Bull. Soc. Bot. France* 12: 81 (1865); *Linnaea* 34(5): 532 (Feb. 1866), nom.

nud. (based on *Mandon* 183) – collections under this name are **Baccharis latifolia** (Ruiz & Pav.) Pers. and **Baccharis pentlandii** DC. ssp. **pentlandii** according to Müller (2006: 299).

Baccharis subpingraea Heering f. *borealis* Heering, *Jahrb. Hamburg. Wiss. Anst.* 31, Beih. 3: 107 (1916) =

Baccharis glutinosa Pers.

Baccharis subpingraea Heering f. *nana* Heering, *Jahrb. Hamburg. Wiss. Anst.* 31, Beih. 3: 106 (1916) = **Baccharis glutinosa** Pers.

Baccharis subpingraea Heering f. *pseudulicina* Heering, *Jahrb. Hamburg. Wiss. Anst.* 31, Beih. 3: 106 (1916) = **Baccharis glutinosa** Pers.

Baccharis subpingraea Heering f. *punctulata* Heering, *Jahrb. Hamburg. Wiss. Anst.* 31, Beih. 3: 108 (1916) = **Baccharis glutinosa** Pers.

Baccharis subrufescens Heering, *Jahrb. Hamburg. Wiss. Anst.* 31, Beih. 3: 136 (1916) = **Baccharis linearifolia** (Lam.) Pers.


Baccharis subsculpta Hochr., *Bull. New York Bot. Gard.* 6(21): 292 (1910) = **Baccharis pulchella** Sch.Bip. ex Griseb.

Baccharis syncephala* Sch.Bip. ex Rusby, *Bull. New York Bot. Gard.* 4(14): 386 (1907) = **Baccharis platypoda DC.

Baccharis tafiensis Heering, *Jahrb. Hamb. Wiss. Anst.* 31, Beih. 3: 151 (1916) = **Baccharis tola** Phil.

Baccharis thujoides (Lam.) Pers., *Syn. Pl.* 2: 425 (1807) = **Loricaria thujoides** (Lam.) Sch.Bip.

Baccharis tola Phil., *Fl. Atacam.* : 30 (1860); *Reise Atacama*: 204 (1860). Types: [Chile:] 'Prope Agua de Profetas 24°45' lat. m. et 9000 p. s. m., Agua de Varas 24°38' lat.m. et 9700 p. s. m. Puquios 23°50' lat.m. 11000 p. s. m. etc.; incolis Tola.' Lectotype (selected by Hellwig, 1990: 324): 'Agua de Varas etc. Jan 1854 Desertum Atacama' - SGO-60835.

Baccharis tafiensis Heering, *Jahrb. Hamb. Wiss. Anst.* 31, Beih. 3: 151 (1916). Type: [Argentina:] 'Tucuman: Dep. Tafi, Cerro Muñoz, zwischen Felsen, 3800 bis 4000 m ü. d. M. (*Lillo* n. 7418 – 27. Jan. 1908,  in Blüte; n. 4193 – 23. Febr. 1905, ● in Frucht); ohne nähere Angabe (*G. A. Baer* n. 137 – 1902, ● in Blüte).' Lectotype (selected by Müller, 2006: 87): *Lillo* 4193 – HBG.

ssp. **fimbriata** Joch. Müller, Syst. Bot. Monogr. 76: 97 (2006). Type: 'BOLIVIA. Tarija: Prov. Avilez, altiplano beside the upper valley of Rio Rosario W Rosario, ca. 3800 m, 27 Feb 2002; ● Müller 9217'. Holotype: JĒ; isotypes: BR, GH, LPB, MO, NY (00804162).

Bolivia (Oruro, Tarija), Argentina.

Dry grassland, dwarf scrub communities and open scrub (Müller, 2006).

2700–4000 m.

February–March.

Vernacular name: KHATARI THOLA (Müller, 2006).

ssp. **santelicis** (Phil.) Joch. Müller (Chile).

var. **chrysophylla** (F. H. Hellwig) Joch. Müller, Syst. Bot. Monogr. 76: 96 (2006).

Baccharis santelicis Phil. ssp. *chrysophylla* F. H. Hellwig, Mitt. Bot. Staatssamml. München 29: 318 (1990). Type:

[Chile:] 'I. Region, de Tarapacá, Weg von Zapahuira zum Portezuelo de Chapiquiña, 4300 m, 15.4.1986, HELLWIG 7957'. Holotype: M; isotypes: SGO, Herb. Hellwig.

Bolivia (Oruro), Chile.

Dry grassland and dwarf scrub communities of the puna, open scrub and open *Polylepis* forest (Müller, 2006). 4100–4800 m.

Vernacular name: ÑACA THOLA (Müller, 2006).

var. **incarum** (Wedd.) Joch. Müller, Syst. Bot. Monogr. 76: 93 (2006).

**Baccharis microphylla* Kunth var. β *incarum* Wedd., Chloris Andina 1: 170 (1856). Types: 'Hab. VENEZUELA (β ?): Sierra nevada de Merida, h. 3000 m. (Funck et Schlim., exsicc., n. 1154). ... – PÉROU (β): Cordillère de Tacora! (Wedd.). – BOLIVIE (β): très répandu sur les collines arides des hauts plateaux, entre Potosi et La Paz!, ainsi qu'au voisinage du lac de Titicaca!, près Tiaguanaco, etc. (d'Orbigny, Pentland, Wedd., etc.). Lectotype (effectively selected by Cuatrecasas, 1963: 7 – see note): P; isolectotypes: F, P. Note: Cuatrecasas (1963: 7) actually stated 'The type (P) was collected by Weddell in the Cordillera de Tacora, Peru. Paratypes came from Potosi, La Paz, Lago Titicaca near Tioguanaco (collect. Weddell, Orbigny, Pentland). ...'; his use of the term 'paratypes' was incorrect, since at the time Weddell had not assigned a type! Cuatrecasas (1967b: 6), in citing type material of this name, stated 'Weddell 4092. Potosí, Bolivia, vulgo "tola", P, holotypus (lectotypus); P, F, isotypi. Weddell s.n. in declivibus prope vicum Tiaguanaco et in planitiae frigidae circa lacum Titicaca 8-X-1851 (P, paratipi, tres pliegos, en uno hay los dibujos originales de las ilustraciones de Weddell).' No other mention is made of d'Orbigny, or Pentland collections as types (by Cuatrecasas, 1967, or by Müller, 2006) although Pentland 12 (P), Pentland 53 (6 duplicates in P) and Pentland s.n. (P) are mentioned by Cuatrecasas (1967b: 6–7), along with d'Orbigny 1380 (P), 1388 (P) and 1398 (P).

Baccharis incarum (Wedd.) Perkins, Bot. Jahrb. Syst. 49: 224 (1913). With the exception of Pentland 12 (which was determined as *B. linearifolia* ssp. *polycephala*) Müller (2006) noted all these collections under var. *incarum*.

Baccharis incarum (Wedd.) Heering, Jahrb. Hamburg. Wiss. Anst., 31, Beih. 3: 153 (1916). comb. illegit., superfl.

Baccharis incarum (Wedd.) Cuatrec., Phytologia 9: 7 (1963), comb. illegit. superfl.

Baccharis magellanica (Lam.) Pers. var. *subviscosa* Kuntze, Revis. Gen. Pl. 3(3): 133 (1898). Types: 'Argentina: Nevado del Castillo in provinz Salta (113 Lorentz & Hieronymus). Bolivia: 4000 m Machacamarga. Chile: Rio Quino.' [ARGENTINA. Prov. Salta, Nevado del Castillo, 19–25 Mar 1873, P.G.Lorentz & G. Hieronymus 113. BOLIVIA. Machacamarga, 4000 m, 13 Mar 1892, Kuntze s.n. CHILE. Rio Quino, 17 Feb 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 326]. Lectotype (selected by Cuatrecasas, 1967b: 7): 'Bolivia: 4000 m Machacamarga' Kuntze, s.n. F-297261; isolectotype: NY-162265.

Argentina, Bolivia (Cochabamba, La Paz, Oruro, Potosí, Tarija), Chile.

Dry grassland, dwarf scrub communities and open scrub (Müller, 2006), Puna Peruana, Altiplano, Tolillares (Altiplano xeromorphic thorn-scrub), Khewiñar Altiplánico occidental (Western Altiplano sclerophyllous seasonal evergreen woodland), Matorralies seriales orotrophicales altiplánico occidentales, Cardonales orotropicales semiáridos centro altiplánicos (Central Andean semiarid thorn and succulent scrub).

3400–5000 m.

October–April.

Vernacular names: CHOQO THOLA, KH'ACHU CHUA CHUA, ÑACA THOLA, SAUCO, THOLA (Müller, 2006).

ssp. **tola**

var. **tola**

Chile, Bolivia (Chuquisaca, Oruro, Potosí, Tarija), Argentina.

Grassland, dwarf scrub communities and open scrub (Müller, 2006).

2900–4500 m.

var. **viscosissima** (Kuntze) Joch. Müller, Syst. Bot. Monogr. 76: 91 (2006)

Baccharis magellanica (Lam.) Pers. var. *viscosissima* Kuntze, Revis. Gen. Pl. 3(3): 133 (1898). Type:

‘Atacamawüste: Conchi.’ [‘CHILE. Atacamawüste, Conchi, Mar 1892, Kuntze s.n.’ – according to Wetter & Zanoni, 1985: 327]. Holotype: NY (00162267); isotype: US (701091).

Baccharis tola Phil. ssp. *altiplanicolia* F. H. Hellwig, Mitt. Bot. Staatsamml. München 29: 333 (1990). Type:

[Chile:] ‘I. Region: Weg von Pica zum Salar de Huasco, kurz hinter der Paßhöhe, nahe der Kreuzung mit der Straße nach Ollagüe, 4000 m, 19.4.1986, HELLWIG 5660’. Holotype: M; isotypes: SGO, Herb. Hellwig. Argentina, Bolivia (Potosí), Chile.

Dry grassland and dwarf scrub communities (Müller, 2006).

3700–4800 m.

Baccharis tola Phil. ssp. *altiplanicolia* F. H. Hellwig, Mitt. Bot. Staatsamm. München 29: 333 (1990) = **Baccharis tola** Phil ssp. *tola* var. **viscosissima** (Kuntze) Joch. Müller

Baccharis tomentosa Thunb., Pl. Bras. Dec. 3: 38 (1821), non (Ruiz & Pav.) Pers. (1807) = **Gochnatia polymorpha** (Less.) Cabrera

Baccharis tomentosa* (Ruiz & Pav.) Pers., Syn. Pl. 2(2): 424 (1807) [According to Müller (2006, 307), material cited by Mandon (1865), and repeated by Foster (1958) is referable to **Baccharis quitensis].

Baccharis torricoi Joch. Müller, Syst. Bot. Monogr. 76: 228 (2006). Type: ‘BOLIVIA. Potosí: Prov. Sul Chichas, Sillar Loma W Tupiza, ca. 3750 m, 21°27’S, 65°49’W, 15 Feb 2002, ●and ■ Müller 9020’. Holotype: JE; isotypes: BR, E, G, GH, GOET, HBG, L, LPB, M, MICH, MO, NY (00804157), P, UPS.

Bolivia (Cochabamba, Potosí, Tarija).

Open scrub on slopes or in dry valleys.

2700–4000 m.

Vernacular name: MASKIA (Müller, 2006).

Baccharis trichoclada* DC., Prodr. 5: 400 (1836) = **Baccharis trinervis Pers. var. **rhexioides** (Kunth) Baker

Baccharis tricuneata (L.f.) Pers., Syn. Pl. 2: 424 (1807). [According to Müller (2006: 307) material cited from Bolivia by Cuatrecasas (1969) under the two following names is referable to other taxa, including ‘*B. caespitosa*, *B. linearifolia* ssp. *polycephala*, *B. papillosa* ssp. *integrifolia* and *B. tola* var. *incarum*’]

Baccharis tricuneata (L.f.) Pers. var. *minifolia* Cuatrec., Rev. Acad. Colomb. Ci. Exact. 13(50): 217 (1969) =

Baccharis caespitosa (Ruiz & Pav.) Pers. ssp. **caespitosa**

Baccharis tricuneata (L.f.) Pers. var. *ruiziana* Cuatrec., Rev. Acad. Colomb. Ci. Exact. 13(50): 214 (1969) (based on *Molina prostrata* Ruiz & Pav.) = **Baccharis linearifolia** (Lam.) Pers.

***Baccharis tridentata** Vahl, Symb. Bot. 3: 98 (1794). Type: ‘Habitat in Brasilia ■ [Uruguay: Montevideo, Commerson s.n., ●and ■]’ Holotype: C, ■ isotypes: G, P-218308, P-LAM.

Baccharis affinis DC., Prodr. 5: 413 (1836). Types: ‘■ in Brasiliae prov. Sancti-Pauli et Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. ■ sub n. 487 et 398, ● sub n. 969 miss.)’. Syntypes: P; isosyntypes: ‘Mus. imp. Bras. 398 [fragments], Mus. imp. Bras. 969 – G-DC. Lectotype (selected by Müller, 2006: 132): ‘*Sellow* s.n. [M. I. B. 969]’ P; isolectotype: G-DC.

Baccharis subopposita DC., Prodr. 5: 413 (1836). Types: ‘■ in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 978 et verisim. 949 miss.)’. Syntypes: P; isosyntype: (Mus. imp. Bras. 978), G-DC. Lectotype (selected by Müller, 2006: 132): ‘*Sellow* d1883 [M.I.B. 978]’ P; isolectotype: G-DC.

Baccharis subopposita DC. var. *affinis* (DC.) Baker in Mart., Fl. Bras. 6(3): 91 (1882).

Baccharis tridentata Vahl var. *subopposita* (DC.) Cabrera, Fl. Prov. Buenos Aires 6: 130 (1963).

Bolivia (Chuquisaca, Cochabamba, Santa Cruz, Tarija), Brazil, Argentina, Paraguay, Uruguay.

Grassland, scrub and open forest, rocky mountain slopes.

400–3300 m.

January–August.

Vernacular names: ORKHO THOLA, THOLA ROMERO (Müller, 2006).

Baccharis tridentata* Vahl [var.] [β]? *pluridentata* DC., Prodr. 5: 409 (1836) = **Baccharis linearifolia (Lam.) Pers.
Baccharis tridentata Vahl var. *subopposita* (DC.) Cabrera, Fl. Prov. Buenos Aires 6: 130 (1963) = **Baccharis tridentata** Vahl

Baccharis trimera (Less.) DC., Prodr. 5: 425 (1836) = **Baccharis genistelloides** (Lam.) Pers. ssp. **crispa** (Spreng.) Joch. Müller

***Baccharis trinervis** Pers., Syn. Pl. 2: 423 (1807), based on *Conyza trinervis* Lam.

Conyza trinervis Lam., Encycl. 2: 85 (1786), non *Conyza trinervia* Miller (1768) (=). Type: 'Cette plante a été découverte au Brésil par M. Commerson. (v.s.)'. Holotype: P-LA (♂) (313/8); isotypes: G-DC, P-218216, P-LA. *Heterothalamus trinervis* (Pers.) Hook. & Arn., J. Bot. (Hooker) 3(No. 17): 43 (1840).

Pseudobaccharis trinervis (Pers.) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 306 (1946).

Psila trinervis (Pers.) Cabrera, Bol. Soc. Argent. Bot. 5(4): 211 (1955).

Baccharis laxa Gardner, London J. Bot. 4: 121 (1845). Type: [Brazil:] 'HAB. Woods, Organ Mountains, at an elevation of about 3000 feet. Fl. April.' [Gardner] 497. Holotype: BM; isotypes: G, P × 2. [as cited by Müller]

var. **debilis** (Rusby) Joch. Müller, Syst. Bot. Mongr. 76: 172 (2006).

**Baccharis debilis* Rusby, Mem. Torrey Bot. Club 6(1): 60 (1896). Type: [Bolivia:] 'Between Guanai and Tipuani, April-June, 1892 ([Bang] 1457)'. Lectotype (selected by Müller, 2006: 172): NY-162226 (♂); isotypes: E, G × 3, GH × 2, HBG (frag.), M, MICH, NY (162225), US (00046765), W, Z (000003076).

Argentina, Bolivia (Chuquisaca, Cochabamba, El Beni, La Paz, Santa Cruz, Tarija), Paraguay, Peru, Venezuela.

Forest and scrub in humid areas, streamsides.

To 2500 m.

April–June.

var. **rhexioides** (Kunth) Baker in Mart., Fl. Bras. 6(3): 73 (1882).

**Baccharis rhexioides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 66 (1818). Type: 'Crescit in Andibus Peruvianorum juxta Montan, alt. 1400 hex. ■ Floret Augusto.' Holotype: P-Bonpl; isotypes: B-W-15571-1, P-218218.

Molina rhexioides (Kunth) Less., Linnaea 6(3): 406 (1831).

Pseudobaccharis rhexioides (Kunth) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 306 (1946).

Baccharis venusta Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 66 (1818). Type: [Venezuela:] 'Crescit in Nova Andalusia juxta coenobium Caripense; item in sylvis Orinocensibus. ■ Floret Julio, Septembri.' Lectotype (selected by Müller, 2006: 169): P-Bonpl.

Baccharis divergens DC., Prodr. 5: 400 (1836). Type: '■ in Mexico ex h. Haenke. ... (v.s. ● in h. Haenke à cl. de Sternberg comm.)'. Holotype: PR; isotype: G-DC.

Baccharis oxyphylla DC., Prodr. 5: 400 (1836). Type: '■ in Peruviâ legit cl. Poeppig (pl. exs. n. 24). ... (v.s.)'. Holotype: G-DC; isotype: P.

**Baccharis trichoclada* DC., Prodr. 5: 400 (1836). Type: '■ in Mexico ex herb. Haenke. ... (v.s. in h. Haenk. à cl. de Sternberg miss.)'. Holotype: PR; isotype: G-DC.

Baccharis eggersii Hieron., Bot. Jahrb. Syst. 28(5): 588 (1901). Types: 'Ecuador: crescit prope Hacienda El Recreo prov. Manabi (EGGERS n. 14919; 27. Jun. 1893); in campis sábanas dictis prope Balao (EGGERS n. 14341, Jan. et 19. Mart. 1892)'. Lectotype (selected by Müller, 2006: 169): Eggers 14341, M; isolectotypes: L × 2; isosyntytype of Eggers 14919, S.

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija), Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Paraguay, Peru, Mexico, Venezuela.

Rain forest, scrub, plantations and relict cultivated areas.

500–2000 m.

July–August.

Vernacular names: BEJUCO HOJA DE OLIVO, CHILCA BLANCA, LAUREL OLIVO, PAISANE MACHO, YETSACDYES (Müller, 2006).

***Baccharis tucumanensis** Hook. & Arn., J. Bot. (Hooker) 3(No. 17): 34 (1841). Types: [Argentina:] 'Sides of the mountain St Xavier, Tucuman, just above the woods. Tweedie (n. 1099 and 1184)'. also mentioned is an

unnamed, unranked β 'Wood-sides of Tucuman. *Tweedie* (n. 1192).' Syntypes: K. Lectotype (selected by Müller, 2006: 54): *Tweedie* 1199 – K (with the note that the protologue citation of '1099' was in error).
Baccharis myrtilloides Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 176 (1874); Pl. Lorentz. : 128 (1874) .
 Types: [Argentina:] 'Tucuman, in Cuesta de Juntas, ubi ad verticem usque integra format fruticeta. Catamarca, frequens in convalle excelsa Granadillas pr. Belen.' Syntypes: Lorentz 130, 553, GOET.
 Lectotype (selected by Müller, 2006: 54): Lorentz 553 [f], GOET; isolectotype G.
Baccharis myrtilloides Griseb. f. *angustifolia* Heering, Jahrb. Hamburg. Wiss. Anst. 31, Beih. 3: 128 (1916). Type: [Argentina:] 'Córdoba: San Miguel (*Stuckert* n. 8748).' Holotype: HBG.
Baccharis tucumanensis Hook.f. & Arn. var. *myrtilloides* (Griseb.) Cabrera, Fl. Prov. Jujuy 10: 221 (1978).
Baccharis tucumanensis Hook.f. & Arn. var. *angustifolia* (Heering) Cabrera, Fl. Prov. Jujuy 10: 223 (1978).
 Bolivia (Tarija), Argentina.
 'Scrub and open forest in humid regions' (Müller, 2006), forest margins, marshy ground.
 2200–2600 m.
 May–June.

Baccharis tucumanensis Hook. & Arn. var. *angustifolia* (Heering) Cabrera, Fl. Prov. Jujuy 10: 223 (1978) =
Baccharis tucumanensis Hook. & Arn.
Baccharis tucumanensis Hook. & Arn. var. *myrtilloides* (Griseb.) Cabrera, Fl. Prov. Jujuy 10: 221 (1978) =
Baccharis tucumanensis Hook. & Arn.

Baccharis ulicina Hook. & Arn., J. Bot. (Hooker) 3(No. 17): 38 (1840). Type: [Argentina:] 'Woods of Cordova ([*Tweedie*] n. 1123), and in N. Patagonia; ...' Lectotype (selected by Giuliano, 2005: , as 'holotype'): *Tweedie* 1123 – K.

Baccharis ulicina Hook. & Arn. [var.] β *humilis* Hook. & Arn., J. Bot. (Hooker) 3(No. 17): 38 (1840). Type: [Argentina:] ' ... dry bare places of the Pampas (n. 1118). *Tweedie*.' Holotype: K.

Vittadinia multifida Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 171 (1874); Pl. Lorentz. : 123 (1874).
 Type: [Argentina:] 'Cordoba, ad ripam fl. Rio Primero pr. urbem.' Holotype: GOET.

Baccharis pinnatifida Klatt, Abh. Naturf. Ges. Halle 15: 327 (1881). Type: [Argentina:] 'Crescit in Patagonia, leg. A. d'Orbigny No. 264.' Holotype: P; isotype: W. [Note: the protologue description appears on p. 7 of the pre/re print in K.]

**Baccharis ulicina* Hook. & Arn. var. *multifida* (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 135 (1898).

Neomolina ulicina (Hook. & Arn.) F. H. Hellwig, Candollea 48: 213 (1993).

Argentina, Bolivia (Chuquisaca, Cochabamba, Potosí, Santa Cruz, Tarija).

Grassland on slopes and in dry valley bottoms, dry prepuna.

1200–3800 m.

December–February.

Vernacular name: SUICO SUICO (Müller, 2006).

Baccharis ulicina* Hook. & Arn. var. *multifida* (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 135 (1898) = **Baccharis ulicina Hook. & Arn.

Baccharis ulicina Hook. & Arn. [var.] β *subintegrifolia* Kuntze, Revis. Gen. Pl. 3(3): 135 (1898) = **Baccharis darwinii** Hook. & Arn.

Baccharis varians Gardner, London J. Bot. 7: 84 (1848) = **Baccharis linearifolia** (Lam.) Pers. sensu Müller (2006)

Baccharis venosa (Ruiz & Pav.) Pers., Syn. Pl. 2: 425 (1807) = **Baccharis genistelloides** (Lam.) Pers. ssp. **genistelloides**

Baccharis venulosa DC., Prodr. 5: 421 (1836) = **Baccharis oblongifolia** (Ruiz & Pav.) Pers. sensu Müller (2006)

Baccharis venusta Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 66 (1818) = **Baccharis trinervis** Pers. var. **rhexioides** (Kunth) Baker

Baccharis vernicoso-splendida Herzog, Veg. Erde 15: 176 (1923), nom. nud. = **Baccharis pentlandii** DC. ssp. **pentlandii**

Baccharis viminea DC., Prodr. 5: 400 (1836) = **Baccharis salicifolia** (Ruiz & Pav.) Pers.

Baccharis viscosa (Ruiz & Pav.) Kuntze, Revis. Gen. Pl. 1: 320 (1891), non *B. viscosa* Lam. (1783) = **Baccharis glutinosa** Pers.

**Baccharis viscosa* (Ruiz & Pav.) Kuntze var. *nigricans* Kuntze, Revis. Gen. Pl. 1: 320 (1891). Cited by Foster (1958: 204) but not mentioned by Müller (2006), nor Wetter & Zanoni (1985).

Baccharis vitis-idaea* Kuntze, Revis. Gen. Pl. 3(3): 135 (1989) = **Baccharis papillosa Rusby ssp. **papillosa**

Baccharis woodii Joch. Müller, Syst. Bot. Monogr. 76: 236 (2006). Type: 'BOLIVIA. Potosí: Prov. Saavedra, Millares-Pampa Soico, ca. 2300 m, 1925S, 6511W, 17 Mar 2002, ● and ■ Müller 9366'. Holotype: JE; isotypes: BR, E, G, GH, GOET, HBG, LPB, M, MICH, MO, NY (00804164), P, UPS.

Bolivia (Potosí).

Dry open slopes, often forming shrubberies, shaley soils, stepp hillsides.

1500–2600 m.

November–February.

Baccharis xerophila Mart., Flora 24, Beibl. 2: 11 (1841) = **Baccharis linearifolia** (Lam.) Pers.

Baccharis zongoensis Joch. Müller, Syst. Bot. Monogr. 76: 242 (2006). Type: 'BOLIVIA. La Paz: Prov. Murillo valley of Rio Zongo ca. 3 km NNE Botijlaca, ca. 3250 m, 1610S, 6808W, 21 Aug 1999, ● Müller & Ortuño 7434'. Holotype: JE; isotypes: BR, LPB, NY (00804166).

Bolivia (Cochabamba, La Paz).

Scrub, open forest, forest margins and grassland in cloud forest and ceja.

3200–3800 m.

Baccharoides Moench, Meth. : 578 (1794) = **Vernonia** Schreb.

Baccharoides brachylepis (Sch.Bip. ex Baker) Kuntze, Revis. Gen. Pl. 1: 320 (1891) = **Centratherum punctatum** Cass. ssp. **punctatum**

Baccharoides holtonii (Baker) Kuntze, Revis. Gen. Pl. 1: 320 (1891) = **Centratherum punctatum** Cass. ssp. **punctatum**

Baccharoides muticum (Kunth) Kuntze, Revis. Gen. Pl. 1: 320 (1891) = **Centratherum punctatum** Cass. ssp. **punctatum**

Baccharoides punctatum (Cass.) Kuntze, Revis. Gen. Pl. 1: 320 (1891) = **Centratherum punctatum** Cass. ssp. **punctatum**

Baccharoides violaceum (Schrank) Kuntze, Revis. Gen. Pl. 1: 320 (1891) = **Centratherum punctatum** Cass. ssp. **punctatum**

Bahia neo-mexicana (A. Gray) A. Gray, Proc. Amer. Acad. Arts 19: 27 (1883) = **Schkuhria multiflora** Hook. & Arn.

Baillieria Aubl., Hist. Pl. Guiane 2: 804, t. 317 (1775) = **Clibadium** L.

Balbisia Willd., Sp. Pl. 3(3): 2214 (1803), nom. rej., non *Balbisia* Cav., nom. cons. = **Tridax** L.

Balbisia canescens Pers., Syn. Pl. 2: 407 (1807) = **Tridax procumbens** L.

Balbisia divaricata Cass., Ann. Sci. Nat. 23: 90 (1831) = **Tridax procumbens** L.

Balbisia elongata Willd., Sp. Pl. 3: 2214 (1803) = **Tridax procumbens** L.

Balbisia pedunculata Ortega ex O. Hoffm., Verz. Pfl. : 228 (1824), nom. illegit. = **Tridax procumbens** L.

Baltimora L., Mant. : 158 (1771).

Niebuhria Scop., Introd. : 134 (1777), nom. superfl.

Timanthea Salisb., Prodr. : 208 (1796), nom. superfl.

Chrysozonum L. sect. *Baltimora* (L.) Baill., Hist. Fam. Pl. : 232 (1882).

Fougeria Moench, Meth. Suppl. : 243 (1802). Type: *Fougeria tetragona* Moench = *Baltimora recta* L.

Fougerouxia Cass., Dict. Sci. Nat. 54: 461 (1829), orth. var.

Scolospermum Less., Linnaea 5(1): 152 (1830). Type: *Scolospermum baltimoroides* Less. = *Baltimora recta* L.

Scolopospermum Hemsl., Biol. Centr.-Amer. Bot. 2: 144 (1881), orth. var.

Type: *Baltimora recta* L.

References

Robinson, H. (2006). *Baltimora*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 47–49.

Stuessy, T. F. (1973). Revision of the genus *Baltimora* (Compositae, Heliantheae). *Fieldiana, Bot.* 36(5): 31–50.

Baltimora geminata (Brandeg.) Stuessy, *Fieldiana, Bot.* 36(5): 42 (1973).

Melampodium geminatum Brandeg., *Zoe* 5(10): 223 (1905). Type: [Mexico: Sinaloa:] 'Collected near Cofradia and Imala. [Brandeg., Nov. 1904]' Lectotype (selected by Stuessy, 1973: 42): UC. Note: Stuessy (1973: 42) provided a fuller citation and different dates: 'Sinaloa, Cofradia [ca 30 miles E of Culiacán near Durango border], 24 Oct. [not 29 Oct.] 1904' – Stuessy's square brackets!

Melampodium bonairense Bold., *Fl. Ned. W. Ind. Eil.* : 393 (1913). Type/s: 'CURAÇAO, BONAIRE.' Holotype: U. Note: Stuessy (1973: 42) provided the following holotype specimen details 'Island Curaçao, Malpais, 28-30 Oct. 1909, l. *Boldingh* M.14', as well as listing two paratypes.

Baltimora ovata Rusby, *Descr. New Sp. S. Amer. Pl.* : 151 (1920). Type: ' "Common on hot dry plains and rocky hills within 3 or 4 miles of the sea at Cienaga, Papare, Santa Marta, Braba, etc., September to November." (*Herbert H. Smith*, No. 536.)'. Holotype NY (00162472); isotypes: BM, F (137592), GH (4074), K, MICH, MO, P, S, ?UC, US (703812, 1067697 – fragments of holotype and photograph, 2407268).

Argentina, Bolivia (Cochabamba, Santa Cruz), Brazil, Colombia, Cuba, Ecuador, Haiti, Mexico, Paraguay, Peru, Venezuela.

Disturbed areas in cerrado and tropical deciduous forest.

0–200 (–1000) m.

August–April.

Baltimora ovata Rusby, *Descr. New Sp. S. Amer. Pl.* : 151 (1920) = ***Baltimora geminata*** (Brandeg.) Stuessy

Barnadesia Mutis subgen *Penthea* (D. Don) Chung., *Rev. Barnadesia* (Compositae-Mutisieae). : 36 (1965) = ***Barnadesia*** Mutis

Barnadesia Mutis sect. *Penthea* D. Don, *Trans. Linn. Soc. London* 16(2): 280 (1830) = ***Barnadesia*** Mutis

Barnadesia Mutis in L.f., *Suppl. Pl.* : 55 (1782).

Bacasia Ruiz & Pav., *Fl. Peru. Chil. Prodr.* : 105, t. 22 (1794). Type: *Barnadesia spinosa* L.f.

Xenophontia Vell., *Fl. Flum.*: 346 (1825)[7 Sept. - 28 Nov. 1829]. Type: *Xenophontia caryophyll*[*l*]a Vell. =

Barnadesia caryophylla (Vell.) S. F. Blake var. ***caryophylla***

Diacantha Less., *Linnaea* 5(2): 243 (1830). *Barnadesia arborea* Kunth = ***Barnadesia caryophylla*** (Vell.) S. F. Blake var. ***caryophylla***

Barnadesia Mutis sect. *Penthea* D. Don, *Trans. Linn. Soc. London* 16(2): 280 (1830). Type: *Barnadesia laxa* D.

Don = ***Barnadesia caryophylla*** (Vell.) S. F. Blake var. ***caryophylla***

Penthea (D. Don) Spach, *Hist. Veg. Phan.* 10: 9 (1841).

Rhodactinea Gardner, *London J. Bot.* 6: 449 (1847). *Barnadesia rosea* Lindl. = ***Barnadesia caryophylla*** (Vell.) S.

F. Blake var. ***caryophylla***

Barnadesia Mutis subgen *Penthea* (D. Don) Chung., *Rev. Barnadesia* (Compositae-Mutisieae). : 36 (1965).

Type: *Barnadesia spinosa* L.f.

References

Chung, In-Cho (1965). Revision of *Barnadesia* (Compositae-Mutisieae). : 1–86.

Hind, D. J. N. (2001). A new species of *Barnadesia* (Compositae: Barnadesieae) from Bolivia. *Kew. Bull.* 56(3): 705–710.

Urtubey, E. (1999). Revisión del género *Barnadesia* (Asteraceae: Barnadesioideae, Barnadesieae). *Ann. Missouri Bot. Gard.* 86(1): 57–117.

Key to species (from Hind, 2001)

1. Leaves distinctly petiolate, alternate (never fasciculate); capitula clearly pedicellate, several in corymbs; disc florets with tubular corollas and plumose pappus (*Barnadesia* subgen. *Bacasia*) *B. corymbosa*

- Leaves sessile or pseudopetiolate, rarely short-petiolate, obviously fasciculate, occasionally with some leaves alternate; capitula sessile or shortly pedicellate, solitary or few in corymbs; disc florets with ligulate or bilabiate corollas and pappus simple or barbellate (*Barnadesia* subg. *Barnadesia*) 2
2. (1) Marginal florets 13; disc florets usually 3 (sect. *Penthea*) 3
Marginal florets 8; disc florets usually 1 (sect. *Pauciflora*) 6
3. (2) Disc floret pappus shorter than or equal to corolla tube *B. odorata*
Disc floret pappus much longer than corolla tube 4
4. (3) Disc floret corollas bilabiate, occasionally ligulate; involucre turbinate; phyllaries 10–12-seriate, shiny; spines 12–28 mm, in pairs *B. caryophylla*
Disc floret corollas always ligulate; involucre campanulate; phyllaries 8–9-seriate, matt, moderately to densely pubescent; spines 3–19 mm when present, in pairs or fascicles 5
5. (4) Leaves always fasciculate, usually densely pubescent, often with long-ciliate margins; stem pubescence of long, straw-coloured hairs; phyllaries usually moderately short-pubescent with straw-coloured hairs; leaves 9–44 × 4–16 mm, elliptic or oblong, apices attenuate or obtuse, mucronate; spines 6.5–19 mm, in pairs or fascicles *B. polyacantha*
Leaves alternate or in fascicles of few (2–4) leaves, usually moderately pubescent, usually with short-ciliate margins; stem pubescence of short, greyish hairs; phyllaries moderately to densely long-pubescent, especially so towards apices of inner phyllaries; leaves 25–75 × 10–15 (–20) mm, narrowly elliptic, apices long-acute to attenuate, never mucronate; spines to c. 3 mm, in pairs when present *B. woodii*
6. (2) Disc floret pappus shorter than or equal to corolla tube; basal anther appendages short-sagittate; disc floret pappus setae simple *B. glomerata*
Disc floret pappus much longer than corolla tube anther bases decurrent; disc floret pappus setae barbellate 7
7. (6) Disc floret corollas glabrous inside throat; capitula 24–46 mm tall; phyllaries 7–9 (–10)-seriate; disc floret corolla lobes glabrous; leaves (5–)10–14 mm wide *B. pycnophylla*
Disc floret corollas pubescent inside throat; capitula 45–50 mm tall; phyllaries 10–11-seriate; disc floret corolla lobes sparsely villous; leaves 3–6 mm wide *B. macrocephala*

Barnadesia berberoides Sch.Bip., *Berberid. Amer. Austral.*: 57 (1857), nom. nud. = ***Barnadesia pycnophylla*** Muschl.

Barnadesia caryophylla (Vell.) S. F. Blake, *Proc. Biol. Soc. Washington* 38: 86 (1925).

var. ***caryophylla***

Xenophontia caryophylla Vell., *Fl. Flum.*: 347 (1825)[7 Sept. - 28 Nov. 1829]. Type: [Brazil:] 'Habitat silvis, fruticetisque mediterraneis.' *Fl. Flum. Ic.* 8: tab. 8 (1831). Neotype (selected by Chung, 1965: 39): 'BRAZIL: Goyaz: Gardner 4268', K; isoneotypes: BM, ?F, G, ?GH, NY (00278139), P, ?US.

Barnadesia laxa D. Don, *Trans. Linn. Soc. London* 16(2): 280 (1830). Type: 'In Brasiliã. *Sello*'. Holotype: originally in Aylmer Bourke Lambert's Herbarium, location of this specimen now unknown BM, CGE, G, LE, or OXF fide Miller (1970: 541). Rich also purchased some *Sellow* material and this is now in Herb. Delessert, P.

Barnadesia rosea Lindl., *Bot. Reg.* 29 t. 29 (1843). Type: Cult. Duke of Northumberland ex South America. Herbarium specimen unknown.

Rhodactinea rosea (Lindl.) Gardner, *London J. Bot.* 6: 450 (1847).

Barnadesia dianthiflora Mart. ex Baker in Mart., *Fl. Bras.* 6(3): 365 (1884), nom. nud. pro syn

Barnadesia verpretorum Mart. ex Baker in Mart., *Fl. Bras.* 6(3): 365 (1884), nom. nud. pro syn.

Barnadesia rosea Lindl. var. *macrospinosa* Loefgr., *Bol. Comm. Geog. São Paulo* 12: 448 (1897). Type: [Brazil:] 'Herbario da Comissão numero 346. Habitam caapões e beira campos nos Estados de Goyaz, Minas e S. Paulo. Os exemplares da Comissão foram colhidos em Mogy-Guassú e Itapetininga.' Holotype: SP.

**Barnadesia spinosa*, sensu auct. non. L.f. Note: Foster (19050: 205) cited this name (non sensu auct.), which is most probably referable to *B. caryophylla*.

Bolivia (La Paz), Brazil (Goiás, Mato Grosso, Minas Gerais, Rio de Janeiro, São Paulo), Peru.

Cloud forest, coppiced woodland, thickets.

500–2700 m.

February–November.

Barnadesia corymbosa (Ruiz & Pav.) D. Don, Trans. Linn. Soc. London 16(2): 278 (1830).

Bacasia corymbosa Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 189 (1798). Type: 'Habitat in Andium nemoribus prope Muña vicium. Floret Augusto, et Septembri.' Lectotype (selected here): MA [specimen marked as B4 on sheet 285 of the microfiche of the Ruiz & Pavón herbarium – labelled 'Genus novum./Bacasia corymbosa' with a subsidiary label marked 29/15 Herbarium Peruvianum' and determined as 'Barnadesia corymbosa Don' by Domke]; isolectotypes: MA [sheets marked as B3 & B5 on sheet 285 of the microfiche of the Ruiz & Pavón herbarium]. Note: Chung (1965) merely mentioned a type, having seen a duplicate in BM, and Ferreyra (1995) mentioned the holotype, without declaring which of the three sheets it corresponded to, and Ferreyra was followed by Urtubey (1999).

**Barnadesia venosa* Rusby, Mem. Torrey Bot. Club 6(1): 69 (1896). Types: [Bolivia:] 'Espirito Santo, 1891 ([Bang] 1265 [sic! – cf type sheet and several duplicates showing this should have been 1205]. Also collected by Pearce at Muña, 7000–8000 ft.' Note: *Bang* 1205 was cited by Chung (1965: 51) as 'Holotype: GH; isotypes: MO, US.' apparently assuming the *Bang* collection was the only type; this could be considered as lectotypification. Isosyntypes (*Bang* 1205): GH (3564, 3565), NY (00162490, 00162491), US (01098238).

Bolivia (Cochabamba, Santa Cruz), Peru.

Forest, river margins and roadsides.

800–2500 (–3000) m.

March–August.

Barnadesia dianthiflora Mart. ex Baker in Mart., Fl. Bras. 6(3): 365 (1884), nom. nud. pro syn = **Barnadesia caryophylla** (Vell.) S. F. Blake var. **caryophylla**

Barnadesia divaricata Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 209 (March–April 1879); Symb. Fl. Argent. : 209 (1879) = **Dasyphyllum brasiliense** (Spreng.) Cabrera var. **divaricatum** (Griseb.) Cabrera

***Barnadesia glomerata** Kuntze, Revis. Gen. Pl. 3(3) 135 (1898). Type: 'Bolivia: Tunarigebirge.' ['BOLIVIA. Tunarigebirge, 2600 m, Apr–May 1892, Kuntze s.n. (2 sheets).'] – according to Wetter & Zanon, 1985: 327]. Lectotype (selected by Chung, 1965: 33): NY (00162477); isolectotypes: NY (00162477), US (00701782). Note: Material originally existed in B.

var. **glomerata**

Bolivia (Cochabamba).

Mountain slopes, moist scrub, stream sides.

c. 2800 m.

April–May.

Cochabamba: Wood et al. 18477 (K).

var. **mucronata** Chung, Rev. Barnadesia : 33 (1965). Type: 'BOLIVIA: Santa Cruz: Comarapa, Jungas de San Mateo, Steinbach 8400'. Holotype: GH (3558); isotypes: BM, F (637106), GH (3559), K, NY (00162479), S, UC (394798), US (01906157).

Bolivia (La Paz, Santa Cruz).

Forest, cloud forest.

2500–3000 m.

June – October.

Barnadesia hirsuta Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 527 (Feb. 1866), nom. nud. = **Barnadesia polyacantha** Wedd.

Barnadesia inermis* Rusby, Bull. New York Bot. Gard. 4(14): 399 (1907) = **Dasyphyllum inerme (Rusby) Cabrera

Barnadesia laxa D. Don, Trans. Linn. Soc. London 16(2): 280 (1830) = **Barnadesia caryophylla** (Vell.) S. F. Blake

***Barnadesia macrocephala** Kuntze, Revis. Gen. Pl. 3(3): 135 (1898). Type: 'Bolivia: 3000 m Sierra vor Colomi zwischen Cochabamba und Rio Juntas.' ['BOLIVIA. Sierra vor Colomi zwischen Cochabamba und Rio Juntas, 3000 m, 1–4 Apr 1892, Kuntze s.n.' – according to Wetter & Zanon, 1985: 327]. Lectotype (selected by Chung, 1965: 32): NY (00162484). Note: Material originally existed in B.

Bolivia (Cochabamba).
Semiarid areas, Puna Peruana.
2800–3650 m.
July–November.

Barnadesia odorata Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 210 (March–April 1879), *Symb. Fl. Argent.*: 210 (1879). Types: [Argentina:] ‘T.: Tucuman passim. J.: frequens.’ Syntype: *Lorentz & Hieronymus* 1013, 8. 5. 1873, GOET. Lectotype (selected by Chung, 1965: 38): G. Note: Chung lectotype citation was written ‘BOLIVIA: Tucuman: Tuscan and Taruca Pampa near La Cruz, *Lorentz & Hieronymus* Dec. 22–28, 1872.’, not noting any other syntype collections.

Argentina, Bolivia (Cochabamba, Santa Cruz, Tarija).
Humid forest, mountain slopes, woodland margins, gullies.
400–3500 m.
February–November.
Cochabamba: *Wood et al.* 18489 (K).

***Barnadesia polyacantha** Wedd., *Chloris Andina* 1: 13 (1855). Types: ‘Hab. BOLIVIE: Andes de Sorata!, à une hauteur de 2600 à 3300 mètres, sur les deux versants (*Wedd.*); province de Yungas? (*d’Orbigny*).’ Lectotype (selected by Chung, 1965: 43): ‘*Weddell* 4468’, P; isolectotypes: F (974857), GH (3562).

Barnadesia polyacantha Wedd. var. *velutina* Chung, *Rev. Barnadesia* : 46 (1965). Type: ‘BOLIVIA: Larecaja: near Ananea, alt. 2400 m., *Mandon* 5’. Holotype: BM; isotypes: F (974436), G, K, NY (00162488), P.

Barnadesia hirsuta Sch.Bip., *Bull. Soc. Bot. France* 12: 79 (1865); *Linnaea* 34(5): 527 (Feb. 1866), nom. nud. (based on *Mandon* 5).

Bolivia (Cochabamba, La Paz, Santa Cruz), Peru.
Mountain slopes, Ceja vegetation, Yungas, transition zone between cloud forest and open hillsides of open pasture.
2000–4470 m.
Probably flowering spradically throughout the year.
Cochabamba: *Wood et al.* 18473 (K), *Wood et al.* 18483 (K).
La Paz: *Wood et al.* 18955 (K).
Santa Cruz: *Wood et al.* 22994 (K, USZ).

Barnadesia polyacantha Wedd. var. *velutina* Chung, *Rev. Barnadesia* : 46 (1965) = **Barnadesia polyacantha** Wedd.

Barnadesia pycnophylla Muschl., *Bot. Jahrb. Syst.* 50(2/3), *Beibl.* 111: 101 (1913). Type: ‘Peruvia: Via inter Tambo et Apurimac flumen in Departamento Ayacucho, provincia Huanta, frutices parvi in formatione herbis et graminibus compositae, 3500–3600 m s.m. (WEBERBAUER n. 5558. – Florens 31. Maii 1910.)’ Holotype: B†. Neotype (selected by Chung, 1965: 29): ‘PERU: 6 miles south of Mito, *Macbride & Featherstone* 1830.’, US (1186011).

Barnadesia berberoides Sch.Bip., *Berberid. Amer. Austral.* : 57 (1857), nom. nud.

Bolivia (Cochabamba, La Paz, Potosí), Peru.
Scrub, Puna Peruana, Ceja vegetation, Yungas.
2700–3890 m.

February–December.
Potosí: *Wood et al.* 19251 (K).

Barnadesia rosea Lindl., *Bot. Reg.* 29 t. 29 (1843) = **Barnadesia caryophylla** (Vell.) S. F. Blake

Barnadesia rosea Lindl. var. *macrospinosa* Loefgr., *Bol. Comm. Geog. São Paulo* 12: 448 (1897) = **Barnadesia caryophylla** (Vell.) S. F. Blake var. **caryophylla**

Barnadesia seleriana* Muschl., *Bot. Jahrb. Syst.* 50(2/3), *Beibl.* 111: 99 (1913) = **Dasyphyllum ferox (Wedd.) Cabrera

Barnadesia spinosa* auct. non L.f. = **Barnadesia caryophylla (Vell.) S. F. Blake

Barnadesia venosa* Rusby, *Mem. Torrey Bot. Club* 6(1): 69 (1896) = **Barnadesia corymbosa (Ruiz & Pav.) D. Don

Barnadesia verpretorum Mart. ex Baker in *Mart., Fl. Bras.* 6(3): 365 (1884), nom. nud. pro syn. = **Barnadesia caryophylla** (Vell.) S. F. Blake var. **caryophylla**

Barnadesia woodii D. J. N. Hind, Kew Bull. 56(3): 705 (2001). Type: 'Bolivia: La Paz State: Saavedra. Rio Comata Valley, on descent from Charazani on road to Apollo, alt. 1600 m, 6 Aug. 2000, Wood & Wasshausen 16594'. Holotype: K; isotype: LPB.
Bolivia (La Paz).
Dry secondary scrub on valley sides and bottoms.
1600 m.
August–September.

Barrattia A. Gray & Engelm. ex A. Gray, Proc. Amer. Acad. Arts 1: 48 (Dec. 1846 or Jan 1847) = **Simsia** Pers.

Barrosoa R. M. King & H. Rob., Phytologia 21(1): 26 (1971).

Type: *Eupatorium candolleum* Hook. & Arn. = **Barrosoa candolleana** (Hook. & Arn.) R. M. King & H. Rob.

Barrosoa betoniciformis (DC.) R. M. King & H. Rob., Phytologia 21(1): 27 (1971).

Conoclinium betoniciforme DC., Prodr. 5: 135 (1836). Type: '– in Brasília legit cl. Lund [211]. ... (v.s. comm. à cl. Lund.)'. Holotype: G-DC.

Campuloclinium palustre DC., Prodr. 5: 137 (1836). Type: '■ in palustribus Sancti-Pauli Brasiliae legit cl. Lund [870]. ... (v.s.)'. Holotype: G-DC.

Conoclinium affine Gardner, London J. Bot. 5: 466 (1846). Type: 'HAB. Bushy places, near Tijuca, Province of Rio de Janeiro, Brazil. Fl. in Dec.' [Gardner] 5512. Types: BM, K ...

**Eupatorium betoniciforme* (DC.) Baker in Mart., Fl. Bras. 6(2): 362 (1876).

Eupatorium betoniciforme (DC.) Baker var. *β hastatum* Baker in Mart., Fl. Bras. 6(2): 363 (1876), nom. illegit., citing *Conoclinium affine* Gardner in synonymy. [Material cited against this name: 'Prov. Minas Geraës ad Ouro Preto: Pohl n. 507; ad Lagoa Santa: Warming; prov. Rio de Janeiro in Serra dos Orgãos: Gardner n. 5512, Burchell n. 2295, 2655.' – all in K.]

Eupatorium palustre (DC.) Baker in Mart., Fl. Bras. 6(2): 363 (1876).

Conoclinium palustre Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 363 (1876), nom. nud. pro syn.

Coelestina hastata Pohl ex Baker in Mart., Fl. Bras. 6(2): 363 (1876), nom. nud. pro syn.

Argentina, Bolivia (?Tarija), Brazil, Uruguay.

Scrub, marshes, grassland.

0–1300 m.

November–May.

Barrosoa candolleana (Hook. & Arn.) R. M. King & H. Rob., Phytologia 21(1): 27 (1971).

Eupatorium candolleum Hook. & Arn., Companion Bot. Mag. 1(No. 8): 243 (1836). Type/s: 'Woods on the Uruguay, Rio Jacquery, Rio Grande, &c. in S. Brazil, frequent, and very variable, Tweedie.'

Conoclinium lasseauxii Durand, Ind. Sem. Hort. Burdigala [Jardin-des-Plantes de la Ville de Bordeaux. Extrait de Catalogue des Graines récoltées en 1872. Notes.]: 15 (1872). Type: 'Des graines envoyées de l'Uruguay au Muséum par l'infortuné Lasseux, donnèrent naissance à une assez jolie Composée, tribu des Eupatoriées. La plante, considérée comme nouvelle, fut justement consacrée par M. Carrière à le mémoire du regretté correspondant du Muséum.' Holotype: ?BORD.

Conoclinium microcephalum Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 364 (1876), nom. nud. pro syn.

Eupatorium candolleum Hook. & Arn. var. *β lancifolium* [as *lancifolia*] Baker in Mart., Fl. Bras. 6(2): 364 (1876). Type: [Brazil:] 'Rio Grande do Sul ad Ilha dos Marinheiros: Fox.'

Eupatorium candolleum Hook. & Arn. var. *γ paranensis* Baker in Mart., Fl. Bras. 6(2): 364 (1876). Types: [Brazil:] 'In ditione Parana: Tweedie; loco non indicato: Sello.'

Eupatorium palustre (DC.) Baker var. *verbenaceum* Chodat, Bull. Herb. Boissier, sér. 2, 1(4): 412 (1901). Types: [Paraguay:] 'In palude pr. Cerro-pyta. Oct., [Hassler] 1276; ad ripam rivi Juqueri [Hassler] 1424, Oct., Balansa, fleurs roses, dans les pâturages, Mai, 794.

Eupatorium palustre (DC.) Baker var. *guaraniticum* Chodat, Bull. Herb. Boissier, sér. 2, 3(8): 710 (1903), nom. illegit.

Argentina, Bolivia (?Santa Cruz), Brazil, Paraguay, Uruguay.

Damp soils, pond margins.

0–1000 m.

October–May.

Vernacular names: PETY RAÍ (Cabrera, 1996); TABACO DEL MONTE (Freire et al., 2006).

Barrosoa confluentis (B. L. Rob.) R. M. King & H. Rob., *Phytologia* 49(1): 3 (1971).

**Eupatorium confluentis* B. L. Rob., *Contr. Gray Herb.* 77: 11 (1926). Type: 'BOLIVIA: junction of the Rivers Beni and Madre de Dios, Aug., 1886, Dr. H. H. Rusby, no. 1656'. Holotype: GH (7604); isotypes: GH (7605), K, MO, ?NY, US (00050694). Note: *Rusby* 1656 was determined as *E. steviifolium* DC. by Rusby (1891: 334). However, Robinson (1920: 75) also equated *Rusby* 1656 to *Eupatorium trichobasis* Baker (= *Gyptidium trichobasis* (Baker) R. M. King & H. Rob.) a Brazilian plant, which does not occur in Bolivia

Bolivia (Bení, La Paz, Santa Cruz).

River margins.

1800 m.

August.

Bartolia Adans., *Fam. Pl.* 2: 124 (1763) = **Tridax** L.

Batschia Moench, *Methodus* : 567 (1794), non *Batschia* J. F. Gmel. (1791) [BORAGINACEAE] = **Ageratina** Spach

Baziasa Steud., *Nomencl. Bot.*, ed. 2, 1: 192 (1840) = **Galinsoga** Ruiz & Pav., p.p.

Baziasa urticifolia (Kunth) Steud., *Nomencl. Bot.*, ed. 2, 1: 192 (1840) = **Galinsoga quadriradiata** Ruiz & Pav.

Behen Hill, *Veg. Syst.* 4: 41 (1762) = **Vernonia** Schreb.

Bejaranoa R. M. King & H. Rob., *Phytologia* 40(1): 52 (1978).

Type: *Eupatorium balansae* Hieron. = **Bejaranoa balansae** (Hieron.) R. M. King & H. Rob.

Bejaranoa balansae (Hieron.) R. M. King & H. Rob., *Phytologia* 40(1): 53 (1978).

Eupatorium balansae Hieron., *Bot. Jahrb. Syst.* 22(4–5): 778 (1897). Type: 'Paraguay: an unvultivierten Stellen bei Paraguay (BALANSA, März 1881, n. 3074).' Holotype: B†.

Eupatorium bracteatum Gardner var. *reticulatum* Chodat, *Bull. Herb. Boissier*, ser. 2, 1(4): 713 (1901). Types: [Paraguay:] 'In campo pr. Cordillera de Altos, Jul., [Hassler] 574; in dumeto pr. Atira, Aug., [Hassler] 696.' Syntypes: G.

Eupatorium balansae Hieron. var. *reticulatum* Chodat, *Bull. Herb. Boissier*, ser. 2, 3(8): 708 (1903).

Eupatorium balansae Hieron. var. *menthoides* Chodat, *Bull. Herb. Boissier*, ser. 2, 3(8): 708 (1903). Type:

[Paraguay:] 'Suffrutex 0,5–0,6, petala alba in dumeto pr. Paraguay, Dec., [Hassler] n. 6574a.' Holotype: G.

Eupatorium balansae Hieron. var. *menthoides* Chodat f. *foliosa* Chodat, *Bull. Herb. Boissier*, ser. 2, 3(8): 708

(1903). Type: [Paraguay:] 'Suffrutex 0,6–0,8, petala alba in glareosis collium pr. Paraguay, Dec., [Hassler] n. 6574.' Holotype: G.

Bolivia (Santa Cruz), Brazil, Paraguay.

Disturbed soils, rocky ground, deciduous woodland.

0–500 m.

July–March, but probably flowering throughout the year.

Bellis ramosa Jacq., *Select. Stirp. Amer. Hist.*: 216, t. 129 (1763) = **Eclipta prostrata** (L.) L.

Belloa J. Rémy, *Fl. Chil.* 3: 336 (1847).

Lucilia Cass. sect. *Lucilioides* DC., *Prodr.* 6: 46 (1838). Type: *Lucilia chilensis* Hook. & Arn. = **Belloa chilensis** (Hook. & Arn.) J. Rémy

Merope Wedd., *Chloris Andina* 1: 160 (1856), p.p. nom. illegit., non *Merope* M. J. Roemer (1846) [RUTACEAE].

Lucilia Cass. sect. *Lucilioides* DC. subsect. *Lucilioides* S. E. Freire ser. *Lucilioides* S. E. Freire, *Cladistics* 3(3): 271 (1987).

Lucilia Cass. sect. *Lucilioides* DC. subsect. *Lucilioides* S. E. Freire ser. *Paralucilia* S. E. Freire., *Darwiniana* 27(1–4): 479 (1986). Type *Lucilia pusilla* (Kunth) Hieron. = **Belloa kunthiana** (DC.) Anderb. & S. E. Freire

Type: *Belloa chilensis* (Hook. & Arn.) J. Rémy

Note: Anderberg & Freire (1991) proposed the continued recognition of *Belloa* and *Luciliocline* as separate from *Lucilia*. The diagnostic characters are rather weak but the genera are listed separately in this account. Dillon & Sagástegui (2003) continued to recognize *Belloa*, but as a monotypic genus, transferring the remaining species of *Belloa* to *Luciliocline*; Ward et al. (2009) concurred with this view.

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Key to species

1. Plants subcaespitose or erect; stems simple or with short branches; leaves ‘lax’ or rosetiform on same plant or all approximate or all ‘lax’; inflorescences branched or in pseudoglomerules 2
Plants caespitose; stems simple, short; leaves rosetiform; capitula solitary in terminal rosette of leaves 4
2. (1) Stems branched; capitula in pseudoracemes *B. schultzii*
Stems simple; capitula in pseudospikes 3
3. (2) Outer phyllaries acuminate, inner phyllaries with fenestrate stereome; leaves pseudopetiolate *B. pickeringii*
Outer phyllaries acute; inner phyllaries with entire stereome; leaves not pseudopetiolate *B. piptolepis*
4. (1) Achenes with twin-hairs; marginal florets 38–78; disc florets 4–8; leaves 6–18 mm long *B. kunthiana*
Achenes glabrous or with globose and mucilaginous hairs; marginal florets 125–181; disc florets 10–16; leaves 20–50 mm long *B. longifolia*

Belloa argentea (Wedd.) Cabrera, *Fl. Prov. Jujuy* 10: 296 (1978) = ***Belloa schultzii*** (Wedd.) Cabrera

Belloa burkartii (Cabrera) Cabrera, *Revista Invest. Agr.* 11: 404 (1957) = ***Luciliocline burkartii*** (Cabrera) Anderb. & S. E. Freire

Belloa caespititia (Wedd.) Cabrera, *Bol. Soc. Argent. Bot.* 7: 81 (1958) = ***Belloa schultzii*** (Wedd.) Cabrera

Belloa erythraetis (Wedd.) Cabrera, *Revista Invest. Agríc.* 11: 404 (1957) = ***Gamochoeta erythraetis*** (Wedd.) Cabrera

Belloa kunthiana (DC.) Anderb. & S. E. Freire, *Bot. J. Linn. Soc.* 106(2): 189 (1991).

Conyza pusilla Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 54 (1818), nom. illegit., non Houtt. (1773–1783). Type: [Ecuador:] ‘Crescit regione alpina Regni Quitensis ? ■ Holotype: P-Bonpl.

Conyza kunthiana DC., Prodr. 5: 379 (1836). Type: [Ecuador:] '■in regione alpinâ regni Quitensis?' [*Humboldt & Bonpland*, s.n.] Holotype: P-Bonpl.

**Lucilia affinis* Wedd., *Chloris Andina* 1: 230 (1857). Type: 'Hab. BOLIVIE!: Cordillères du département de la Paz (*Mandon* [168]).' Holotype: P.

Lucilia conoidea Wedd., *Chloris Andina* 1: 154 (1856). Type: 'Hab. PÉROU!: Cordillères du département de Cuzco (*Gay*).' Holotype: P; isotype: LP.

**Lucilia violacea* Wedd., *Chloris Andina* 1: 155 (1856). Type: 'Hab. BOLIVIE: sur les parties les plus élevées des montagnes de la Cordillères de Sorata!, à la hauteur de 4000 à 5000 mètres (*Wedd.*).' Holotype: P.

Merope kunthiana (DC.) Wedd., *Chloris Andina* 1: 161 (1856).

**Gnaphalium kunthianum* (DC.) Kuntze, *Revis. Gen. Pl.* 3(3): 152 (1898).

Lucilia pusilla (Kunth) Hieron., *Bot. Jahrb. Syst.* 29(1): 29 (1900), comb. illegit.

Lucilia venezualensis Steyerl., *Fieldiana, Bot.* 28(3): 644 (1953). Type: [Venezuela:] 'Type in herb. Chi. Nat. Hist. Mus., collected in dry páramo along upper headwaters of Río Tormero, below El Aguila and above Chachapo, state of Mérida, alt. 3650-3965 m., March 13, 1944, *Julian A. Steyermark* 55657, "in dense clumps."' Holotype: F (1390433); isotypes MO, NY (00214771).

Lucilia kunthiana (DC.) Zardini, *Ann. Missouri Bot. Gard.* 74(2): 431 (1987).

Argentina, Bolivia (Chuquisaca, La Paz), Colombia, Ecuador, Peru, Venezuela.

2800–5000 m.

Chuquisaca: *Wood* 7638 (K).

Note: In recognizing different generic limits, Dillon & Sagástegui (1991: 50–51) proposed that *Lucilia conoidea* Wedd. was 'distinct and readily recognizable' from *L. kunthiana* (DC.) Zardini. This contrasted with Anderberg & Freire's view (Anderberg & Freire, 1991) who recognized the two, one as a synonym of the other, under a modified concept of *Belloa*, as *Belloa kunthiana* (DC.) Anderb. & S. E. Freire, and a narrower concept of *Lucilia* than originally proposed by Freire (1986).

Belloa longifolia (Cuatrec. & Aristeg.) Sagásteg. & M. O. Dillon, *Phytologia* 58(6): 396 (1985).

Lucilia longifolia Cuatrec. & Aristeg., *Fl. Venez.* : 367 (1964). Type: '[VENEZUELA] camino a Pico Bolívar, 15 km. al sudeste de Mérida, cerca del Refugio Moya, alt. 4.100–4.300 m. Edo. Mérida, Venezuela) *E. L. Little, Jr.* 15725, Oct. 1953).' Holotype: VEN.

Luciliocline longifolia (Cuatrec. & Aristeg.) M. O. Dillon & Sagásteg., *Arnaldoa* 10(1): 52 (2003).

?Bolivia (?), Colombia, Peru, Venezuela.

3600–4000 m.

Belloa lopezmirandae Cabrera, *Bol. Soc. Argent. Bot.* 7: 83 (1958) = ***Luciliocline lopezmirandae*** (Cabrera) Anderb. & S. E. Freire

Belloa pickeringii (A. Gray) Sagásteg. & M. O. Dillon, *Phytologia* 58(6): 396 (1985).

Lucilia pickeringii A. Gray, *Proc. Amer. Acad. Arts* 5: 138 (1861). Type: 'High Andes of Peru' [Collected on the United States South Pacific Exploring Expedition under Captain Wilkes]. Note: no distinction was made between this citation and that of the following variety.

Lucilia (Merope) pickeringii A. Gray var. β ? *minor* A. Gray, *Proc. Amer. Acad. Arts* 5: 138 (1861). Type: see under synonym above.

Luciliocline pickeringii (A. Gray) M. O. Dillon & Sagásteg., *Arnaldoa* 10(1): 52 (2003).

Argentina, Bolivia (La Paz), Peru, Venezuela.

3500–5000 m.

Belloa piptolepis (Wedd.) Cabrera, *Bol. Soc. Argent. Bot.* 7: 81 (1958).

Merope piptolepis Wedd., *Chloris Andina* 1: 162 (1856). Types: 'Hab. PÉROU: collines pierreuses, près de Maravillas!, dans le département de Puno, h. 3900 mètres (*Wedd.* [4514]). – BOLIVIE: département de Potosi!, aux environs des lagunas (*d'Orbigny*, n. 1371).' Lectotype (selected by Freire, 1986: 472): *Weddell* 4514, P; isolectotype: LP. Syntype: *d'Orbigny* 1371, ?GH.

Lucilia piptolepis Wedd., *Chloris Andina* : tab. 26B (1856), based on *Merope piptolepis* Wedd., *Chloris Andina* 1: 162 (1856).

Gnaphalium evacoides Sch.Bip. ex Klatt, *Linnaea* 42(1): 142 (1878). Type: 'Crescit prope Parama de Mucuchier, Columbia, leg. *Moritz* 1047.' Holotype: B. Note: Solbrig (1965) also suggested material may well be in GH.

Gnaphalium piptolepis (Wedd.) Griseb., Abh. Königl. Gess. Wiss. Göttingen 24(1): 186 (March-April 1879);
Symb. Fl. Argent.: 186 (1879).

Luciliocline piptolepis (Wedd.) M. O. Dillon & Sagásteg., Araldoa 10(1): 53 (2003).
Argentina, Bolivia (Cochabamba, La Paz), Chile, Ecuador, Peru, Venezuela.
3000–4500 m.

Belloa punae (Cabrera) Cabrera, Revista Invest. Agric. 11(4): 404 (1958) = **Luciliocline subspicata** (Wedd.)
Anderb. & S. E. Freire

Belloa schultzii (Wedd.) Cabrera, Revista Invest. Agric. 11(4): 404 (1958)

Merope argentea Wedd., Chloris Andina 1: 163 (1856). Type: 'Hab. BOLIVIE: département de La Paz, dans les
endroits pierreux et un peu humides de la partie supérieure de la Quebrada de Chuquiaguillo! (Wedd.)'
Holotype: P.

Merope schultzii Wedd., Chloris Andina 1: 163 (1856). Type: 'Gnaphalium evacoides Schultz Bip., in Bonplandia,
ann. 1856, p. 54. ... Hab. PÉROU: au sommet de la Cordillère d'Ayapata!, dans la province de Carayaba
(Lechler, exsicc., n. 1984).' Holotype: P; isotype: LP.

Merope virescens Wedd., Chloris Andina 1: 163 (1856). Type: 'Hab. BOLIVIE: dans les mêmes lieux que le *M.*
argentea! (Wedd.)'. Holotype: P; isotype: LP.

Merope caespititia Wedd., Chloris Andina 1: 164 (1856). Type: 'Hab. BOLIVIE: sur les coteaux pierreux, autour
des lagunas de Potosi! (d'Orbigny, n. 1399).' Holotype: P; isotypes: GH (10097), LP.

**Lucilia schultzii* (Wedd.) A. Gray, Proc. Amer. Acad. Arts 5: 138 (1862).

Lucilia schultzii Wedd. ex Sch.Bip., Linnaea, 34: 532 (Feb. 1866), nom. nud.

Gnaphalium schultzii (Wedd.) Cabrera, Not. Mus. La Plata, Bot., 13: 14 (1948), comb. illegit. non Mendonca
(1943).

Gnaphalium viridescens Cabrera, Notas. Mus. La Plata, secc. Bot. 13(56): 15 (1948), non *Gnaphalium virescens*
Kuntze

Belloa virescens (Wedd.) Cabrera, Revista Invest. Agric. 11(4): 404 (1958).

Belloa caespititia (Wedd.) Cabrera, Bol. Soc. Argent. Bot. 7: 81 (1958).

Belloa argentea (Wedd.) Cabrera, Fl. Prov. Jujuy 10: 296 (1978).

Luciliocline schultzii (Wedd.) M. O. Dillon & Sagásteg., Araldoa 10(1): 53 (2003).

Argentina, Bolivia (La Paz, Oruro), Chile, Peru.

Puna.

4000–5000 m.

January–March.

Belloa subspicata Wedd., Chloris Andina 1: 159 (1856) = **Luciliocline subspicata** (Wedd.) Anderb. & S. E.
Freire

Belloa virescens (Wedd.) Cabrera, Revista Invest. Agric. 11(4): 404 (1958) = **Belloa schultzii** (Wedd.) Cabrera

Berthelotia DC., Prodr. 5: 375 (1836) = **Pluchea** Cass.

Bertolonia DC., Ann. Mus. Nat. Hist. Paris 19: t 5 (1812), nom. rej. (originally an alternative name for *Chabraea*
DC.) = **Leucheria** Lag.

Bichenia D. Don, Trans. Linn. Soc. London 16(2): 236 (1830) = **Trichocline** Cass.

Bichenia auriculata Wedd., Chloris Andina 1: 26 (1855) = **Trichocline auriculata** (Wedd.) Hieron.

Bichenia reptans Wedd., Chloris Andina 1: 25, tab. 8, B (1855) = **Trichocline reptans** (Wedd.) Hieron.

Bidens L., Sp. Pl. : 831 (1753).

Kerneria Moench, Meth. : 595 (1794), non *Kerneria* Medik. (1792), nom. cons. Type: *Kerneria tetragona* Moench,
nom. illegit. = **Bidens pilosa** L.

Ceratocephalus Vaill. ex Cass., Dict. Sci. Nat. 7: 432 (1817), non *Ceratocephalus* Moench (1794), nom. superfl.

Type: **Bidens pilosa** L.

Campylothea Cass., Dict. Sci. Nat. 59: 321 (1829). Type: *Bidens micrantha* Gaudich.

Adenolepis Less., *Linnaea* 6(3): 510 (1831). Type: *Adenolepis pulchella* Less. = *Bidens pulchella* (Less.) Sch.Bip.
Delucia DC., *Prodr.* 5: 633 (1836). Type: *Delucia ostruthioides* DC. = *Bidens ostruthioides* (DC.) Sch.Bip.
Diodonta Nutt., *Trans. Amer. Phil. Soc.*, ser. 2, 7: 360 (1841). Type: not designated.
Diatonta Walp., *Repert.* 2: 614 (1843), orth. var. of *Diodonta* Nutt.

Type: *Bidens tripartita* L.

References

Ballard, R. (1986). *Bidens pilosa* complex (Asteraceae) in North and Central America. *Amer. J. Bot.* 73(10): 1452–1465.

Robinson, H. (2006). *Bidens*. In: G. Harling & L. Andersson (eds), *Flora of Ecuador*, No. 77(1): 190(6). *Compositae-Heliantheae, Part I: Introduction, genera A–L*. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 49–75.

Sherff, E.E. (1937). The genus *Bidens*. *Field Mus. Publ. Bot.* 16: 1–709.

Bidens abadiae DC., *Prodr.* 5: 601 (1836) = ***Bidens odorata*** Cav.

Bidens acmella (L.) Lam., *Encycl.* 1: 415 (1783) = ***Blainvillea acmella*** (L.) Philipson

Bidens adhaerescens Vell., *Fl. Flum.*: 348 (1825)[7 Sept. - 28 Nov. 1829]; *Fl. Flum. Icones* 8: tab. 88 (1831) = ***Bidens pilosa*** L.

Bidens affinis Klotzsch & Otto, *Linnaea* 15: 2 (1841) = ***Bidens triplinervia*** Kunth

Bidens alausensis Kunth in Humb., *Bonpl. & Kunth.*, *Nov. Gen. Sp. Pl.* 4 (ed. folio): 184 (1818) = ***Bidens odorata*** Cav.

****Bidens andicola*** Kunth in Humb., *Bonpl. & Kunth.*, *Nov. Gen. Sp.* 4 (ed. folio): 186 (1818). Type: 'Crescit in diclivitatem nobilissimi montis Chimborazo, alt. 1750 hex. †. Floret Junio.' Holotype: P-Bonpl.; isotype: B-W.

Bidens fruticulosa Mey. & Walp., *Nov. Actorum. Acad. Caes. Leop.-Carol. Nat. Cur.* 19, Suppl. 1: 271 (1843).

Type: 'Peruvia: in planitie circa Tacorum, alt. 14–17,000 ped. (v. s.)' Holotype B†.

Bidens macrantha Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19([1]): 186 (1874); *Pl. Lorentz.* : 138 (1874).

Types: 'Tucuman, copiose in pascuis alpinis pr. Cienega. Catamarca, in convalle excelsa Granadillas pr. Yakutula.' Holotype: B†.

Bidens cosmantha Griseb. var. *diversifolia* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 198 (1879); *Symb. Argent.* : 198 (1879). Type: [Argentina] 'Ct.' Holotype: GOET; isotype: CORD.

Bidens andicola Kunth [var.] α *normalis* Kuntze, *Revis. Gen. Pl.* 3(3): 136 (1898). , Type': 'Bolivia: Cochabamba.' Holotype: ?

Bidens andicola Kunth [var.] β *heterophyllus* [sic!] Kuntze, *Revis. Gen. Pl.* 3(3): 136 (1898). Type: 'Bolivia: La Paz (No. 141 *Bang* im Berl. bot. Mus.)' Holotype: B†; isotypes: NY (00162578, 00162579).

Bidens andicola Kunth [var.] δ *decomposita* Kuntze, *Revis. Gen. Pl.* 3(3): 136 (1898). Type: 'Bolivia: Cochabamba'. Holotype: NY (00162577).

Bidens grandiflora Balbis [var.] β *brevilobus* Kuntze, *Revis. Gen. Pl.* 3(3): 136 (1898). Types: 'Bolivia: Pass zwischen Cochabamba und Rui Juntas 2600–3000 m.' ['Bolivia. Pass zwischen Cochabamba und Rio Juntas, 2600–3000 m, 13–20 Apr 1892, Kuntze s.n.; 2600 m, 1–4 Apr 1892, Kuntze s.n.' – according to Wetter & Zandoni, 1985: 328]. Type/s?: NY (00162586).

Bidens buchtienii Sherff, *Bot. Gaz.* 76(2): 150 (1923). Type: 'Dr. Otto Buchtien 4304, at altitude of 3800 m., La Paz Bolivia, April 8, 1919 (type and cotype in Herb. Field Mus.)' Holotype: ?F; isotypes: ?F, NY (00162582), US (01098733).

**Bidens andicola* Kunth [var.] *tarijensis* Sherff, *Bot. Gaz.* 85(1): 14 (1928). Type: 'K. Fiebrig 3460, Tarija, Bolivia, March 9, 1904'. Holotype: B†. Sherff (1928) also cited the following paratypes, also in B: *Fiebrig* 3461 p.p., *Fiebrig* 3004a p.p.

**Bidens andicola* Sherff var. *tarijensis* Sherff f. *dissecta* Sherff., *Bot. Gaz.* 85(1): 14 (1928). Type: 'K. Fiebrig 3147, alt. 2200 m., Tarija, Bolivia, March 13, 1904'. Holotype: B†. Sherff also cited the following paratypes, also in B: *Fiebrig* 3004a p.p., *Fiebrig* 4361 p.p.

Bidens andicola Kunth var. *cosmantha* (Griseb.) Sherff f. *buchtienii* (Sherff) Sherff, *Field Mus. Publ. Bot.* 16: 502 (1937).

Bidens pusila Sherff, *Sida* 1(6): 369 (1964). Type: 'Harriet G. Barclay & Pedro Juajibioy 7986, herb with spreading stems and finely dissected leaves; heads with wide, yellow rays; disk flowers yellow; very common; large,

open, grassy páramo, alt. circ. 3700 m., western side of range above Pujilí, west of Latacunga, campsite, disturbed roadside, Páramo de Milín, Cordillera Occidental, Prov. Cotopaxi, Ecuador, July 15-16, 1959'. Holotype: US (2372755).

Argentina, Bolivia (Cochabamba, La Paz), Ecuador.

Humid montane forest, grassy paramo, Puna Peruana; Altiplano, Tolillares (Altiplano xeromornic thornscrub), Boliviano-Tucumano montane scrub, ancient clearings and deforested areas on eroded soils in *Podocarpus parlatoresi* forest.

2500–4300 m.

March–June.

Bidens andicola* Kunth var. *cosmantha* (Griseb.) Sherff, Bot. Gaz. 85(1): 2 (1928) = **Bidens cosmantha Griseb.

Bidens andicola* Kunth var. *cosmantha* (Griseb.) Sherff f. *buchtienii* (Sherff) Sherff, Field Mus. Publ. Bot. 16: 502 (1937) = **Bidens andicola Kunth

Bidens andicola* Kunth [var.] *γ decomposita* Kuntze, Revis. Gen. Pl. 3(3): 136 (1898) = **Bidens andicola Kunth

Bidens andicola* Kunth var. *mandonii* Sherff, Bot. Gaz. 80(4): 380 (1925) = **Bidens mandonii (Sherff) Cabrera

Bidens andicola* Kunth [var.] *tarijensis* Sherff, Bot. Gaz. 85(1): 14 (1928) = **Bidens andicola Kunth

Bidens andicola* Sherff var. *tarijensis* Sherff f. *dissecta* Sherff., Bot. Gaz. 85(1): 14 (1928) = **Bidens andicola Kunth

Bidens antiguensis Coult., Bot. Gaz. 16(4): 100 (1891) = **Bidens reptans** (L.) G. Don

Bidens artemisiifolia Poepp., Nov. Gen. Sp. Pl. 3: 49 (1843) = **Bidens triplinervia** Kunth

Bidens attenuata Sherff, Bot. Gaz. 61(6): 495 (1916) = **Bidens triplinervia** Kunth

Bidens barrancae M. E. Jones, Contr. W. Bot. 18: 82 (1933) = **Bidens odorata** Cav.

Bidens berteriana Spreng., Syst. Veg., ed. 16, 3: 454 (1826) = **Cosmos caudatus** Kunth

Bidens bimucronata Turcz., Bull. Soc. Naturalistes Moscou 24(1): 184 (1851) = **Bidens odorata** Cav.

Bidens bipinnata Baill., Hist. Pl. 8: 50 (1886), nom. illegit. non L. (1753) = **Cosmos bipinnatus** Cav.

Bidens bonplandii Sch.Bip. in Seem., Bot. Voy. Herald: 308 (1856), nom. illegit. based on *Cosmos tenellus* Kunth = **Bidens odorata** Cav.

Bidens brachycarpa DC., Prodr. 5: 600 (1836) = **Bidens odorata** Cav.

Bidens brittonii Sherff, Bot. Gaz. 56(6): 492 (1913) = **Bidens reptans** (L.) G. Don

Bidens buchtienii Sherff, Bot. Gaz. 76(2): 150 (1923) = **Bidens andicola** Kunth

Bidens californica DC., Prodr. 5: 599 (1836) = **Bidens pilosa** L.

Bidens caracasana DC., Prodr. 5: 600 (1836) = **Bidens odorata** Cav.

Bidens caucalidea DC., Prodr. 5: 604 (1836) = **Bidens odorata** Cav.

Bidens caudata (Kunth) Sch.Bip. in Seem., Bot. Voy. Herald : 308 (1856) = **Cosmos caudatus** Kunth

Bidens consolidifolia Turcz., Bull. Soc. Naturalistes Moscou 24(1): 185 (1851) = **Bidens triplinervia** Kunth

Bidens coreopsidis DC., Prodr. 5: 599 (1836) = **Bidens reptans** (L.) G. Don

Bidens coreopsidis DC. var. *procumbens* Donn. Sm., Bot. Gaz. 42(4) : 299 (1906) = **Bidens reptans** (L.) G. Don

Bidens coreopsidis DC. var. *reptans* (L.) DC., Prodr. 5: 599 (1836) = **Bidens reptans** (L.) G. Don

Bidens crithmifolia Kunth in Humb., Bonpl. & Kunth in Nov. Gen. Sp. Pl. 4 (ed. folio): 183 (1818) = **Bidens triplinervia** Kunth

Bidens daucifolia DC., Prodr. 5: 601 (1836) = **Bidens odorata** Cav.

Bidens deamii Sherff, Bot. Gaz. 56(6): 490 (1913) = **Bidens odorata** Cav.

Bidens decomposita Wall. ex DC. var. *β hirsutior* C. B. Clarke, Comp. Ind. : 141 (1876) = **Bidens triplinervia** Kunth

Bidens decussata Pav. ex DC., Prodr. 5: 599 (1836), nom nud. pro syn. based on *B. hispida* = **Bidens pilosa** L.

Bidens delphinifolia Kunth in Humb., Bonpl. & Kunth in Nov. Gen. Sp. Pl. 4 (ed. folio): 183 (1818) = **Bidens triplinervia** Kunth

Bidens exaristata DC., Prodr. 5: 600 (1836) = **Bidens odorata** Cav.

Bidens exigua Sherff, Bot. Gaz. 70(2): 89 (1920). Type: "C. H. T. Townsend 1513, alt. 1607 m., Chosica Canyon, Peru, April 20, 1913 (Herb. U.S. Nat. Mus., no. 602943, type)." Holotype: US.

Argentina, Bolivia (?), Peru.

1500–3000 m.

December–April.

Bidens gardneri Baker in Mart., Fl. Bras. 6(3): 246 (1884). Types: 'Habitat in campis prov. Goyaz, in rupestribus ad S. Domingas: *Gardner* n. 4256!; in montosis ad Conceição: *Gardner* n. 3850!; in prov. Minas Geraës ad Lagoa Santa: *Warming!*; in umbrosis Aracoara: *Riedell!*; praeterea *Pohl* n. 413!; in Paraguay, in silva magna Caaguazu: *Balansa* n. 908!'

Bolivia (Santa Cruz), Brazil, Paraguay.

Cerrado, grassland, roadsides, sandy soils.

120–290 m.

April–May.

Santa Cruz: *Wood* et al. 24766 (K, USZ), *Wood* et al. 24880 (K, USZ).

Bidens glaberrima DC., Prodr. 5: 601 (1836) = **Bidens triplinervia** Kunth

Bidens grandiflorus Balbis [var.] α *humilis* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 136 (1898) = **Bidens triplinervia** Kunth [var. **macrantha** (Wedd.) Sherff] – cited with one collection from Bolivia, 'Bolivia: zwischen Oruro und Tapacari 4200 m.'

Bidens grandiflorus* Balbis [var.] β *brevilobus* Kuntze, Revis. Gen. Pl. 3(3): 136 (1898) = **Bidens andicola Kunth

**Bidens grandiflorus* Balbis [var.] γ *longilobus* Kuntze, Revis. Gen. Pl. 3(3): 136 (1898). Type: 'Bolivia: Cochabamba.' *Wetter & Zanoni* (1985) cited no material in NY against this name, and *Sherff* (1937) left the taxon as *insertae sedis*.

Bidens hirsuta Nutt., Trans. Amer. Philos. Soc. n.s. 7: 369 (1841) = **Bidens pilosa** L.

Bidens hirtella Kunth in Humb., Bonpl. & Kunth in Nov. Gen. Sp. Pl. 4 (ed. folio): 182 (1818) = **Bidens triplinervia** Kunth

Bidens hispida Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 186 (1818) = **Bidens pilosa** L.

Bidens humilis* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 184 (1818) = **Bidens triplinervia Kunth [var. **macrantha** (Wedd.) Sherff]

Bidens humilis Kunth [var.] β *macrantha* Wedd., *Chloris Andina* 1: 69 (1856) = **Bidens triplinervia** Kunth

Bidens humilis Kunth var. *major* Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); *Linnaea* 34(5): 528 (Feb. 1866), nom. nud. = **Bidens triplinervia** Kunth

Bidens humilis* Kunth var. *tenuifolia* Sch.Bip. ex Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 198 (1879) = **Bidens triplinervia Kunth [var. **macrantha** (Wedd.) Sherff]

Bidens inermis S. Watson, Proc. Amer. Acad. Arts 23: 278 (1888) = **Bidens odorata** Cav.

Bidens involucreatum Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 49 (1891) = **Heterosperma nanum** (Nutt.) Sherff

Bidens leucantha L. f. *discoidea* (Sch.Bip.) Krauss, Beitr. Fl. Cap. Natal. : 77 (1846) = **Bidens pilosa** L.

Bidens leucantha L. var. *pilosa* (L.) Griseb., Cat. Pl. Cub. : 155 (1866) = **Bidens pilosa** L.

Bidens longipetiolata* Rusby, Bull. New York Bot. Gard. 8(No. 28): 131 (1912) = **Bidens segetum Mart. ex Colla

Bidens macrantha* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 186 (1874) = **Bidens triplinervia Kunth

Bidens mandonii (Sherff) Cabrera, Fl. Prov. Jujuy 20: 419 (1978).

**Bidens andicola* Kunth var. *mandonii* Sherff, Bot. Gaz. 80(4): 380 (1925). Type: 'G. Mandon 48 (type) and 44 pro parte, in uncultivated places, alt. 2650 m., vicinity of Sorata (San Pedro), Bolivia, March 1859 (Herb. Boiss.; Herb. Brit. Mus.; Herb. Deless.; Herb. Kew; Herb. Par.; Herb. Mus. Vienna).' Holotype: G; isotypes: BM, K, P, W.

Argentina, Bolivia (La Paz).

1500–3000 m.

Bidens mexicana Sherff, Bot. Gaz. 56: 491 (1913) = **Bidens reptans** (L.) G. Don

Bidens mollis Poepp., Nov. Gen. Sp. Pl. 3: 49 (1843) = **Bidens triplinervia** Kunth

Bidens multiserrata Sch.Bip., *Linnaea* 30: 181 (1859/60), nom. nud. = **Bidens segetum** Mart. ex Colla

Bidens odorata Cav., Icon. 1: 9, t. 13 (1791). Type: 'Habitat prope Mexico. ■ Vidi floridam in Reho horto Matritensi die 24 Novembri, quam olim colui in horto Exc. Ducis del Infantado.' Note: There are four sheets in MA attributed to this material. MA (475436), illustrated in Cavanilles herbarium microfiche 18/C2 is simply labelled on a typewritten Herb. Horti Bot. Matrit. label 'De Méjico in Horto Issy.'; MA (475434) (Fiche 18/C3) is simply marked *Bidens odorata* Cav.; MA (475435) (Fiche 18/C4) bears two handwritten labels, the upper 'Telapatl', the lower '*Bidens odorata* Cav./Icon. tab./Née iter', and a typewritten label with the species name; MA (475436 [sic!]) – note duplicated accession number) (Fiche 18/C5) bears one handwritten

label 'Bidens odorata/Icon. tab. 13/Mexico/Culta in Issy 1785' and one typewritten label with the species name and 'De Méjico in Horto Issy.'

Coreopsis odoratissima Cav. ex Pers., Syn. Pl. 2: 477 (1807), nom. illegit. based on **Bidens odorata** Cav.

Coreopsis ferulifolia Jacq. var. *odoratissima* (Cav. ex Pers.) Pers., Syn. Pl. 2: 477 (1807).

Bidens alausensis Kunth in Humb., Bonpl. & Kunth., Nov. Gen. Sp. Pl. 4 (ed. folio): 184 (1818). Type: 'Crescit inter Alausi et Tambo de Guamote, alt. 1300 hex. (Regno Quitensi.) ■ Floret Julio.' Holotype: P-Bonpl.

Bidens scandicina Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 184 (1818). Type: 'Crescit prope Llactacunga et Hambato Quitensium, alt. 1400 hex. ♀' [*Humboldt & Bonpland* 'Bonpl. mss. n. 3135. Latacunga']. Holotype: P-Bonpl.; isotype: B-W '3135'; there is a second sheet, B-W (15026), but this is unmarked.

Cosmos tenellus Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 188 (1818). Type: 'Crescit locis subfrigidis, inter Huehuetoca et urbem Mexici, alt. 1200 hex. ♀ Floret Septembri.' Holotype: P-Bonpl.

Cosmos pilosus Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 189 (1818). Type: 'Crescit locis aridis, prope Santa Rosa de la Sierra, alt. 1300 hex. (Nova Hispania.) ■ Floret Septembri.' Holotype: P-Bonpl. ('mss. n. 4244. S. Rosa').

Bidens striata Sweet, Brit. Fl. Gard., 3: pl. 237 (1829). Type: 'This handsome Autumn-flowering plant is a native of Mexico, and the specimens from which our drawing was made was kindly sent to us from the superb collection of Robert Barclay, Esq. of Bury-hill, ... We also received the specimens of it from Mr. Tate of Sloane-street Nursery, who raised a great many plants of it from seeds sown in open borders. ... Mr. Tate received the seeds, ... from George Ackerman, Esq. of the Strand, who received them from Mexico.' Note: Robinson (2006: 58) noted the holotype as the plate. Location of type material is unknown, however, there are two relevant sheets in K. One, ex herb. Benthamianum, which is labelled as ' "*Bidens striata*" Sw./DC. Prod. 5. 597/Hort. Soc. Hort. Lond 6-9-29.', the other, ex herb. Hookerianum, which is labelled ' *Bidens striata*/Mexic./Sw. Fl. G. tab. 237/Hort. Barcl.'. The latter is a good candidate at least for an isotype. Both of these specimens were determined as '*Bidens pilosa* var. *radiata* Sch.Bip.' by Sherff.

Coreopsis multifida DC., Prodr. 5: 573 (1836). Type: '- in Peruviâ? legit cl. Pavon ex h. Thibaud. Hùc refero specimina duo: unum spontaneum aetate provecius ligulis nullis verisim. deciduis, alt. hortense junius ligulis albidis caeterum simillimum. (v.s.)' Note: There is apparently only one sheet in G-DC, the right hand specimen with a label indicating that it was a Pavón collection.

Coreopsis multifida DC. var. β *mutica* DC., Prodr. 5: 573 (1836). Type: '- in Peruviâ undè semina ad hort. Par. olim misit cl. Dombey. ... (v.s. ex h. L'hér.)' Holotype: G-DC. Note: There is a second unlabelled sheet with just the taxon name on a label, this may be a duplicate of the material sent by Dombey.

Bidens exaristata DC., Prodr. 5: 600 (1836). Type: '- in Mexico inter Vittoriam et Tulam legit cl. Berlandier (pl. exs. n. 2220). ... (v.s.)' Holotype: G-DC.

Bidens brachycarpa DC., Prodr. 5: 600 (1836). Type: '- in Mexico ad Tampico de Tamaulipas legit cl. Berlandier (pl. exs. n. 5 et 113). ... (v.s.)'

Bidens caracasana DC., Prodr. 5: 600 (1836). Type: '• circa Caracas legit cl. Vargas. ... (v.s. comm. à cl. Vargas.)' Holotype: G-DC.

Bidens daucifolia DC., Prodr. 5: 601 (1836). Type: '- in Mexico legit cl. Berlandier fortè in valle Toluccanâ (commixt. sub n. 1138). ... (v.s.)' Holotype: G-DC.

Bidens abadiae DC., Prodr. 5: 601 (1836). Type: '- in Peruviâ circa limam legit cl. Abadia. ... (v.s. comm. à cl. Abadia.)' Holotype: G-DC.

Bidens caucalidea DC., Prodr. 5: 604 (1836). Type: '• in Mexici valle Toluccanâ legit cl. Berlandier (pl. exs. n. 1138). ... (v. s.)' Holotype: G-DC.

Bidens bimucronata Turcz., Bull. Soc. Naturalistes Moscou 24(1): 184 (1851). Type: 'In insula St. Domingo. Jaeger coll. n. 146.' Holotype: most probably in LE. Note: Robinson (2006: 59) cited the holotype as in PZV - [Petrozavodsk]. This is interesting, especially since Turczaninov began writing his '*Decas ...*' (only published in the Bulletin) just before he retired in the early 1840s. From 1845-47 he continued writing, based in Taganrog, continuing in Charkow until his death (1847-1863). It is quite likely that Turczaninov worked on material in LE (which is where Jaeger's original herbarium is deposited) as well as CW. Since the collections in Charkow (= Kharkov) (CW) were transferred to Kiev (KW), the Komarov Institute, St. Petersburg (LE) and the University Herbarium, Kharkov (CWU) it is extremely unlikely that the holotype of *B. bimucronata* was ever lodged in PZV - a herbarium founded in 1947, and cited as having only 800 specimens in 1990.

Bidens bonplandii Sch.Bip. in Seem., Bot. Voy. Herald: 308 (1856), nom. illegit. based on *Cosmos tenellus* Kunth

Bidens rosea Sch.Bip. in Seem., Bot. Voy. Herald: 308 (1856), nom. illegit. based on *Cosmos pilosus* Kunth

Bidens inermis S. Watson, Proc. Amer. Acad. Arts 23: 278 (1888). Type: [Mexico:] 'On rocky ledges in thin soil, Arroyo Aucho, in the Sierra Madre, Chihuahua; C. G. Pringle (n. 1291) Oct., 1887.' Holotype: ?F; isotypes: F (324726), ?MO, NY (00162568, 00162569), UC (88504), US (47393, 1415762).

Bidens rosea Sch.Bip. var. *calcicola* Greenm., Proc. Amer. Acad. Arts 41: 264 (1905). Type: 'MEXICO. State of Morelos: on limestone hills, Yautepec, near Cuernavaca, altitude 1220 m., 21 October, 1902, C. G. Pringle, no. 11,340'. Holotype: GH (53221).

Bidens pilosa L. var. *brachycarpa* (DC.) O. E. Schulz in Urb., Smbol. Ant. 7: 138 (1911).

Bidens pilosa L. var. *bimucronata* (Turcz.) O. E. Schulz in Urb., Symbol. Ant. 7: 138 (1911).

Bidens deamii Sherff, Bot. Gaz. 56(6): 490 (1913). Type: 'Chas. C. Deam, Cholula, Mexico, January 1, 1899'. Holotype: F. Note: There are apparently 2 sheets in F, neither apparently with the same date, and one is numbered '57139'.

Bidens ramosissima Sherff, Bot. Gaz. 56(6): 491 (1913). Type: 'W. E. Safford 1391, near Guadalajara, Jalisco, Mexico, February 23, 1907'. Holotype: US (573388).

Bidens pilosa L. var. *calcicola* (Greenm.) Sherff, Bot. Gaz. 80: 377 (1925).

Bidens pilosa L. var. *calcicola* (Greenm.) Sherff f. *dissecta* Sherff, Bot. Gaz. 80(4): 379 (1925). Type: 'Heyde and Lux 6164, alt. 1300 m., Malpais, Dept. Santa Rosa, Guatemala, November 1893'. Holotype: ?GH; isotypes: B × 2†, BM, C, ?F, G × 4, K.

**Bidens pilosa* L. var. *alausensis* (Kunth) Sherff, Bot. Gaz. 81(1): 35 (1926).

**Bidens pilosa* L. var. *alausensis* (Kunth) Sherff f. *scandicina* (Kunth) Sherff, Bot. Gaz. 81(1): 36 (1926).

Bidens orendainae M. E. Jones, Contr. W. Bot. 18: 82 (1933). Type: [Mexico] '[M. E. Jones] No. 27770, Orendain, Nov. 27 1930, on bottom in fields'. Holotype: POM; isotype: ?NY (362508)

Bidens barrancae M. E. Jones, Contr. W. Bot. 18: 82 (1933). Type: [Mexico:] '[M. E. Jones] No. 27757, La Barranca Guadalajara, Nov. 23 1930. ... a conspicuous field weed.' Holotype: POM.

Bidens odorata Cav. var. *calcicola* (Greenm.) Ballard, Amer. J. Bot. 73(10): 1462 (1986).

Bidens odorata Cav. var. *oaxacensis* Ballard, Amer. J. Bot. 73(10): 1462 (1986). Type: 'Mexico. Oaxaca: along Hwy 190, 22 mi N of Cd. Oaxaca, 19 Oct 1971, Melcher, Ballard & Hart 71-183'. Holotype: IA.

Bolivia (?), Ecuador, New Mexico.

Cultivated areas, clearings, roadsides, and lava flows.

1250-3200 m.

Bidens odorata Cav. var. *calcicola* (Greenm.) Ballard, Amer. J. Bot. 73(10): 1462 (1986) = ***Bidens odorata*** Cav.

Bidens odorata Cav. var. *oaxacensis* Ballard, Amer. J. Bot. 73(10): 1462 (1986) = ***Bidens odorata*** Cav.

Bidens orendainae M. E. Jones, Contr. W. Bot. 18: 82 (1933) = ***Bidens odorata*** Cav.

Bidens pallida* Rusby, Bull. New York Bot. Gard. 4(14): 389 (1907) = *Bidens segetum*** Mart. ex Colla

Bidens patula Gardner, London J. Bot. 7: 405 (1848) = ***Bidens segetum*** Mart. ex Colla

Bidens pectinata Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 528 (1865-66), nom. nud. = ***Bidens triplinervia*** Kunth

Bidens pedunculata Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 231 (1891) = ***Bidens triplinervia*** Kunth

Bidens peucedanifolius (Wedd.) Kuntze, Revis. Gen. Pl. 3(3): 136 (1898) = ***Cosmos peucedanifolius*** Wedd.

Bidens peucedanifolius (Wedd.) Kuntze [var.] α *bipinnatisecta* Kuntze, Rev. Gen. Sp. 3(3): 137 (1898) = ***Cosmos peucedanifolius*** Wedd.

Bidens peucedanifolius (Wedd.) Kuntze [var.] δ *cochabambensis* Kuntze, Revis. Gen. Pl. 3(3): 137 (1898) = ***Cosmos peucedanifolius*** Wedd. [var. ***cochabambensis*** (Kuntze) Sherff]

Bidens peucedanifolius* (Wedd.) Kuntze [var.] γ *soratensis* Kuntze, Revis. Gen. Pl. 3(3): 137 (1898) = *Cosmos peucedanifolius*** Wedd.

Bidens peucedanifolius (Wedd.) Kuntze [var.] β *tiraquensis* Kuntze, Revis. Gen. Pl. 3(3): 137 (1898) = ***Cosmos peucedanifolius*** Wedd. [var. ***tiraquensis*** (Kuntze) Sherff]

****Bidens pilosa*** L., Sp. Pl. : 832 (1753). Type: 'Habitat in America. ♀.' Lectotype (selected by D'Arcy in Woodson & Schery, 1975: 1178): Herb. Linn. No. 975.8 (LINN).

Coreopsis leucanthema L., Cent. I Pl.: 29 (1755). Type: 'Habitat in America. Miller.' Lectotype (selected by Ballard, 1986: 1464): Herb. Linn. 1026.5, LINN; isolectotype: BM.

Coreopsis leucantha L., Sp. Pl., ed. 2, 2: 1282 (1763), orth var., type as above.

Bidens hispida Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 186 (1818). Type: 'Crescit locis siccis, prope La Venta de Sanchorquiz, alt. 760 hex. (Prov. Venezuelæ.) ♀. Floret Januario.' [Humboldt &

- Bonpland 'mss. n. 698. Caracas'; B-W: 'Caracas. Jan. 1800 ___?___ 698. in Siccis La Venta'. Holotype: P-Bonpl.; isotype: B-W.
- Bidens reflexa* Link, Enum. Pl. 2: 306 (1822). Type: 'Hab. in Mexico ■ Holotype: B†.
- Bidens adhaerescens* Vell., Fl. Flum.: 348 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 88 (1831). Type: 'Habitat et frequenter, et ubique.'
- Bidens decussata* Pav. ex DC., Prodr. 5: 599 (1836), nom. nud. pro syn. based on *B. hispida*.
- Bidens californica* DC., Prodr. 5: 599 (1836). Type: '· in Californià legit cl. Douglas [56]. ... (v.s. comm. ab hon. soc. hortic. Londin.)'. Holotype: G-DC; isotype: K (mounted with what is probably a Coulter collection).
- Bidens hirsuta* Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 369 (1841). Type: [Hawaii:] 'Hab. In Atooi.' Holotype: ?GH.
- Bidens pilosa* L. var. *discoidea* Sch.Bip. in Webb & Berthel., Hist. Nat. Canaries 3(2): 242 (1844), based on **Bidens pilosa** L.
- Bidens pilosa* L. var. *radiata* Sch.Bip. in Webb & Berthel., Hist. Nat. Canaries 3(2): 242 (1844), based on *Coreopsis leucantha* L./*Bidens leucantha* (L.) Willd.
- Bidens leucantha* L. f. *discoidea* (Sch.Bip.) Krauss, Beitr. Fl. Cap. Natal. : 77 (1846).
- **Bidens pilosa* L. var. *radiata* (Sch.Bip.) J. A. Schmidt, Beitr. Fl. Cap. Verdischer Ins. : 197 (1852), comb. illegit.
- Bidens leucantha* (L.) Willd. var. *pilosa* (L.) Griseb., Cat. Pl. Cub. : 155 (1866).
- Kerneria pilosa* (L.) Lowe, Manual Fl. Madeira 1: 474 (1868).
- Kerneria pilosa* (L.) Lowe var. *discoidea* (Sch.Bip.) Lowe, Manual Fl. Madeira 1: 474 (1868).
- Kerneria pilosa* (L.) Lowe var. *radiata* (Sch.Bip.) Lowe, Manual Fl. Madeira 1: 474 (1868).
- Bidens pilosa* L. var. *leucantha* (L.) Kuntze [f.] 1. *subsimplificifolia* Kuntze, Revis. Gen. pl. 1: 322 (1891). Type: 'Portorico. Hongkong.' ['PUERTO RICO. Caguay, 8 Mar 1874, Kuntze s.n.' - according to Wetter & Zanoni, 1985: 328]. Syntype (*Kuntze* s.n. ex Puerto Rico): NY (00115509).
- Bidens pilosa* L. var. *leucantha* Sch.Bip. [f.] 2. *ternata* Kuntze, Revis. Gen. Pl. 1: 322 (1891). Types: 'Porto Rico. Hongkong. Sikkim. Gran Canaria.' Wetter & Zanoni (1985) noted that no material had been located in NY. There are 2 sheets in NY (00162606, 00162607) that correspond to two collections from Hong Kong. There is one sheet in NY (00162610) corresponding to a collection from Sikkim.
- Bidens pilosa* L. var. *leucantha* Sch.Bip. [f.] 4. *subbiternata* Kuntze, Revis. Gen. Pl. 1: 322 (1891). Type: 'Caracas. [Kuntze 1462b]'. Holotype: NY (00162594).
- Bidens pilosa* L. var. *discoidea* Sch.Bip. [f.] 3. *pinnata* Kuntze, Revis. Gen. Pl. 1: 322 (1891). Type: 'Colon. Macao. Turong.' ['CHINA. Macao, 7 Feb 1875, Kuntze 3541. VIETNAM. Turong [Da Nang], Feb 1875, Kuntze 3791.' - according to Wetter & Zanoni, 1985: 328]. Syntype (*Kuntze* 3541): NY (00162608). Syntype (*Kuntze* 3791): NY 00162605).
- Bidens pilosa* L. var. *discoidea* Sch.Bip. [f.] 4. *subbiternata* Kuntze, Revis. Gen. Pl. 1: 322 (1891). Type: 'St. Thomas. Birma.' ['BURMA. Maulmein, 18 Oct 1875, Kuntze 6248. VIRGIN ISLANDS. St. Thomas, 26 Feb 1874, Kuntze 213.' - according to Wetter & Zanoni, 1985: 328]. Syntype (*Kuntze* 6248): NY (00162609). Syntype (*Kuntze* 213): NY (00115508).
- Bidens pilosa* L. subvar. *discoidea* (Sch.Bip.) Pit. in Pit. & Proust, Iles Canaries : 226 (1908).
- **Bidens pilosa* L. var. *minor* (Blume) Sherff, Bot. Gaz. 80(4): 387 (1925).
- Widespread in the USA, Central and South America, south to Argentina and Chile. Bolivia (Santa Cruz). Roadsides, disturbed forest, swampy areas. 0–2500 m. Potentially flowering throughout the year.
- Note: Doubtless more detailed studies would somewhat increase the synonymy of *B. pilosa*, but the synonymy given above covers a broad concept of the species. Ballard (1986) restricted the species to plants with 'rays greatly reduced or lacking.'
- Vernacular names: AMOR DE VIEJO, AMOR SECO, ESPINA DE ERIZO, ESPINO NEGRA, PICÓN, SAETILLA, SELTILLA (Freire et al., 2006).
- **Bidens pilosa* L. var. *alausensis* (Kunth) Sherff, Bot. Gaz. 81(1): 35 (1926) = **Bidens odorata** Cav.
- **Bidens pilosa* L. var. *alausensis* (Kunth) Sherff f. *scandicina* (Kunth) Sherff, Bot. Gaz. 81(1): 36 (1926) = **Bidens odorata** Cav.
- Bidens pilosa* L. var. *bimucronata* (Turcz.) O. E. Schulz in Urb., Symbol. Ant. 7: 138 (1911) = **Bidens odorata** Cav.
- Bidens pilosa* L. var. *brachycarpa* (DC.) O. E. Schulz in Urb., Smbol. Ant. 7: 138 (1911) = **Bidens odorata** Cav.
- Bidens pilosa* L. var. *calcicola* (Greenm.) Sherff, Bot. Gaz. 80: 377 (1925) = **Bidens odorata** Cav.

- Bidens pilosa* L. var. *calcicola* (Greenm.) Sherff f. *dissecta* Sherff, Bot. Gaz. 80(4): 379 (1925) = **Bidens odorata** Cav.
- Bidens pilosa* L. var. *discoidea* Sch.Bip. in Webb. & Berthel., Hist. Nat. Canaries 3(2): 242 (1844) = **Bidens pilosa** L.
- Bidens pilosa* L. var. *discoidea* Sch.Bip. [f.] 2. *ternata* Kuntze, Revis. Gen. Pl. 1: 322 (1891) = **Bidens pilosa** L.
- Bidens pilosa* L. subvar. *discoidea* (Sch.Bip.) Pit. in Pit. & Proust, Iles Canaries : 226 (1908) = **Bidens pilosa** L.
- Bidens pilosa* L. var. *discoidea* Sch.Bip. [f.] 3. *pinnata* Kuntze, Revis. Gen. Pl. 1: 322 (1891) = **Bidens pilosa** L.
- Bidens pilosa* L. var. *discoidea* Sch.Bip. [f.] 4. *subbiternata* Kuntze, Revis. Gen. Pl. 1: 322 (1891) = **Bidens pilosa** L.
- Bidens pilosa* L. f. *hirsutior* (C. B. Clarke) Kuntze, Revis. Gen. Pl. 1: 322 (1891) = **Bidens triplinervia** Kunth
- Bidens pilosa* L. var. *leucantha* Sch.Bip. [f.] 4. *subbiternata* Kuntze, Revis. Gen. Pl. 1: 322 (1891) = = **Bidens pilosa** L.
- Bidens pilosa* L. var. *leucantha* (L.) Kuntze [f.] 1. *subsimplicifolia* Kuntze, Revis. Gen. pl. 1: 322 (1891) = **Bidens pilosa** L.
- Bidens platensis* Manganaro, Anal. Mus. Nac. Buenos Aires 24: 230 (1913) = **Bidens subalternans** DC.
- **Bidens pilosa* L. var. *minor* (Blume) Sherff, Bot. Gaz. 80(4): 387 (1925) = **Bidens pilosa** L.
- **Bidens pilosa* L. var. *radiata* (Sch.Bip.) J. A. Schmidt, Beitr. Fl. Cap. Verdischer Ins. : 197 (1852), comb. illegit. = **Bidens pilosa** L.
- Bidens procumbens* Kunth in Humb., Bonpl. & Kunth in Nov. Gen. Sp. Pl. 4 (ed. folio): 182 (1818) = **Bidens striplinervia** Kunth
- ***Bidens pseudocosmos** Sherff, Bot. Gaz. 76(2): 151 (1923). Type: 'Dr Otto Buchtien 815, at altitude of 3300 m., below Obraje, southeast of La Paz, Bolivia, May 10, 1919 (type, 1st and 2nd sheet, in Herb. Field Mus.)'.
Holotype: F (495620, 495621 - both sheets are marked as 'Holotype'; see note); isotypes: F (678654), K, NY (00162596), S, US (01098742). Note: Whilst the two sheets marked as 'Holotype' are clearly duplicates with the same printed label they are marked quite subtly on the det. slip - F-495621 clearly has 'Type sheet 2 - nd' written by Sherff on it.
Argentina, Bolivia (La Paz), Peru.
1500-3500 m.
- Bidens pulcherrimus* Sch.Bip., Linnaea 34(5): 528 (Feb. 1866), nom. nud. (based on *Mandon* 54, sub *Bidens* (*Cosmos*) *pulcherrimus*, see also *Cosmos* (*Bidens*) *pulcherrimus* Sch.Bip.) = **Cosmos peucedanifolius** Wedd.
[var. **tiraquensis** (Kuntze) Sherff]
- Bidens pusilla* Sherff, Sida 1(6): 369 (1964) = **Bidens andicola** Kunth
- Bidens quadrangularis* DC., Prodr. 5: 600 (1836) = **Bidens subalternans** DC.
- Bidens ramosissima* Sherff, Bot. Gaz. 56(6): 491 (1913) = **Bidens odorata** Cav.
- Bidens reflexa* Link, Enum. Pl. 2: 306 (1822) = **Bidens pilosa** L.
- Bidens reptans** (L.) G. Don in Sweet, Hort. Brit. ed. 3: 360 (1839).
Coreopsis reptans L., Syst. Nat. ed. 10, 2: 1228 (1759). Type: 'Habitat in America.' Lectotype (selected by Moore in Fawcett & Rendle, Fl. Jamaica 7: 252, 1936): *Browne*, Herb. Linn. No. 1026.13 (LINN).
Coreopsis viminea P. Browne ex Sm., Spic. Bot., fasc. 2: 20, pl. 22 (1791-92), nom. nud.
Coreopsis scandens Sm., Spic. Bot., fasc. 2: 20 (1791-92), nom. nud.
Coreopsis variifolia Salisb., Prodr. Stirp. Chap. Allert. : 206 (1796), nom. illeg.
**Bidens squarrosa* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 187 (1818). Type: 'Crescit inter Caracas et montem Buenavistæ, alt. 500 hex. ■ Floret Januario.' Holotype: P-Bonpl.
Bidens tereticaulis DC., Prodr. 5: 598 (1836). Types: '- in Mexico prope Tantoyuca legit *Berlandier* (pl. exs. n. 2150 et 2148); eadem ni fallor adest ex Brasiliae prov. Sancti-Pauli in herb. Mus. Par. (h. imp. Bras. n. 412). *B. squarrosa* Less. in linnaea 1830. p. 156 (è sylvis Jalapensibus orta) excl. utroq. Kunthii syn. ... (v.s.)'.
Syntypes: *Berlandier* 2148, G-DC; *Berlandier* 2150, G-DC × 2; 'h. imp. Bras. 412', P. There is also a numbered *Gaudichaud* collection in G-DC (*Gaudichaud* 677).
Bidens coreopsidis DC., Prodr. 5: 599 (1836). Type/s: '∞ in Jamaicâ (Bert.!) inter sepes et dumeta (Sloan.).
Coreopsis chrysantha Spreng.! syst. 3. p. 614 non Linn. - Sloan. hist. 1. p. 261. t. 154. f. 2 et 3. ... (v.s. comm. à cl. Bert.)'. The *Bertero* s.n. material is in G-DC.
Bidens coreopsidis var. *reptans* (L.) DC., Prodr. 5: 599 (1836).

- Coreopsis trifoliata* Bertol., Fl. Guatimal. : 36 (1840); originally in Novi Comment. Acad. Sci. Inst. Bononiensis 4: 436 (1840). Type: 'Habitat in Vulcano d'acqua. Frut?' Holotype: BOLO (if not destroyed).
- Bidens rubifolia* Kunth var. *coreopsidis* (DC.) Baker in Mart., Fl. Bras. 6(3): 245 (1884).
- Bidens antiguensis* Coult., Bot. Gaz. 16(4): 100 (1891). Types: 'Antigua, Depart. Zacatepequez, alt. 5000 feet, April, 1890 (J. D[onnell]. S[mith]. 2354); San Luis, Depart. Escuintla, March, 1890 (J. D[onnell]. S[mith]. 2375).' Syntype (Smith 2354): GH (53204). Isosyntype (Smith 2354): NY (00214366).
- Coreopsis scandens* Sessé & Moc., Fl. Mex., ed. 2 : 194 (1894), p.p.
- Bidens tereticaulis* DC. var. *sordida* Greenm., Proc. Amer. Acad. Arts 39: 115 (1903). Types: 'COSTA RICA. Thal des rio Segando, Hoffmann, no. 383 (hb. Gr.); forêts de la Mala Via au Copey, April, 1898, Ad. Tonduz, no. 12,284 (hb. Gr., and hb. Inst. Phys.-Goeg. Cost. Ri).' Syntypes: ?GH.
- Bidens tereticaulis* DC. var. *indivisa* B. L. Rob., Proc. Bost. Soc. Nat. Hist. 31: 270 (1904). Type: 'Nicaragua: Masaya, Department of Masaya, 27 January, 1903, C. F. Baker, no. 2214'. Holotype: ?POM; isotype: GH (53205).
- Bidens coreopsidis* DC. var. *procumbens* Donn. Sm., Bot. Gaz. 42(4): 299 (1906). Type: 'Prope Secanquim, Depart. Alta Verapaz, Guatemala, alt. 550m, Jan. 1905, Maxon et Hay (n. 3162).' Holotype: GH (53217).
- Bidens urbanii* Greenm., Publ. Field Columb. Mus., Bot. Ser. 2(6): 271 (1907). Type: 'Porto Rico. On slopes of Mt. Montoso, near Miricao, 23 November, 1884. Sintenis, no. 387. (hb. Field Mus. Catalogue No. 79397), type.' Holotype: ?F; isotype: K.
- Coreopsis caracasana* Willd. ex O. E. Schulz in Urb., Symb. Antill. 7: 140 (1911), nom. nud.
- Bidens reptans* L. var. *bipartita* O. E. Schulz in Urb., Symb. Antill. 7: 141 (1911). Types: 'Hab. in Portorico prope Maricao in declivibus montis Montoso m. Nov. fl.: Sintenis n. 387^b, prope Cayey in fruticetis ad Quebrada arriba m. Sept. fl. et fr.: idem n. 2788.' Syntypes: ?B†; isosyntype: Sintenis 387^b, K.
- Bidens tereticaulis* DC. var. *antiguensis* (Coult.) O. E. Schulz in Urb., Symb. Antill. 7: 142 (1911).
- Bidens mexicana* Sherff, Bot. Gaz. 56(6): 491 (1913). Type: 'Dr. Edward Palmer 95, in or near Acapulco, Mexico, October 1894 to March 1895 (type, with the flowering and the fruiting specimen on two separate sheets, in Herb. Univ. Chicago).' Holotype: F - the two sheets are given the following 'IRN's' - 338897 (Object number 265350) & 366835.; isotypes GH (53202), K.
- Bidens brittonii* Sherff, Bot. Gaz. 56(6): 492 (1913). Type: 'C. Wright 314 pro parte, eastern Cuba, 1856-1857 (type in Gray Herb).' Holotype: GH (4159).
- Argentina, Bolivia(?), Ecuador, Mexico, Peru.
- Dry forest, grassland, disturbed areas.
- (0-) 500-3000 m.
- September-May. Probably flowering throughout the year.
- Santa Cruz: Brummitt et al. 19272 (K).
- Bidens reptans* (L.) G. Don var. *bipartita* O. E. Schulz in Urb., Symb. Antill. 7: 141 (1911) = **Bidens reptans** (L.) G. Don
- Bidens* (*Heterospermum*) *rhombifolium* Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud. (based on Lechler 1576) = **Heterosperma ovatifolium** Cav.
- Bidens rosea* Sch.Bip. in Seem., Bot. Voy. Herald: 308 (1856), nom. illegit. based on *Cosmos pilosus* Kunth = **Bidens odorata** Cav.
- Bidens rosea* Sch.Bip. var. *calicicola* Greenm., Proc. Amer. Acad. Arts 41: 264 (1905) = **Bidens odorata** Cav.
- ***Bidens rubifolia** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 186 (1818). Type: [Ecuador:] 'Crescit in Regno Quitensi ? ■ aut ■ Holotype: P-Bonpl.
- Kerneria rubifolia* (Kunth) Cass., Dict. Sci. Nat. 24: 399 (1822).
- Bidens floribunda* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 187 (1818). Type: 'Crescit in radicibus montis Javirac, prope urbem Quiti, alt. 1500 hex. ■ Fructificat Februario.' Holotype: P-Bonpl.
- Bidens rubifolia* Kunth var. *floribunda* (Kunth) O. E. Schulz in Urb., Symb. Antill. 7: 142 (1911).
- Bidens rugulosa* Turcz., Bull. Soc. Naturalistes Moscou 24(1): 184 (1851). Type: [Ecuador:] 'In vulcano Pasto. Jameson coll. Quito. n. 497.' Robinson (2006: 67) noted 'holotype PZV', which is highly unlikely - see explanation under *Bidens bimucornata*, a synonym of *B. odorata* Cav. It is certain that there is type material in BM, G, G-DC, FI, K × 2.
- ?Bolivia (?), Colombia, Ecuador, ?Peru, Venezuela.
- 500-3500 m.

Bidens rubifolia Kunth var. *coreopsidis* (DC.) Baker in Mart., Fl. Bras. 6(3): 245 (1884) = **Bidens reptans** (L.) G. Don

Bidens rubifolia Kunth var. β *silvatica* [as *silvaticus*] Baker in Mart., Fl. Bras. 6(3): 245 (1884) = **Bidens segetum** Mart. ex Colla

Bidens scandens L., Sp. Pl. : 833 (1753) = **Salmea scandens** (L.) DC.

Bidens scandicina Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 184 (1818) = **Bidens odorata** Cav.

***Bidens segetum** Mart. ex Colla, Herb. Pedem. 3: 307 (1835). Type: 'Mart: hb: Specim: mancum communicatum a cl: MARTIO ex plantis lectis in Brasilia ...' Holotype: TO.

Coreopsis brasiliensis Colla, Herb. Pedem. 3: 479 (1834)[1835?]. Type: 'Missa sine nomine specifico a cl: MARTIO et Brasil: Terra Nova lecta, mihi videtur differre a ceteris stirpibus, ...' Holotype: TO.

Bidens (Psilocarpaea) speciosa Gardner, London J. Bot. 4: 126 (1845). Types: [Brazil:] 'HAB. Woods, Organ Mountains, at an elevation of about 3000 feet. Fl. March and April.' [Gardner] 511; 'My n. 510, also from the Organ Mountains, is a tomentose variety of this species.' Syntypes: K.

Bidens (Psilocarpaea) patula Gardner, London J. Bot. 7: 405 (1848). Type: 'Hab. Bushy places near San Bernardo, Province of Goyaz. May, 1840.' [Gardner] 4254. Types: BM, K.

Bidens multiserrata Sch.Bip., Linnaea 30: 181 (1859/60), nom. nud.

Bidens rubifolia Kunth var. β *syloatica* [as *syloaticus*] Baker in Mart., Fl. Bras. 6(3): 245 (1884). Type: '... in Brasilia, loco non adnotato: Riedel! Type material: K. Note: There are two duplicates determined by Baker in K. Robinson (2006: 68) suggested the holotype was in LE, which is unlikely since that should have the full locality data on the sheet (although it is most probable that the top set of the Riedel material is in the University!), with duplicates in GH and P.

Bidens sylvaticus Sch.Bip. ex Baker in Mart. Fl. Bras. 6(3): 245 (1884), nom. nud. pro syn.

**Bidens pallida* Rusby, Bull. New York Bot. Gard. 4(14): 389 (1907). Type: [Bolivia:] ' "Climbing 5 to 10 feet over hedges by the roadside; abundant. Flowers yellow." Coripata, Yungas, April 25, 1899. ([Bang] No. 2152.)' Holotype: NY (00162590); isotypes: F (77987, 418287 - fragments only provided to Sherff for his revision), K \times 2, NY (00162589), US(00350061).

Bidens longipetiolata Rusby, Bull. New York Bot. Gard. 8(No. 28): 131 (1912). Type: [Bolivia:] ' "Six feet high. Mychariapa, 3800 ft. alt., Apr. 9, 1902" ([R.S. Williams] No. 194.)' Holotype: NY (00162588); isotype: K.

***Bidens segetum** Mart. ex Colla var. *patula* (Gardner) Sherff, Field Mus. Publ. Bot. 16: 197 (1937).

Bolivia (La Paz), Brazil, Colombia, Ecuador, Peru.

500-1000 (-2200) m.

Bidens segetum* Mart. ex Colla var. *patula* (Gardner) Sherff, Field Mus. Publ. Bot. 16: 197 (1937) = **Bidens segetum Mart. ex Colla

Bidens serrata Pav. ex DC., Prodr. 5: 597 (1836) = **Bidens triplinervia** Kunth

Bidens (Psilocarpaea) speciosa Gardner, London J. Bot. 4: 126 (1845) = **Bidens segetum** Mart. ex Colla

Bidens squarrosa* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 187 (1818) = **Bidens reptans (L.) G. Don

Bidens striata Sweet, Brit. Fl. Gard., 3: pl. 237 (1829) = **Bidens odorata** Cav.

Bidens subalternans DC., Prodr. 5: 600 (1836). Type: [Brazil:] '• in locis cultis circa Bahiam legit cl. Slazmann [48]. ... (v.s. comm. à cl. Salzmann.)'. Holotype: G-DC.

Bidens quadrangularis DC., Prodr. 5: 600 (1836). Type: [Brazil:] '•? circa Rio-de-Janeiro legit cl. Ponson. ... (v.s. comm. à cl. inv.)' Holotype: G-DC.

Bidens platensis Manganaro, Anal. Mus. Nac. Buenos Aires 24: 230 (1913). Type: not cited. Robinson (2006: 71) cited 'Argentina, Buenos Aires, near La Plata, MANGANARO s.n. (LP).'

Bidens subalternans DC. [var.] *simulans* Sherff, Bot. Gaz. 88(3): 291 (1929). Type: '[P. Jörgensen] 1785, growing erect, 1 m. high, [Department of Andalgalá, Province of Catamarca, Argentina,] Oct. 1, 1917'. Holotype: US (922089); isotype: ?GH.

Bidens subalternans DC. [var.] *unipinnata* Sherff, Bot. Gaz. 88(3): 292 (1929). Type: 'Dr. Emil Hassler 11558, in the region of Lake Ypacaray, central Paraguay, February, 1913'. Holotype: GH (135255).

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay.

Cultivated areas, disturbed ground.

0-1500 m.

October–April.

Vernacular names: AMOR DE VIEJO, AMOR SECO, ESPINA DE ERIZO, PASTO DE LOS GRINGOS, SETILLA (Freire et al., 2006).

Bidens subalternans DC. [var.] *simulans* Sherff, Bot. Gaz. 88(3): 291 (1929) = **Bidens subalternans** DC.

Bidens subalternans DC. [var.] *unipinnata* Sherff, Bot. Gaz. 88(3): 292 (1929) = **Bidens subalternans** DC.

Bidens sulphureus (Cav.) Sch.Bip. in Seem., Bot. Voy. Herald : 308 (1857) = **Cosmos sulphureus** Cav.

Bidens sylvaticus Sch.Bip. ex Baker in Mart. Fl. Bras. 6(3): 245 (1884), nom. nud. pro syn. = **Bidens segetum**

Mart. ex Colla

**Bidens tener* O. E. Schulz var. *tetracera* Sherff, Bot. Gaz. 88(3): 293 (1929). Type: 'Dr. Otto Buchtien 4182, at altitude of 1300 meters, Milluguaya, North Yungas, Bolivia, December, 1917'. Holotype: US (not currently included in the virtual herbarium); isotype: NY (00162601). A Pittier (10222) paratype from Venezuela was also cited by Sherff (1929). Cited by Foster (1958: 205) as the variety of *Bidens tenera*, *Bidens tenera* is not in *Index Kewensis*, nor IPNI. This variety, under *Bidens tenera* [sic!] was synonymized by Sherff (1937: 408) under *Bidens ternera* var. β *paucidentata* (O. E. Schulz) Sherff, along with *Bidens ekmanii* O. E. Schulz and *B. ekmanii* O. E. Schulz var. *paucidentata* O. E. Schulz, and cited as being from Cuba and Bolivia (as well as Venezuela). Aristeguieta (1964: 651) noted only that the species was distributed from Costa Rica to Brazil.

Bidens tereticaulis DC., Prodr. 5: 598 (1836) = **Bidens reptans** (L.) G. Don

Bidens tereticaulis DC. var. *antiguensis* (Coul.) O. E. Schulz in Urb., Symb. Antill. 7: 142 (1911) = **Bidens reptans** (L.) G. Don

Bidens tereticaulis DC. var. *indivisa* B. L. Rob., Proc. Bost. Soc. Nat. Hist. 31: 270 (1904) = **Bidens reptans** (L.) G. Don

Bidens tereticaulis DC. var. *sordida* Greenm., Proc. Amer. Acad. Arts 39: 115 (1903) = **Bidens reptans** (L.) G. Don

Bidens triplinervia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 182 (1818). Type: 'Crescit prope San Augustin de Las Cuevas et urbem Mexici, alt. 1170 hex. ■ Floret Majo.' In B-W, 109/8 is labelled '*Bidens triplinervis*. Mexico', 109/9 is labelled '*Bidens hirtella*', 109/10 is labelled '*Bidens procumbens*', 109/11 is labelled '*Bidens procumbens varietas*'

Bidens hirtella Kunth in Humb., Bonpl. & Kunth in Nov. Gen. Sp. Pl. 4 (ed. folio): 182 (1818). Type: 'Crescit cum præcedente. ? ■ [B. triplinervia - 'Crescit prope San Augustin de Las Cuevas et urbem Mexici, alt. 1170 hex. ■ Floret Majo.'] Holotype: P-Bonpl.

Bidens procumbens Kunth in Humb., Bonpl. & Kunth in Nov. Gen. Sp. Pl. 4 (ed. folio): 182 (1818). Type: 'Crescit prope Xalapa Mexicanorum ? ■ Holotype: P-Bonpl.

Bidens crithmifolia Kunth in Humb., Bonpl. & Kunth in Nov. Gen. Sp. Pl. 4 (ed. folio): 183 (1818). Type: 'Crescit prope urbem Quito, alt. 1500 hex. ■'. Holotype: P-Bonpl.

Bidens delphinifolia Kunth in Humb., Bonpl. & Kunth in Nov. Gen. Sp. Pl. 4 (ed. folio): 183 (1818). Type: 'Crescit cum præcedente ? ■?' [B. crithmifolia - q.v.] Holotype: P-Bonpl.

**Bidens humilis* Kunth in Humb., Bonpl. & Kunth in Nov. Gen. Sp. Pl. 4 (ed. folio): 184 (1818). Type: 'Crescit in radicibus montis Cotopaxi, prope Mulalo, alt. 1600 hex. ■ Floret Majo.' [Humboldt & Bonpland 'Bonpl. mss. n. 3126'] Holotype: P-Bonpl.

Bidens serrata Pav. ex DC., Prodr. 5: 597 (1836). Type: '- in Peruvîa. Coreopsis L'Hér.! mss. ... (v.s. sine fl. in h. L'Hér.! et flor. descr. ex L'Hér. mss.)'. Holotype: ?NEU or ?G-DC. De Candolle noted that material in 'h. L'Hér.' was without capitula, obtaining his description of the capitula from L'Héritier's manuscript. The duplicate material in G-DC is 'L'Héritier 977, 1788' and is sterile suggesting L'Héritier made his notes in the field.

Bidens glaberrima DC., Prodr. 5: 601 (1836). Type: '- in Amer. calidiore legit cl. Née ex h. Thibaud, sed locus propr. ign. ... (v.s.)'. Holotype: G-DC. Note: Thibaud's herbarium is in G-DC. Duplicates of this *Née* collection may well be in MA.

Bidens artemisiifolia [as *artemisiaefolia*] Poepp., Nov. Gen. Sp. Pl. 3: 49 (1843). Type: 'Crescit in montibus calcareis Peruviae subandinae ad Cassapi.' Holotype: W.

Bidens mollis Poepp., Nov. Gen. Sp. Pl. 3: 49 (1843). Type: 'Crescit cum præcedente.', q.v. *Bidens artemisiifolia* Poepp.

Bidens consolidifolia [as *consolidaefolia*] Turcz., Bull. Soc. Naturalistes Moscou 24(1): 185 (1851). Type: [Ecuador:] 'Quito. Jameson coll. n. 693.' Holotype: ?KW; isotype: [Environs of Quito. Very Common.] K.

Bidens humilis Kunth [var.] β *macrantha* Wedd., *Chloris Andina* 1: 69 (1856). Types: '[ECUADOR:] rochers du mont Pichincha!, h. 3952 m. (Jameson, exsicc. (1856), n^o. 55) – PÉROU: sur les rocher, dans le voisinage du lac de Titicaca, près du village de Moho, h. 3900 m. (Wedd.)' Syntypes: P.

Bidens humilis Kunth var. *major* Sch.Bip., *Bull. Soc. Bot. France* 12: 79 (1865); *Linnaea* 34(5): 528 (Feb. 1866), nom. nud. (based on Mandon 52).

Bidens pectinata Sch.Bip., *Bull. Soc. Bot. France* 12: 79 (1865); *Linnaea* 34(5): 528 (Feb. 1866), nom. nud. (based on Mandon 50).

**Bidens macrantha* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19([1]): 186 (1874); Pl. Lorentz. : (1874). Types: 'Tucuman, copiose in pascuis alpinis pr. Cienega. Catamarca, in convalle excelsa Granadillas pr. Yakutula.' Syntypes: Lorentz 152, 540, GOET.

Bidens decomposita Wall. ex DC. [var.] β *hirsutior* C. B. Clarke, *Comp. Ind.* : 141 (1876). Type: 'Hab. In montibus Nilgiri ad 7,500 ped. alt. mense Martio florens. Forsan bona species : sed unicum exemplum legi. [Clarke]'

Bidens humilis Kunth var. *tenuifolia* Sch.Bip. ex Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 108 (March-April 1879); *Symb. Fl. Argent.* : 198 (1879). Type: [Argentina] 'C.' Holotype: GOET. Note: Robinson (2006: 72) suggested that this name was based on two Mandon collections, '52 and 46 (part)', which are in P. However, it is quite clear that Grisebach did not cite these collections in the protologue.

Bidens pedunculatus [sic!] Phil., *Anales Mus. Nac. Chile, Secc. 2, Bot.* 8: 49 (1891). Type: [Chile:] 'Traído de Sibaya in provincia Tarapacá advecta.' Holotype: SGO (66333). Note: Robinson (2006: 72) suggested that the holotype, 'Philippi 217' was in B, with a fragment in 'K?'. Of this date this is unlikely since all Berlin Compositae material was most probably destroyed. Philippi's protologue made no mention of the collection being in B.

Bidens grandiflora Balbis [var.] α *humilis* (Kunth) Kuntze, *Revis. Gen. Pl.* 3(3): 136 (1898).

Bidens pilosa L. f. *hirsutior* (C. B. Clarke) Kuntze, *Revis. Gen. Pl.* 1: 322 (1891).

Bidens attenuata Sherff, *Bot. Gaz.* 61(6): 495 (1916). Type: 'Ghiesbrecht, Chiapas, Mexico (type in Herb. Gray).' Holotype: GH (53236); isotypes: ?GH, P.

**Bidens triplinervia* Kunth var. *macrantha* (Wedd.) Sherff, *Bot. Gaz.* 80(4): 383 (1925).

**Bidens triplinervia* Kunth var. *mollis* (Poepp.) Sherff, *Bot. Gaz.* 80(4): 384 (1925).

Bidens triplinervia Kunth var. *nematoidea* Sherff, *Bot. Gaz.* 88(3): 287 (1929). Type: 'H. L. Viereck 5, Cerro Quemado, Santa Marta, Colombia, Dec. 17, 1922'. Holotype: US.

**Bidens triplinervia* Kunth var. *macrantha* (Wedd.) Sherff f. *octoradiata* Sherff, *Bot. Gaz.* 92: 203 (1931). Type: 'Pflanz 406, alt. 3550 m., schist slope, Chullo, Palca, La Paz, Bolivia, Mar. 13, 1910'. Holotype: B†.

Argentina, Bolivia (La Paz), Chile, Colombia, Ecuador, Guatemala, Mexico, Peru, Venezuela.

Roadsides, sandy or volcanic soils, rocky areas, humid montane forests.

(1500–) 2000–4500 m.

September–May.

Note: Robinson (2006: 74–75) divided the species into var. *triplinervia* and var. *macrantha* but did not provide a breakdown of their distribution. The name '*Bidens affinis* Klotzsch & Otto, *Linnaea* 15: 2 (1841); *Literatur-Bericht* : 83 (1841)' is referred to by Sherff (1937: 506) as a synonym. However, there is no description of the species on p. 2 by Klotzsch & Otto, and the only reference on p. 83 (of 'Index Seminum in horto botanico Berolinensi 1840 collectorum (Link Director). 4.') in the *Literatur Bericht* is to '*Bidens affinis* Kl. et O., spec. nova e Cuba. Semina misit E. Otto, B. grandiflorae affinis.', which does not constitute valid publication as it does not distinguish the species.

Vernacular name/s: 'QUILCHAMALI V. LASUMA' (Grisebach, 1879: 198).

Bidens triplinervia* Kunth var. *macrantha* (Wedd.) Sherff, *Bot. Gaz.* 80(4): 383 (1925) = *Bidens triplinervia* Kunth**

Bidens triplinervia* Kunth var. *macrantha* (Wedd.) Sherff f. *octoradiata* Sherff, *Bot. Gaz.* 92: 203 (1931) = *Bidens triplinervia* Kunth**

Bidens triplinervia* Kunth var. *mollis* (Poepp.) Sherff, *Bot. Gaz.* 80(4): 384 (1925) = *Bidens triplinervia* Kunth**

Bidens triplinervia Kunth var. *nematoides* Sherff, *Bot. Gaz.* 88(3): 287 (1916) = ***Bidens triplinervia* Kunth**

Bidens tuberosa Sch.Bip., *Bull. Soc. Bot. France* 12: 79 (1865); *Linnaea* 34(5): 528 (1866), nom. nud. based on Mandon 49 = ***Viguiera fusiformis* S. F. Blake**

Bidens urbanii Greenm., *Publ. Field Columb. Mus., Bot.* 2: 271 (1907) = ***Bidens reptans* (L.) G. Don**

Bidens acaulis Baker in Mart., *Fl. Bras.* 6(3): 247 (1884) = ***Isostigma acaule* (Baker) Chodat**

Bidens verticillata L., *Sp. Pl.* : 833 (1753) = ***Trichospira verticillata* (L.) S. F. Blake**

Bigelovia DC. sect. *Diplostephioides* (Benth. & Hook.f.) A. Gray, Proc. Amer. Acad. 8: 638 (1873) = **Llerasia**
Triana
Bigelovia mandonii B. D. Jacks., Index Kewensis 1(1): 302 (1895), nom. nud. (see note under *Llerasia soratensis*)
= **Llerasia soratensis** (S. F. Blake) Cuatrec.

Bishovia R. M. King & H. Rob., Phytologia 39(5): 339 (1978).

Type: **Bishovia boliviensis** R. M. King & H. Rob.

Reference

King, R. M. & H. Robinson. (1978). Studies in the Eupatorieae (Asteraceae). CLXXXII. a new genus, *Bishovia*. Phytologia 39(5): 339–342.

Bishovia boliviensis R. M. King & H. Rob. Phytologia 39(5): 340 (1978). Type: 'BOLIVIA: Santa Cruz: one km from Comarapa on road to Cochabamba. Elevation 6200 ft. February 5, 1978. R. M. King & L. E. Bishop 7625'. Holotype: US (02827685).
Bolivia (Santa Cruz).
1800 m.
January–February.

Blainvillea Cass., J. Phys. Chim. Hist. Nat. Arts 96: 216 (May 1823); Dict. Sci. Nat. 29: 493 (Dec. 1823).
Eisenmannia Sch. Bip. ex Hochst., Flora : 24: I. Intell. 42 (1841), nom. nud. (as *Eisenmannia clandestina* Sch. Bip. ex Hochst.)

Galophthalmum Nees & Mart., Nova Acta Acad. Caes. Leop. Carol. German. Nat. Cur. 12: 7, t. 2 (1824). Type: *Galophthalmum brasiliense* Nees & Mart. = *Blainvillea brasiliensis* (Nees & Mart.) S. F. Blake. [Note: Turner (1988) provided a nomenclaturally superfluous name in transferring *Galophthalmum brasiliense* Nees & Mart. (Nees & Martius, 1824), the type of *Galophthalmum*, to *Calyptocarpus* Less. (Lessing, 1832) as in his concept *Galophthalmum* and *Calyptocarpus* were congeneric; this was clearly in agreement with Robinson's (1981: 48). Panero's concept of *Blainvillea* (Panero, 2006) clearly included *Galophthalmum* Nees & Mart. Until further work can be done I prefer to keep *Galophthalmum* as a generic synonym of *Blainvillea*.]

Type: *Blainvillea rhomboidea* Cass. = **Blainvillea acmella** (L.) Philipson

References

Koster, J. T. & W. R. Philipson. (1950). Nomenclatural changes in *Spilanthes* and *Blainvillea* with remarks and a key to the species of *Spilanthes* in the Malay Archipelago. Blumea 6(2): 349–354.

Nees v. Esenbeck, C. G., & C. F. P. von Martius. (1824). Beitrag zur Flora Brasiliens von Maximilian, Prinzen zu Wied. Nova Acta Acad. Caes. Leop. Carol. German. Nat. Cur. 12(1): 1–54 & tabs I–VIII.

Robinson, H. (1978). Studies in the Heliantheae (Asteraceae). XV. Various new species and new combinations. Phytologia 41(1): 33–38.

Turner, B. L. (1988). *Blainvillea brasiliensis* Blake transferred to *Calyptocarpus* (Asteraceae). Phytologia 64(3): 214.

Blainvillea acmella (L.) Philipson, Blumea 6: 350 (1950).

Verbesina acmella L., Sp. Pl. : 901 (1753). Type: 'Habitat in Zeylona.' Holotype: BM. Koster & Philipson (1950) noted this as *Hermann* 309.

Spilanthes acmella (L.) Murr., Syst. Veg. ed. 13 : 610 (1774).

Pyrethrum acmella (L.) Medik., Hist. Commentat. Acad. Elect. Sci. Theod.-Palat. 3: 243, t. 19 (1775).

Verbesina dichotoma Murray, Comment. Phys. Goett. : 15, t. 4 (1779). Type: not cited.

Eclipta latifolia L.f., Suppl. : 378 (1781). Type: 'Habitat in India Orientali.' Note: There are two specimens in LINN, 1020.4, a sheet marked 'HU' (Hortus Upsaliensis), which has a large piece of fertile material mounted on the sheet, and 1020.5, the sheet marked '*Eclipta 8a latifolia*' with 'India' written alongside a very small apical flowering portion.

Bidens acmella (L.) Lam., Encycl. 1: 415 (1783).

Spilanthes mellisifolia Salisb., Prodr. : 186 (1796), nom. superfl., based on *V. acmella* L.

- Acmella mauritiana* L.C. Rich. ex Pers. Syn. Pl. 2: 472 (1807), nom. superfl., based on *V. acmella* L.
Verbesina lanceolata Poir., Encyc. 8: 460 (1808). Type: 'J'ignore le lieu natal de cette plant. (V. s. in herb. Desfont.)' Holotype: ?FI.
- Acmella linnaei* Cass., Dict. Sci. Nat. 24: 330 (1822), nom. superfl., based on *V. acmella* L.
- Blainvillea rhomboidea* Cass., J. Phys. Chim. Hist. Nat. Arts 96: 216 (May 1823); Dict. Sci. Nat. 29: 494 (Dec 1823). Type: '... cultivés au Jardin du Roi, ...' Holotype: ?P. Note: The generic and specific description that appeared in the *Dictionnaire* are copied from those that appeared in the *Journal* earlier in the same year, the latter being the place of valid publication.
- Blainvillea gayana* Cass., Dict. Sci. Nat. 47: 90 (1827). Type: 'Nous avons fait cette description sur des échantillons secs, qui nous ont été libéralement donnés par M. Gay: ils provenaient des grains recueillies dans le Sénégal, envoyées à cette habile botaniste sous le nom d'*Ageratum* ou de *Bidens*, et semées par lui dans le Jardin du Luxembourg, où ces échantillons ont fleuri en Septembre 1826.' Holotype: K.
- Blainvillea latifolia* (L.f.) DC. ex Wight, Contr. Bot. Ind. : 17 (1834).
- Blainvillea rhomboidea* Cass. var. *lanceolata* (Poir.) DC. Prodr. 5: 492. (1836).
- Spilanthes mauritiana* (L.C. Rich.) DC., Prodr. 5: 625 (1836).
- Oligogyne burchellii* Hook. f., Icones Pl. 2: t. 101 (1837). Type: [Brazil:] 'Hab. Rio Janeiro. Wm. J. Burchell, Esq. (n. 12.)' Holotype: K.
- Eisenmannia clandestina* Sch.Bip. ex Hochst., Flora 24: I. Intell. 42 (1841), nom. nud.
- Blainvillea polycephala* Gardner, London J. Bot. 7: 89 (1848). Type: [Brazil:] 'Hab. In dry bushy places near the city of Maranhão. May, 1841. [Gardner 6053]'. Holotype BM, isotypes K.
- Blainvillea racemosa* Gardner, London J. Bot. 7: 89 (1848). Type: [Brazil:] 'Hab. In dry, sandy, shady places near Villa do Icó, Province of Ceará. Aug. 1838 [Gardner 1740]'. Holotype: BM; isotypes: K.
- Blainvillea hispida* Edgew., Trans. Linn. Soc. London 20: 70 (1851). Type: [India:] 'Himalaya, in arvis, alt. ped. 4000-5000. Junio.' [Edgeworth 79]. Holotype: K.
- Blainvillea alba* Edgew., Trans. Linn. Soc. London 20: 70 (1851). Type: 'Hab. Pinjor Dhún, in arvis, Prov. Sirhind, Indiae Bor.-Occ. Sept.' [Edgeworth 90]. Holotype: K.
- Calyptocarpus burchellii* (Hook.) Sch.Bip., Bot. Zeitung, 24: 165 (1866).
- Blainvillea rhomboidea* Cass. var. *polycephala* (Gardner) Baker in Mart., Fl. Bras. 6(3): 176 (1884).
- Blainvillea rhomboidea* Cass. var. *racemosa* (Gardner) Baker in Mart., Fl. Bras. 6(3): 176 (1884).
- Ceratocephalus acmella* (L.) Kuntze, Rev. Gen. Pl. 1: 326 (1891).
- Coreopsis acmella* (L.) E. H. L. Krause, Beih. Bot. Centralbl. 32: 340 (1914).
- Wedelia gossweileri* S. Moore, J. Bot. 56: 232 (1918). Type: 'Angola, Libob; Gossweiler, 6388.' Holotype: BM. Bolivia (Santa Cruz), Brazil, Venezuela. Very widespread in the Old World, especially in tropical Africa and Asia. Surprisingly under-collected in South America and absent from many of the checklists (e.g. Argentina, Ecuador, Peru) where it might be expected.
- 450-1350 m.
 Probably flowering throughout the year.
 Santa Cruz: Wood 17898 (K).
- Note: The rather voluminous synonymy is based on examination of several of the specimens from J. Gay's herbarium (largely from cultivated material) that are in K. It is clear that they are conspecific, suggesting that *B. acmella* is another pantropic weed. Material from Santa Cruz most closely resembles the type material of Gardner's *Blainvillea polycephala*.
- Blainvillea alba* Edgew., Trans. Linn. Soc. London 20: 70 (1851) = **Blainvillea acmella** (L.) Philipson
Blainvillea gayana Cass., Dict. Sci. Nat. 47: 90 (1827) = **Blainvillea acmella** (L.) Philipson
Blainvillea hispida Edgew., Trans. Linn. Soc. London 20: 70 (1851) = **Blainvillea acmella** (L.) Philipson
Blainvillea latifolia (L.f.) DC. ex Wight, Contr. Bot. Ind. : 17 (1834) = **Blainvillea acmella** (L.) Philipson
Blainvillea polycephala Gardner, London J. Bot. 7: 89 (1848) = **Blainvillea acmella** (L.) Philipson
Blainvillea racemosa Gardner, London J. Bot. 7: 89 (1848) = **Blainvillea acmella** (L.) Philipson
Blainvillea rhomboidea Cass., Dict. Sci. Nat. 29: 494 (1823) = **Blainvillea acmella** (L.) Philipson
Blainvillea rhomboidea Cass. var. *lanceolata* (Poir.) DC. Prodr. 5: 492. (1836) = **Blainvillea acmella** (L.) Philipson
Blainvillea rhomboidea Cass. var. *polycephala* (Gardner) Baker in Mart., Fl. Bras. 6(3): 176 (1884) = **Blainvillea acmella** (L.) Philipson
Blainvillea rhomboidea Cass. var. *racemosa* (Gardner) Baker in Mart., Fl. Bras. 6(3): 176 (1884) = **Blainvillea acmella** (L.) Philipson

Blumea DC., Arch. Bot. 2: 514 (1833), nom. cons.

Blumea aurita (L.f.) DC. in Wight, Contr. Bot. Ind. : 16 (1834) = **Pseudoconyza viscosa** (Mill.) D'Arcy

Blumea lyrata (Kunth) V. M. Badillo, Bot. Soc. Venez. Cienc. Nat. 10: 257 (1946) = **Pseudoconyza viscosa** (Mill.) D'Arcy

Blumea viscosa (Mill.) V. M. Badillo, Rev. Fac. Agr. Maracay 7(3): 9 (1974) = **Pseudoconyza viscosa** (Mill.) D'Arcy

Blumea viscosa (Mill.) D'Arcy, Phytologia 30(1): 5 (1975), comb. superfl. = **Pseudoconyza viscosa** (Mill.) D'Arcy

Boebera Willd., Sp. Pl. 3: 2125 (1804) = **Dyssodia** Cav.

Boebera chrysanthemoides Willd., Sp. Pl. : 2125 (1804), nom. superfl. = **Dyssodia papposa** (Vent.) Hitchc.

Boebera ciliosa Rydb., N. Amer. Fl. 34(2): 167 (1915) = **Dyssodia papposa** (Vent.) Hitchc.

Boebera glandulosa (Cav.) Pers., Syn. Pl. 2: 459 (1807), nom. illegit. = **Dyssodia papposa** (Vent.) Hitchc.

Boebera papposa (Vent.) Rydb., Man. Fl. N. States & Canada : 1012 (1901) = **Dyssodia papposa** (Vent.) Hitchc.

Boebera roseata Rydb., N. Amer. Fl. 34: 169 (1915) = **Dyssodia papposa** (Vent.) Hitchc.

Bolbostylis microcephala Gardner, London J. Bot. 5: 468 (1846) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.

Bolbostylis micrantha Gardner, London J. Bot. 6: 449 (1847), nom. nud. = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.

Bolophyta Nutt., Trans. Amer. Philos. Soc. ser. 2, 7: 347 (1840) = **Parthenium** L.

Bowmannia Gardner, Hook. Ic. Pl. 6: 519 (1843) = **Trixis** P. Browne

Brachyachyris Spreng., Syst. Veg., ed. 16, 3: 574 (1825) = **Gutierrezia** Lag.

Brachyactis Ledeb., Fl. Ross. 2: 495 (1845) = **Symphotrichum** Nees

Brachyandra Phil., Fl. Atacam. : 34 (1860); Reise Atacama: 208 (1860) = **Helogyne** Nutt.

Brachyris Nutt., Gen. Amer. 2: 163 (1818) = **Gutierrezia** Lag.

Brachyris isernii Phil., Anal. Univ. Chile 27: 337 (1865) = **Gutierrezia mandonii** (Sch.Bip.) Solbrig

Brachyris mandonii Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865), nom. nud. = **Gutierrezia mandonii** (Sch.Bip.) Solbrig

Brachyris mandonii Sch.Bip., Linnaea 34(5): 534 (Feb. 1866) = **Gutierrezia mandonii** (Sch.Bip.) Solbrig

Brasilia G. M. Barroso, Arch. Jard. Bot. Rio de Janeiro 17: 19 (1962) = **Calea** L.

Breea Less., Syn. Gen. Comp. : 9 (1832) = **Cirsium** Mill.

Brickellia Elliott, Sketch Bot. S. Carolina 2: 290 (1824).

Kuhnia L., Sp.Pl. ed. 2. : 1662 (1763). Type: *Kuhnia eupatorioides* L. = *Brickellia eupatorioides* (L.) Shinn.

Coleosanthus Cass., Bull. Sci. Soc. Philom. Paris 1817: 67 (1817). Type: *Coleosanthus cavanillesii* Cass. = *Brickellia cavanillesii* (Cass.) A. Gray

Rosalesia La Llave in La Llave & Lex., Nov. Veg. Descr. 1: 14 (1824). Type: *Rosalesia glandulosa* Llave in Llave & Lex. = *Brickellia cavanillesii* (Cass.) A. Gray

Clavigera DC., Prodr. 5: 127 (1836). Type: *Clavigera corymbosa* DC. = *Brickellia corymbosa* (DC.) A. Gray

Bulbostylis DC., Prodr. 5: 138 (1836). Type: *Coleosanthus cavanillesii* Cass. = *Brickellia cavanillesii* (Cass.) A. Gray, non *Bulbostylis* Kunth, nom. cons. [CYPERACEAE]

Ismaria Raf., *Sylva Tellur.* : 117 (1838). Type: *Rosalesia glandulosa* Llave in Llave & Lex. = *Brickellia cavanillesii* (Cass.) A. Gray

Type. *Brickellia cordifolia* Elliott, nom. cons.

****Brickellia diffusa*** (Vahl) A. Gray, *Smithsonian Contr. Knowl.* 3 [Pl. Wrightianae pt. 1] 5(Art. 6): 86 (1852).

Eupatorium diffusum Vahl, *Symb. Bot.* 3: 94 (1794). Type: 'Habitat in America meridionali.' Holotype: ?C.

Note: Neither the microfiche of, nor the virtual Vahl Herbarium, show specimens of this taxon.

Eupatorium capillare Desv. in Hamilton, *Prodr. Pl. Ind. Occ.* : 51 (1825), non *Eupatorium capillare* (DC.) Baker (= *Praxelis capillaris* (DC.) Sch.Bip.) Type: 'Herb. Prof. Desv.[aux] Hispaniola. (S. v.)' Holotype: probably P.

Eupatorium flaccidum Spreng. ex DC., *Prodr.* 5: 174 (1836), nom. nud. pro syn.

Bulbostylis diffusa (Vahl) DC., *Prodr.* 7: 268 (1838).

Eupatorium leptopodium Gardner, *London J. Bot.* 5: 478 (1846). Type: [Brazil:] 'HAB. Near Villa do Crato, Province of Ceará, Brazil. Fl. in November.' [Gardner] 1738.

Eupatorium trichosanthum A. Rich. in Sagra, *Hist. Phys. Cuba, Bot.* [Faner. 3(2),] 11: 41 (1853). Type: 'Crescit prope Jagua (*De la Ossa*).' Note: The type citation is taken from the later Spanish edition; the earlier French edition was published in 1850.

Coleosanthus diffusus (Vahl) Kuntze, *Revis. Gen. Pl.* 1: 328 (1891).

Argentina, Bolivia (Santa Cruz), Brazil, Colombia, Ecuador (mainland and Galapagos Islands), Greater Antilles, Mexico, Peru, Venezuela.

0–1600 m.

**Brickellia paucidentata* Klatt, *Abh. Naturf. Ges. Halle* 15: 326 (1881), ignota – according to King & Robinson = ? [Note: The description is perfectly valid, albeit short.] Type: 'Hab: Sta. Cruz, leg. A d'Orbigny No. 558.' Holotype: P.

Brotera Spreng., *J. Bot. (Schrader)* 1800: 184, pl. 5 (1801), non *Brotera* Cav. (1799)[STERCULIACEAE] = ***Flaveria*** Juss.

Bulbostylis DC., *Prodr.* 138 (1836), non Kunth, nom. cons. [CYPERACEAE] = ***Brickellia*** Elliott

Bulbostylis diffusa (Vahl) DC., *Prodr.* 7: 268 (1838) = ***Brickellia diffusa*** (Vahl) A. Gray

Bulbostylis (as *Bolbostylis*) *microcephala* Gardner, *London J. Bot.* 5: 468 (1846) = ***Ayapana amygdalina*** (Lam.) R. M. King & H. Rob.

Bulbostylis (as *Bolbostylis*) *micrantha* Gardner, *London J. Bot.* 6: 449 (1847), nom. nud. = ***Ayapana amygdalina*** (Lam.) R. M. King & H. Rob.

Bulbostylis (as *Bolbostylis*) *scandens* Gardner, *London J. Bot.* 5: 470 (1846) = ***Heterocondylus vitalbae*** (DC.) R. M. King & H. Rob.

Buphthalmum diffusum Vahl ex DC., *Prodr.* 5: 491 (1836), nom. nud. pro syn. = ***Eclipta prostrata*** (L.) L.

Buphthalmum procumbens Desf., *Tabl. Mus. Hist. Nat.* 1: 106 (1804), nom. nud. = ***Sphagneticola trilobata*** (L.) Pruski

Buphthalmum repens Lam., *Encycl.* 1: 515 (1783) = ***Sphagneticola trilobata*** (L.) Pruski

Buphthalmum strigosum Spreng., *Neue Entd.* 2: 140 (1821) = ***Sphagneticola trilobata*** (L.) Pruski

C

- Cacalia* L., Sp. Pl. : 753 (1753) & Gen. Pl. ed. 5 : 362 (1754), nom. confus. rejic. = **Adenostyles** Cass.
[SENECIONEAE]
- Cacalia acilepis* (Benth.) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia remotiflora** Rich.
- Cacalia amoena* Mart. ex Baker in Mart., Fl. Bras. 6(2): 100 (1873), nom. nud. pro syn. = **Vernonia brasiliana** (L.) Druce
- Cacalia angulata* Vell., Fl. Flum. : 365 (1825)[1829]; Fl. Flum. Icones 8: tab. 55 (1831) = **Mikania micrantha** (L.f.) Willd.
- Cacalia apiculata* (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia apiculata** Mart. ex DC.
- Cacalia araneosa* (Baker) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia dura** Mart. ex DC.
- Cacalia argyropappa* (Buek) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia salzmännii** DC.
- Cacalia aschenborniana* (Schauer) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia patens** Kunth
- Cacalia asteriflora* (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia asteriflorus** Mart. ex DC.
- Cacalia auriculata* (Griseb.) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia auriculata** Griseb.
- Cacalia baccharoides* (Kunth) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia patens** Kunth
- Cacalia brachylepis* (Griseb.) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia brachylepis** Griseb.
- Cacalia brasiliana* (L.) Kuntze, Revis. Gen. Pl. 2: 968 (1891) = **Vernonia brasiliana** (L.) Druce
- Cacalia brevipetiolata* (Sch.Bip. ex Baker) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia brevipetiolata** Sch.Bip. ex Baker
- Cacalia bullata* (Benth.) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia canescens** Kunth
- Cacalia canescens* (Kunth) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia canescens** Kunth
- Cacalia cincta* (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 138 (1898) = **Vernonia cincta** Griseb.
- Cacalia cordata* Vell., Fl. Flum.: 334 (1825)[1929]; Fl. Flum. Icones 8: tab. 53 (1831) = **Mikania cordifolia** (L.f.) Willd.
- Cacalia cordifolia* L.f., Suppl. : 351 (1781) = **Mikania cordifolia** (L.f.) Willd.
- Cacalia coriacea* (Less.) Kuntze, Revis. Gen. Pl. 2: 969 (1891) = **Vernonia coriacea** Less.
- Cacalia desertorum* (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia desertorum** Mart. ex DC.
- Cacalia dura* (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia dura** Mart. ex DC.
- Cacalia echitifolia* (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia echitifolia** Mart. ex DC.
- Cacalia ehretifolia* (Gardner) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia varroniifolia** DC.
- Cacalia eriolepis* (Gardner) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia eriolepis** Gardner
- Cacalia ferruginea* (Less.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia ferruginea** Less.
- Cacalia fulva* (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 138 (1898) = **Quechualia fulva** (Griseb.) H. Rob.
- Cacalia glabrata* (Less.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia glabrata** Less.
- Cacalia glandulosa* Salisb., Prodr. : 187 (1798), nom. illegit. superfl. (incl. *Cacalia porophyllum* L.), et nom. rej. = **Porophyllum ruderales** (Jacq.) Cass.
- Cacalia haenkeana* (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia patens** Kunth
- Cacalia hexantha* (Sch.Bip.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia megapotamica** Spreng.
- **Cacalia hieronymi* Kuntze, Revis. Gen. Pl. 3(3): 138 (1898) = **Vernonia echitifolia** Mart. ex DC.
- Cacalia hirtiflora* (Sch.Bip. ex Baker) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia remotiflora** Rich.
- Cacalia intermedia* (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia rubricaulis** Humb. & Bonpl.
- Cacalia kuntzei* (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 138 (1898) = **Vernonia asteriflora** Mart. ex DC.
- Cacalia lanceolaris* (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia patens** Kunth
- Cacalia laurifolia* (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia laurifolia** DC.
- Cacalia lehmannii* (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 138 (1898) = **Vernonia lehmannii** Hieron.
- Cacalia ligulifolia* (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia ligulifolia** Mart. ex DC.
- Cacalia lithospermoides* (Baker) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia remotiflora** Rich.
- Cacalia mattogrossensis* (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898) = **Vernonia mattogrossensis** Hieron.
- Cacalia megapotamica* (Spreng.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia megapotamica** Spreng.
- Cacalia mentrasto* Vell., Fl. Flum.: 339 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 69 (1831). = **Ageratum conyzoides** L.
- Cacalia micradenia* (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia patens** Kunth
- Cacalia mollis* (Kunth) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia canescens** Kunth

Cacalia monticola (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia apiculata** Mart. ex DC.
Cacalia myriocephala (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia myriocephala** DC.
Cacalia obovata (Less.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia obovata** Less.
Cacalia obtusata (Less.) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia obtusata** Less.
Cacalia onopordioides (Baker) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia onopordioides** Baker
Cacalia patens (Kunth) Kuntze, Revis. Gen. Pl. 2: 970 (1891) = **Vernonia patens** Kunth
Cacalia pilosa Vell., Fl. Flum. : 338 (1825)[1829]; Fl. Flum. Icones 8: tab. 61 (1831) = **Mikania micrantha** (L.f.) Willd.
Cacalia poeppigiana (DC.) Kuntze, Revis. Gen. Pl. 1: 971 (1891) = **Piptocarpha poeppigiana** (DC.) Baker
Cacalia porophyllum L., Sp. Pl.: 834 (1753), nom. rej. = **Porophyllum ruderale** (Jacq.) Cass.
Cacalia praecox Kuntze, Revis. Gen. Pl. 3(3): 139 (1898) = **Vernonia squamulosa** Hook. & Arn.
Cacalia psilophylla (DC.) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia psilophylla** DC.
Cacalia radula (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia glabrata** Less.
Cacalia remotiflora (Rich.) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia remotiflora** Rich.
Cacalia riedelii (Sch.Bip. ex Baker) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia eriolepis** Gardner
Cacalia rubricaulis (Humb. & Bonpl.) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia rubricaulis** Humb. & Bonpl.
Cacalia rubricaulis (Humb. & Bonpl.) Kuntze var. *pseudo-incana* (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898) = **Vernonia rubricaulis** Humb. & Bonpl.
Cacalia rufipapossa [sic! – but noting original spelling!] (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898) = **Vernonia membranacea** Gardner
Cacalia salzmännii (DC.) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia salzmännii** DC.
Cacalia santacruzensis (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898) = **Vernonia santacruzensis** Hieron.
Cacalia scabrifoliolata (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898) = **Vernonia scabrifoliolata** Hieron.
Cacalia scorpioides Lam., Encycl. 2: 88 (1786) = **Vernonia scorpioides** (Lam.) Pers.
Cacalia scorpioides (Lam.) Kuntze, Revis. Gen. Pl. [In '1: 324 (1891)' Kuntze provided the combination '*C. scorpioides* OK (Pers.)' and 'recognized' two 'varieties', but Robinson (1999) cited '2: 971 (1891)' as the placed of publication of the combination] = **Vernonia scorpioides** (Lam.) Pers.
Cacalia scorpioides (Lam.) Kuntze var. *glabriuscula* Kuntze, Revis. Gen. Pl. 3(3): 139 (1898) = **Vernonia scorpioides** (Lam.) Pers.
Cacalia scorpioides (Lam.) Kuntze var. *tomentosa* Kuntze, Revis. Gen. Pl. 3(3): 139 (1898) = **Vernonia scorpioides** (Lam.) Pers.
Cacalia senecioides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): (1818) = **Monticalia pulchella** (Kunth) C. Jeffrey
Cacalia septemnata Vell., Fl. Flum.: 338 (1825)[1829] = **Mikania ternata** (Vell.) B. L. Rob.
Cacalia sessiliflora (Willd. ex Less.) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia remotiflora** Rich.
Cacalia sessilis Vell., Fl. Flum.: 341 (1825)[7 Sept. - 28 Nov. 1829] = **Baccharis genistelloides** (Lam.) Pers. ssp. **crispa** (Spreng.) Joch. Müller
Cacalia simplex (Less.) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia simplex** Less.
Cacalia sordidopapposa (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898) = **Vernonia sordidopapposa** Hieron.
Cacalia squamulosa (Hook. & Arn.) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia squamulosa** Hook. & Arn.
Cacalia subacuminata (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 140 (1898) = **Vernonia obtusata** Less.
Cacalia tarijensis (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 140 (1899) = **Vernonia tarijensis** (Griseb.) Hieron.
Cacalia ternata Vell., Fl. Flum. : 336 (1825)[1829] = **Mikania ternata** (Vell.) B. L. Rob.
Cacalia tournefortioides (Kunth) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia scorpioides** (Lam.) Pers.
Cacalia triangularis Vell., Fl. Flum. : 338 (1825)[1829]; Fl. Flum. Icones 8: tab. 62 (1831) = **Mikania triangularis** (L.f.) Willd.
Cacalia tristis (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 140 (1898) = **Vernonia tristis** Hieron.
Cacalia varoniifolia (DC.) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia varoniifolia** DC.
Cacalia virens (Sch.Bip. ex Baker) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia salzmännii** DC.
Cacalia virgulata (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 971 (1891) = **Vernonia virgulata** Mart. ex DC.

Caesulia radicans Willd., Sp. Pl. 3: 1797 (1803) = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera

Calea L. sect. *Amphicalca* DC., Prodr. 5: 672 (1836) = **Calea** L.

Calea L. subgen. *Haplocalea* Less., Syn. Gen. Comp.: 241 (1832) = **Calea** L.
Calea L. subgen. *Monanthocalea* Less., Syn. Gen. Comp.: 242 (1832) = **Calea** L.
Calea L. sect. *Haplocalea* (Less.) Pruski, Kew Bull. 53(3): 683 (1998) = **Calea** L.
Calea L. sect. *Monanthocalea* (Less.) Pruski, Kew Bull. 53(3): 684 (1998) = **Calea** L.

Calea L., Sp. Pl. ed. 2, 2: 1179 (1763).

Leontophthalmum Willd., Ges. Naturf. Fr. Berlin Mag. 1: 140 (1807). Generic description only with no species.

Type: *Leontophthalmum peruvianum* Kunth = *Calea peruviana* (Kunth) S. F. Blake

Mocinna Lag., Gen. Sp. Pl. Nov. : 31 (1816). Type: *Mocinna serrata* Lag. = *Calea urticifolia* (Mill.) DC.

Caleacte R.Br., Trans. Linn. Soc. London 12: 109 (1817), nom. provis. (acc. to Robinson 2006: 75).

Calea L. subgen. *Haplocalea* Less., Syn. Gen. Comp.: 241 (1832). Type: **Calea cymosa** Less.

Calea L. subgen. *Monanthocalea* Less., Syn. Gen. Comp.: 242 (1832). Type: *Calea uniflora* Less.

Lemmatium DC., Prodr. 5: 670 (1836). Type: *Lemmatium rotundifolium* (Less.) DC. = *Calea rotundifolia* (Less.)

Baker

Calea L. sect. *Amphicalca* DC., Prodr. 5: 672 (1836). Type: *Calea gentianoides* DC.

Meyeria DC., Prodr. 5: 670 (1836). Type: not stated. Lectotype (selected by Wussow et al., 1985: 246): *Meyeria*

myrtifolia DC. = *Calea myrtifolia* (DC.) Baker

Schomburghia DC., Prodr. 7: 293 (1838), nom. illegit., non *Schomburgkia* Lindl. (1838) [ORCHIDACEAE]. Type:

Schomburghia caleoides DC. = *Calea caleoides* (DC.) H. Rob.

Geissopappus Benth., London J. Bot. 2: 44 (1840)[, nom. nov. pro *Schomburghia* DC.] Type: *Geissopappus*

calaeoides (DC.) Benth. = *Calea caleoides* (DC.) H. Rob.

Trinchinettia Endl., Gen. : 1383 (1841), nom. nov. (based on *Schomburghia* DC.)

Aschenbornia Schauer, Linnaea 19: 16 (1847). Type: *Aschenbornia heteropoda* Schauer = *Calea ternifolia* Kunth

Amphicalca (DC.) Gardner, London J. Bot. 7: 411 (1848).

Stenophyllum Sch.Bip. ex Benth. & Hook.f., Gen. Pl. 2: 391 (1873), cited by Robinson (2006: 75) as 'nom. superfl.', although no such name was proposed by Bentham & Hooker f.!

Tonalanthus Brandege, Univ. Calif. Publ. Bot. 6: 75 (1914). Type: *Tonalanthus aurantiacus* Brandege = *Calea megacephala* B. L. Rob. & Greenm.

Brasilia G. M. Barroso, Arch. Jard. Bot. Rio de Janeiro 17: 19 (1962). Type: *Brasilia sickii* G. M. Barroso = *Calea sickii* (G. M. Barroso) Urbatsch, Zlotzky & Pruski.

Calea L. sect. *Haplocalea* (Less.) Pruski, Kew Bull. 53(3): 683 (1998). Type: *Calea cymosa* Less.

Calea L. sect. *Monanthocalea* (Less.) Pruski, Kew Bull. 53(3): 684 (1998).

Note: Panero [2006](2007) also placed the monospecific Venezuelan *Tyleropappus* Greenm. within the synonymy of *Calea*.

Type: *Santolina jamaicensis* L. = *Calea jamaicensis* (L.) L.

References

Pruski, J. F. (1984). *Calea brittoniana* and *Calea kristinia*: two new Compositae from Brazil. *Brittonia* 36(2): 98–103.

Pruski, J. F. (1998). Novelties in *Calea* (Compositae: Heliantheae) from South America. *Kew Bull.* 53(3): 683–693.

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Pruski, J. F. & L. E. Urbatsch (1988). Five new species of *Calea* (Compositae: Heliantheae) from Planaltine Brazil. *Brittonia* 40(4): 341–356.

Robinson, H. (1975). Studies in the Heliantheae (Asteraceae). VI. Additions to the genus, *Calea*. *Phytologia* 32(5): 426–431.

Urbatsch, L. E., Zlotzky, A. & J. F. Pruski. (1986). Revision of *Calea* sect. *Lemmatium* (Asteraceae: Heliantheae) from Brazil. *Syst. Bot.* 11(4): 501–114.

Wussow, J. R., Urbatsch, L. E. & G. A. Sullivan. (1985). *Calea* (Asteraceae) in Mexico, Central America, and Jamaica. *Syst. Bot.* 10(3): 241–267.

Calea amellus (L.) L., Sp. Pl., ed. 2 : 1179 (1763) = **Salmea scandens** (L.) DC.

***Calea anomala** Hassl., Repert. Spec. Nov. Regni Veg. 7: 356 (1909). Type: 'Bolivia: Im Kamp von Santiago de Chiquitos, ca. 600 m, Mai 1907, leg. Herzog no. 616.' Holotype: ?B.

Bolivia (Santa Cruz), Brazil.

Open grassy cerrado, sandy soils, scrubby roadsides.

600–900 m.

January–May.

Santa Cruz: Wood & Goyder 16915 (K), Wood & Mamani 13472 (K), Wood et al. 24317 (K, USZ).

Calea aspera Jacq., Collect. 2: 290 (1788) = **Melanthera nivea** (L.) Small

Calea brevifolia* Rusby, Bull. New York Bot. Gard. 8(No. 28): 132 (1912) = **Calea lantanoides Gardner

Calea clematidifolia Steyerl., Fieldiana 28(3): 627 (1953) = **Calea solidaginea** Kunth

Calea congesta Rusby, Descr. S. Amer. Pl. : 155 (1920) = **Calea solidaginea** Kunth

***Calea coriacea** DC., Prodr. 5: 675 (1836). Type: '■ in Peruvîa legit cl. Haenke ex h. acad. reg. Monac. ... (v.s. in h. suprâ cit.)'. Holotype: M; isotype: G-DC (fragm.).

**Calea robusta* Britton, Bull. Torrey Bot. Club 19: 151 (1892). Type: 'Yungas, 4,000 ft. ([Rusby] 2137).

Apparently the same as specimens in Herb. Kew collected by R. Pearce at Puente Grande and Quichara;

these have somewhat smaller heads.' Isosytype (Rusby 2137): NY (00622243 – ex Columbia College

Herbarium, 00622244 – ex College Pharmacy Herbarium), US. Pearce syntypes: K. Note: NY (00622244) was marked as the holotype by Pruski (1982), although it is my opinion that the Pearce collections must be

considered as syntypes.

Bolivia (Cochabamba, La Paz).

Steep stony slopes, grassland and scrub.

500–1500 m.

May–August.

Cochabamba: Wood 14927 (K) –vel aff.

***Calea cymosa** Less., Linnaea 5(1): 158 (1830). Type: not cited other than a reference to '(Bras. capit. radiata)'. Bolivia (?), Brazil. This is based on a *Bang* collection s.n., s. loc., listed by Rusby (1907: 390).

October–February.

Calea dalyi Pruski & Urbatsch, Brittonia 39(2): 201 (1987). Type: 'BOLIVIA. Santa Cruz. Chiquitos: S slope of the Serranía de Santiago, 5–10 km E of town of Santiago de Chiquitos, 18°23'S, 59°30'W, 800–950 m, 20 Jul 1983, D. C. Daly, M. J. G. Hopkins, L. E. Forero, S. Beck, N. Hernández, H. Phipps III & H. Wold 2172'. Holotype: NY (00162953); isotypes: K, LPB, UB, US (03120004).

Bolivia (Santa Cruz).

Open, fractured rocky areas in cerrado, open grassland.

800–950 m.

January–September, but possibly flowering sporadically throughout the year.

Santa Cruz: Soto & Linneo 1267 (K), Wood & Goyder 16989 (K), Wood & Pozo 26016 (K, USZ), Wood et al. 25875 (K, USZ).

Calea deltophylla R. S. Cowen, Brittonia 7(5): 413 (1952) = **Calea solidaginea** Kunth

Calea herbert-smithii Rusby, Descr. S. Amer. Pl. : 156 (1920) = **Calea solidaginea** Kunth

Calea lanceolata Rusby, Bull. New York Bot. Gard. 8(No. 28): 132 (1912) = **Oyedaea lanceolata** (Rusby) S. F.

Blake

Calea lantanoides Gardner, London J. Bot. 7: 416 (1848). Type: 'Hab. Dry upland Campos near Villa de Arrayas, Province of Goyaz. March, 1840.' [Gardner] 3853. Isotypes: NY (00622246, 00622247, 00622248)

Calea subrotunda Gardner, London J. Bot. 7: 415 (1848). Type: 'Hab. Dry bushy places near San Pedro, Province of Goyaz. May, 1840.' [Gardner] 4247.

**Calea brevifolia* Rusby, Bull. New York Bot. Gard. 8(No. 28): 132 (1912). Types: [Bolivia:] ' "Apolo, 5000 ft., Apr. 9, 1902" ([R.S. Williams] No. 263)./ The same as Holton's No. 348.' Syntype (Williams 263): NY (00162942); isosytype: US (01098675). Note: The location of the Holton syntype is unknown.

Bolivia (La Paz, Santa Cruz), Brazil.

Cerrado, grassland.
290–1500 m.
February–May.
Santa Cruz: Wood et al. 24773 (K, USZ).

Calea lobata (L.) Sw., Prodr. : 113 (1788) = **Neurolaena lobata** (L.) R.Br. ex Cass.

Calea lutea Pruski & Urbatsch, Brittonia 40(4): 353 (8 Dec. 1988). Type: BRAZIL. Pará: Mun. de Itaitubs, savana, arredores da Base Aérea do Cachimbo, próximo ao destacamento km 6 da estrada que vai para o Aeroporto km 794, 9°22'S, 54°55'W, 25 Apr 1983, M. N. Silva, I. L. Amaral, J. Lima, O. P. Monteiro & J. Coêlho 76'. Holotype: INPA; isotypes: F (2012593), G, K, LSU, NY (00162980), S, UB, US (3108753).

Calea saddiana G. M. Barroso, Arch. Jard. Bot. Rio de Janeiro 28: 195 (1986-1987)[Jan. 1989]. Type: 'Brasil, Mato Grosso, Município de Santo Antônio de Leverger, região da Gruta (Casa de Pedra) de São Vicente; 13 Jan. 1987, Saddi et al. 7920'. Holotype: UFMT; isotypes: RB, UFMT.

Bolivia (Santa Cruz), Brazil.
Open wet cerrado, in sandy areas, forest margins.
200–750 m.
December–May.

Calea nematophylla Pruski, Kew Bull. 53(3): 684 (1998). Type: 'Bolivia. Santa Cruz: Velasco, Parque Noel Kempff M., Campamento La Torre, camino a la parcela, 13°39'14"S, 60°49'52"W, 300 m, 11 May 1994, Gutiérrez, Quevedo & Mamani 899'. Holotype: US (03362995); isotypes: F (2075783), MO, SCV.

Bolivia (Santa Cruz).
Rocky, wet cerrado.
200-400 m. May–June.

Calea papposa Malme, Ark. Bot. 24A(4) N:o 8: 50 (1932). Type: [Brazil:] 'Santa Anna da Chapada, in palude aperta, una cum Eriocaulaceis, Cyperaceis etc., 187/394 ([Regnell] I: 1470 B, fere omnino deflorata).' Holotype: S.

Bolivia (La Paz), Brazil.

Calea perforata Klatt, Leopoldina 20: 95 (1884) = **Calea solidaginea** Kunth

***Calea rhombifolia** S. F. Blake, Proc. Biol. Soc. Washington 36: 53 (1923). Type: 'Type in the U.S. National Herbarium, No. 1,120,944, collected on an open pampa at Lake Rogagua, District of Yacuma, Province of Beni, Bolivia, altitude 305 meters, October, 1921, by H. H. Rusby (Mulford Biological Exploration of the Amazon Basin, No. 2164).' Holotype: US (01120944); isotypes: NY (00622251, 00804123).

Bolivia (Bení, Santa Cruz).
Cerrado (even degraded), sandy soils.
250–2005 m.
July–December.

Bení: Wood & Wasshausen 13851 (K).
Santa Cruz: Wood & Guzman 17472 (K); Wood & Huaylla 21018 (K, USZ), Wood & Mamami 13957 (K).

Calea robusta* Britton, Bull. Torrey Bot. Club 19: 151 (1892) = **Calea coriacea DC.

Calea scandens Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 199 (1879); Symb. Fl. Argent. : 199 (1879) = **Calea solidaginea** Kunth

Calea sessiliflora Stokes, Bot. Mat. Med. 4: 172 (1812), nom. nov. pro **Pacourina edulis** Aubl. = **Pacourina edulis** Aubl.

***Calea solidaginea** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 231 (1818). Type: 'Crescit in declivitate nobilissimi montis Silla de Caracas, alt. 800 hex. ■? Floret Januario.' Holotype: P-Bonpl.

Calea scandens Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 199 (1879); Symb. Fl. Argent. : 199 (1879).
Type: 'O.: Tarija, Cuesta de Luisina, pr. Salinas.' Holotype: Lorentz & Hieronymus 644, GOET (6223).

Calea perforata Klatt, Leopoldina 20: 95 (1884). Type: 'Columbia, in ripa fluminis Mayqueteeae, leg. Ed. Otto, Nr. 459. Herbarium Klatt.' Holotype: ?GH.

Calea congesta Rusby, Descr. S. Amer. Pl. : 155 (1920). Types: 'Specimen sent as part of *Herbert H. Smith's* No 648 from Colombia, but distinct in every character except the size and form of the heads. No. 2617, from near Masinga Vieja, 1000 feet, December 20, is the same. Of this, Smith says: "Trailing or scandent, to 5 or 10 feet, along borders of forest. Previously confused with 648, which is a shrub and differs in the flowers." ' Syntypes: NY. Syntype (*Smith* 648): NY (00162951).

Calea herbert-smithii Rusby, Descr. S. Amer. Pl. : 156 (1920). Type: ' " A shrub 3 to 5 feet high, common in camps, 1000 to 3000 feet, flowering in December. Specimens from Onaca" (*Herbert H. Smith*, Colombia, No. 648).' Holotype: NY (00162965); isotype: NY (00162951 – see *Calea congesta* above).

Calea deltophylla R. S. Cowen, Brittonia 7(5): 413 (1952). Type: '*Wilson-Browne* 82 (NY), prostrate woody shrub-flowers green-florets tubular-pappus of linear scales-achenes mottled, foothills Mt. Bulakuk-tabai-ial, British Guiana. The following specimen is also included here: *Holt & Gehriger* 194, State of Bolivar, Ciudad Bolivar, Venezuela, 35 m., November 1929.' Holotype: NY (00162955); isotype: NY (00162954).

Calea clematidifolia Steyerl., Fieldiana 28(3): 627 (1953). Type: [Venezuela:] 'Type in herb. Chi. Nat. Hist. Mus., collected along stream in Gran Sabana, between Kún and Uaduara-parú, in valley of Río Kukenán, south of Mount Roraima, state of Bolivar, alt. 1065–1220 m., October 1, 1944, *Julian A Steyermark* 59072, "vining or sprawling; involucre stramineous; corolla dull yellow; leaves rugose, dull green above, paler beneath." ' Holotype: ?F; isotype: NY (00162950).

Calea solidaginea Kunth var. *deltophylla* (R. S. Cowan) Pruski, Fl. Venez. Guayana 3: 229 (1997).

Bolivia (Chuquisaca, La Paz, Santa Cruz), Brazil, Colombia, French Guiana, Guyana, Suriname, Trinidad, Venezuela.

Forest clearings, open scrub on steep hillsides, cerrado, disturbed areas, roadsides.

300–1600 m.

October–May.

Chuquisaca: *Wood* 9697 (K), *Wood* et al. 22325 (K, USZ).

Santa Cruz: *Wood* 8378 (K), *Wood* et al. 18323 (K), *Wood* et al. 23057 (K, USZ).

Calea solidaginea Kunth var. *deltophylla* (R. S. Cowan) Pruski, Fl. Venez. Guayana 3: 229 (1997) = **Calea solidaginea** Kunth

Calea subrotunda Gardner, London J. Bot. 7: 415 (1848) = **Calea lantanoides** Gardner

Calea suriani Cass., Dict. Sci. Nat. 6, suppl. : 33 (1817) = **Neurolaena lobata** (L.) R.Br. ex Cass.

Caleacte R.Br., Trans. Linn. Soc. London 12: 109 (1817), nom. provis. (acc. to Robinson 2006: 75) = **Calea** L.

Calendula L., Sp. Pl.: 921 (1753); Gen. Pl. ed. 5: 393 (1754).

Type: **Calendula officinalis** L.

References

Meusel, H. & M. Ohle. (1966). Zur Taxonomie und Cytologie der Gattung *Calendula*. Ost. Bot. Zeit. 113: 191–210.

Ohle, M. (1974). Beiträge zue Taxonomie der Gattung *Calendula*, II: Taxonomische Revision der südeuropäischen perennierenden *Calendula*-sippen. Feddes. Repert. 85(4): 245–283.

Calendula officinalis L., Sp. Pl. : 921 (1753). Type: 'Habitat in Europae arvis.' Lectotype (selected by Alavi in Jafri & El-Gadi, Fl. Libya 1983, 107: 195): Herb. Linn. No. 1035.4 (LINN).

Calendula officinalis * [unranked] *prolifera* DC., Prodr. 6: 452 (1838). Type: '(v. v. c.)'. Note: there is a specimen marked '*α prolifera*' in G-DC which is best viewed as the holotype.

Calendula eriocarpa DC., Prodr. 6: 453 (1838). Type: ' · patr. ign. ... Semina missa sub nom. C. cristatae, sed mihi cristati video. (v. v. c. in h. Genev.)'. Note: there is a specimen in G-DC with a label marked '*Cal. cristata* 262/3' which can be best viewed as the holotype.

Bolivia (Chuquisaca). Cultivated and sometimes escaping.

0–500 m.

Calhounia A. Nelson, Univ. Wyom. Publ. Sci. Bot. 1: 55 (1924) = **Lagascea** Cav.

Calliopsis Rchb., Icon. Descr. Pl. Cult. (Mag. Aesth. Bot.) 1: t. 70 (1823) = **Coreopsis** L.

Caloseris Benth., Pl. Hartweg. : 88 (1841) = **Onoseris** Willd.

Calyptocarpus burchellii (Hook.) Sch.Bip., Bot. Zeitung. 24: 165 (1866) = **Blainvillea acmella** (L.) Philipson

Campovassouria R. M. King & H. Rob., Phytologia 22: 121 (1971).

Eupatorium L. Sect. *Campovassouria* (R. M. King & H. Rob.) Cabrera, Ill. Fl. Catarinense. Compostas 4 tribo: Eupatorieae. : 519 (1991).

Type: *Eupatorium bupleurifolium* DC. = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.

Campovassouria bupleurifolia (DC.) R. M. King & H. Rob., Phytologia 22: 122 (1971) = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.

Campovassouria cruciata (Vell.) R. M. King & H. Rob., Phytologia 49(1): 3 (1981).

Chrysocoma cruciata Vell., Fl. Flum. : 326 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 10.a (1831).

Type: 'Habitat locis, et floret mensibus supra citatis.' ['Habitat campis apricis mediterraneis. Floret mensibus Oct. nov.'].]

Eupatorium phlogifolium DC., Prodr. 5: 147 (1836). Type: '■ in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 799 miss.)'. Holotype: P; isotype: G-DC.

Eupatorium asclepiadeum DC., Prodr. 5: 148 (1836). Types: '■ in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. miss. sub n. 473, 774 et 842.)'. Syntypes: P; isosyntytype: 'Mus. imp. Bras. 774', G-DC.

**Eupatorium bupleurifolium* DC., Prodr. 5: 149 (1836). Types: '■ in Brasiliae prov. Sancti-Pauli. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 464 et 465 miss.)'. Syntypes: G-DC; isosyntypes: G-DC. Note: The material of 465 (annotated as 'var. *angustifolia*') is only of two leaves, that of 464 is of an inflorescence and two leaves.

Eupatorium linifolium DC., Prodr. 5: 149 (1836). Type: '■ in Brasiliae prov. Sanctam Catharinam legit cl. Gaudichaud [202]. ... (v.s. comm. à cl. invent.)'. Holotype: G-DC.

Eupatorium sonderi Sch.Bip., Linnaea 30: 182 (1859/60), nom. nud.

**Eupatorium mandonii* Sch.Bip., Linnaea 34(5): 533 (Feb. 1866), nom. nud. Note: this name appeared with a short Latin diagnosis - '(Capitula 5-flora, involucrem imbricatum, folia alterna.)', but I would argue that this could scarcely be considered as a validating Latin diagnosis, based on *Mandon* 205. In Bull. Soc. Bot. France 12: 81 (1865) it was certainly a nom. nud. [Duplicates: *Mandon* 205 - S.]

Eupatorium bupleurifolium DC. var. *linifolium* (DC.) Baker in Mart., Fl. Bras. 6(2): 332 (1876).

Eupatorium amblyolaenum Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 332 (1876), nom. nud. pro syn.

Eupatorium bupleurifolium DC., var. β [sic! = γ] *asclepiadea* (DC.) Baker, in Mart., Fl. Bras. 6(2): 333 (1876).

Eupatorium ensifolium Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 170 (March-April 1879); Symb. Fl. Argent.: 170 (1879). Types: '[Argentina] Ct. Quebrada de Tala. (Paraguay: *Bal[ansa]* 738.)' Syntypes: *Lorentz & Hieronymus* 454 & *Balansa* 738, GOET. Ariza Espinar (1994: 46) cited the isosyntytype, *Lorentz & Hieronymus* 454 in *CORD* as 'Catamarca: Chacarita de los Padres, en la Quebrada del Tala, *Lorentz et Hieronymus* 454, 21/24-XI-1872', but incorrectly as an 'isotype'.

Eupatorium bupleurifolium DC. var. *microcephalum* Hieron., Bot. Jahrb. Syst. 22(4-5): 777 (1897). Types: [Brazil] 'Santa Catharina: in der Capoeira bei Itajahy (*ULE*, Oct. 1885, n. 428); in der Capoeira am Wege nach Brusque bei Itajahy (*SCHENCK*, 12. Nov. 1886, n. 1090); in Sümpfen bei Tuberão (*ULE*, Nov. 1889, n. 1513).' Syntypes: B†.

Eupatorium bupleurifolium DC. '3.' var. *ensifolium* [as *ensifolia*] (Griseb.) Hieron, Bot. Jahrb. Syst. 22(4-5): 777 (1897).

?*Eupatorium graminifolium* Chodat, Bull. Herb. Boissier, ser. 2, 1(4): 411 (1901). Types: 'In campo pr. Cerro hu, Dec., [Hassler] 1643; *Balansa* 959a, Itangu près de Villa-Rica, dans les prairies marécageuses.' Syntypes: G.

Campovassouria bupleurifolia (DC.) R. M. King & H. Rob., Phytologia 22: 122 (1971).

Eupatorium cruciatum (Vell.) Ariza, Kurtziana 22: 155 (1993).

Argentina, Bolivia (Chuquisaca, La Paz, Santa Cruz, Tarija), Brazil, Paraguay, Uruguay.

Alnus woodland, open grassland, cerrado, woodland clearings.

0–2300 m.

September–March.

Vernacular names: GUÁKO (CABRERA, 1996); GUACO, EUPATÓRIO, VASSOURA-DO-BANHADO, VASSOURA-DO-CAMPO (Cabrera & Klein, 1991).

Campuloclinium DC., Prodr. 5: 136 (1836).

Eupatorium L. sect. *Campuloclinium* (DC.) Benth. ex Baker in Mart., Fl. Bras. 6(2): 354 (1876).

Type: *Eupatorium macrocephalum* Less. = **Campuloclinium macrocephalum** (Less.) DC.

Campuloclinium kleinoides (Kunth) DC., Prodr. 5: 137 (1836) = **Praxelis kleinoides** (Kunth) Sch.Bip.

Campuloclinium burchellii (Baker) R. M. King & H. Rob., Phytologia 24(3): 405 (1972).

Eupatorium burchellii Baker in Mart., Fl. Bras. 6(2): 356 (187). Types: 'Habitat in campis regionis Oreadum.

Prov. Goyaz in campos prope urbem Goyaz ad Caminho de Nené: *Burchell* n. 6782; in Serra d'Ourada: *Pohl*; prov. Minas Geraës ad Lagoa Santa: *Warming*.' Syntype (*Burchell* 6872): K.

Campuloclinium corymbosum Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 356 (18), nom. nud. pro syn.

Bolivia (Santa Cruz), Brazil (Goiás, Mato Grosso, Minas Gerais, Paraná, São Paulo), Paraguay.

Pasatures adjacent to flooded areas.

500–720 m.

February–April.

Santa Cruz: *Wood et al.* 25694 (K, USZ).

Note: This would appear to be the first record of this relatively widespread Brazilian species for Bolivia.

Campuloclinium macrocephalum (Less.) DC., Prodr. 5: 137 (1836).

Eupatorium macrocephalum* Less., *Linnaea* 5(1): 136 (1830). Type/s?: 'In graminosis pr. Hacienda de la Laguna. Octbr.)' the footnote reference is 'Est quoque e plantis Brasiliensibus, quas *Beyrichius* et *Sellowius* reportaverant.' ?Syntypes: B†.

Eupatorium donianum Hook. & Arn., *Companion Bot. Mag.* 1(No. 8): 243 (1836). Types: 'Melenquecito, Pampas of Buenos Ayres, *Dr. Gillies*. Maldonado and Rio Grande and Cordova (n. 1106). *Tweedie*. –β. corymbis paucifloris, S. Brazil, *Tweedie*.' Syntypes:

Campuloclinium macrocephalum (Less.) DC. var. β *strigosum* DC., Prodr. 5: 137 (1836). Type: '– in Brasiliae prov. Rio-Grande. (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 908 miss.)'. Holotype: P.

Chromolaena pratensis Gardner, *London J. Bot.* 1: 176 (1842). Type: 'HAB. Not uncommon, in open bushy places and grass fields, about Rio. Fl. Oct. Nov.' [*Gardner*] 66.

Eupatorium macrocephalum Less. var. *angustifolium* Baker in Mart., Fl. Bras. 6(2): 358 (1876). Type: [Brazil:] 'Prov. S. Paulo in campis ad Morumbi: *Burchell* n. 4583.' Holotype: K.

Eupatorium stigmatosum Chodat, *Bull. Herb. Boissier, sér. 2*, 1(4): 413 (1901). Types: 'In palude pr. Tucangua [*Hassler*] 1851; ad marginem silvae pr. Sapucay, [*Hassler*] 1604.' Syntypes: G.

Eupatorium denudatum Chodat, *Bull. Herb. Boissier, sér. 2*, 1(4): 413 (1901). Type: 'In campo pr. Cerro-hu, Febr. [*Hassler*] 1906.' Holotype: G.

Eupatorium stigmatosum Chodat var. *subcalvatum* Chodat, *Bull. Herb. Boissier, sér. 2*, 3(8): 709 (1903). Types: 'Suffrutex 0,8-1,2, petala incarnata in campo humido in regione fluminis Apa, Dec., [*Hassler*] n. 8315; suffrutex 0,4-0,6, petala incarnata in dumetis humidis pr. Paraguay, Dec., [*Hassler*] n. 6474.'

Eupatorium stigmatosum Chodat var. *violaceum* Chodat, *Bull. Herb. Boissier, sér. 2*, 3(8): 709 (1903). Types: 'Suffrutex 1-1,5, petala incarnata, in dumetis pr. Paraguay, Dec., [*Hassler*] n. 6567 et n. 6567a; id. in campo pr. Ipe-hu Sierra de Maracayu, Oct., [*Hassler*] n. 4961.'

Eupatorium macrocephalum Less. var. *stigmatosum* (Chodat) Hassl., *Repert. Spec. Nov. Regni Veg.* 14(10–15): 290 (1916).

Argentina, Bolivia (Santa Cruz, Tarija), Brazil, Colombia, Guatemala, Honduras, Mexico, Paraguay, Uruguay. Now also a widespread weed in South Africa.

Grassland, disturbed ground, damp soils, marshes, damp woodland margins.

0–2050 m.

January–April.

Santa Cruz: *Wood & Soto* 25387 (K, USZ), *Wood et al.* 24083 (K, USZ).

Vernacular names: CHARRÚA KA'A, OVECHA REMBI'U, TEJU KA'A (Cabrera, 1996), EUPATÓRIO (Cabrera & Klein, 1991); ILLA LA IK, INAMBÚ CA'A GUAZÚ, LANCÚ KACHÚ, TEYÚ CA'A (Freire et al., 2006).

Campuloclinium macrocephalum (Less.) DC. var. β *strigosum* DC., Prodr. 5: 137 (1836) = **Campuloclinium macrocephalum** (Less.) DC.

Campuloclinium palustre DC., Prodr. 5: 137 (1836) = **Barrosoa betoniciformis** (DC.) R. M. King & H. Rob.

Campuloclinium surinamense Miq., Linnaea 17: 69 (1843) = **Heterocondylus vitalbae** (DC.) R. M. King & H. Rob.

Campylotheca Cass., Dict. Sci. Nat. 59: 321 (1829) = **Bidens** L.

Camutia Bonat. ex Steud., Nom. Bot. : 146 (1821), nom. nud. pro syn. = **Melampodium** L.

Candidea Tenora, Atti Reale Accad. Sci. Sez. Soc. Reale Borbon 4 (Cl. Bot.): 104, t. 1, 2 (1839) = **Vernonia** Schreb.

Carduus L., Sp. Pl.: 820 (1753).

Ascalea Hill, Hort. Kew : 60 (1768), p.p. Type: not stated.

Type: not stated. Lectotype (vide N. L. Britton & A. Brown, Ill. Fl. N. U.S. ed. 2. 3: 554. 7 Jun. 1913): **Carduus nutans** L.

References

Kazmi, S. M. A. (1963). Revision der Gattung *Carduus* (Compositae), Teil I. Mitt. Bot. Staatsamml. München 5([1]): 139–198

Kazmi, S. M. A. (1964). Revision der Gattung *Carduus* (Compositae), Teil II. Mitt. Bot. Staatssaml. München 5([2]): 279–550.

Carduus lanceolatus L., Sp. Pl.: 821 (1753) = **Cirsium vulgare** (Savi) Ten.

Carduus leiophyllus Petrovic, Add. Fl. Nyss. : 105 (1887) = **Carduus nutans** L.

Carduus nutans L., Sp. Pl.: 821 (1753). Type: 'Haibtat in Europa ad Pagos. ■' Lectotype (selected by Kazmi 1964: 323): Herb. Linn. No. 966.2 (LINN).

Ascalea nutans (L.) Hill, Hort. Kew., : 60 (1768).

Carduus leiophyllus Petrovic, Add. Fl. Nyss. : 105 (1887). Type:

Carduus nutans L. var. *litoralis* P. D. Sell, Fl. Gt. Brit. Ireland 4: 530 (2006). Type: 'Frequent along the shingle beach, Snettisham Scalp, W. Norfolk, v.c. 28, 53/649339, 15 July 1987, P. D. Sell no. 87/213 and L. C. Nicol'. Holotype: CGE.

Argentina, Bolivia (La Paz). A native of Russia, but throughout Europe, Caucasia, NW Syria, NW Africa, and widely introduced elsewhere.

Roadsides.

c. 100–3875 m.

January–February.

La Paz: Beck 335 (K, LPB), Wood et al. 18920 (K).

Note: Kazmi (1963) divided the species into four subspecies, providing an extensive synonymy but poor citation of types. Davis (1975) recognized further subspecies in Turkey, thereby extending the concept of the species complex further. I have limited the citation here to the basionym.

Carduus nutans L. var. *litoralis* P. D. Sell, Fl. Gt. Brit. Ireland 4: 530 (2006) = **Carduus nutans** L.

Carduus spinosissimus Gerbi, Stor. Nat. Nuov. Insetto : 8, 9 (1794), nom. illegit., non Walt., Fl. Carol. : 194 (1788), nec (L.) Vill. (1789) = **Cirsium vulgare** (Savi) Ten.

Carduus vulgaris Savi, Fl. Pis. 2: 241 (1798) = **Cirsium vulgare** (Savi) Ten.

Carelia Ponted. ex Fabr., Enum. : 85 (1759) = **Ageratum** L.

Carelia Juss. ex Cav., Anales Ci. Nat. 6: 317 (1802)[1803], non *Carelia* Ponted. ex Fabr. (1759)(= **Ageratum** L.) = **Mikania** Willd.

Carelia brachystephana (Regel) Kuntze, Revis. Gen. Pl. 1: 325 (1891) = **Ageratum conyzoides** L.

Carelia conyzodes [sic!] (L.) Kuntze, Revis. Gen. Pl. 1: 325 (1891) = **Ageratum conyzoides** L.

Carelia conyzodes [sic!] (L.) Kuntze [unranked] γ *pusilla* Kuntze, Revis. Gen. Pl. 1: 325 (1891) = **Ageratum conyzoides** L.

Carelia conyzodes [sic!] (L.) Kuntze [γ *pusilla* Kuntze] var. *alba* Kuntze, Revis. Gen. Pl. 1: 325 (1891) = **Ageratum conyzoides** L.

Carelia conyzodes [sic!] (L.) Kuntze [unranked] α *robusta* Kuntze, Revis. Gen. Pl. 1: 325 (1891) = **Ageratum conyzoides** L.

Carelia conyzodes [sic!] (L.) Kuntze [α *robusta* Kuntze] var. *alba* Kuntze, Revis. Gen. Pl. 1: 325 (1891) = **Ageratum conyzoides** L.

Carelia conyzodes [sic!] (L.) Kuntze [unranked] β *umbrosa* Kuntze, Revis. Gen. Pl. 1: 325 (1891) = **Ageratum conyzoides** L.

Carelia conyzodes [sic!] (L.) Kuntze [β *umbrosa* Kuntze] var. *coerulea* Kuntze, Revis. gen. Pl. 1: 325 (1891) = **Ageratum conyzoides** L.

Carelia mutica (Griseb.) Kuntze, Revis. Gen. Pl. 1: 325 (1891) = **Ageratum conyzoides** L.

Cargilla Adans., Fam. 2: 130 (1763), nom. illegit. superfl. = **Melampodium** L.

Carmelita Gay ex DC., Prodr. 7: 14 (1838) = **Chaetanthera** Ruiz & Pav.

Camutia Baker in Mart., Fl. Bras. 6(3): 159 (1884), orth. var. based on *Camutia* Bonat. ex Steud. = **Melampodium** L.

Carphobolus Schott in Spreng., Syst. Veg. 4, Cur. Post. : 409 (1827) = **Piptocarpha** R.Br.

Carphobolus Schott subgen. *Biumbelluliferi* Sch.Bip., Jahresber. Pollichia 20/21: 420 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. Hypericoides (Sch.Bip.) G. Lom. Sm.]

Carphobolus Schott subgen. *Biumbelluliferi* Sch.Bip. [unranked] C. *Codonocephalus* Sch.Bip., Jahresber. Pollichia 20/21: 423 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. Hypericoides (Sch.Bip.) G. Lom. Sm. sect. Macrolepideae (Sch.Bip.) G. Lom. Sm. ser. *Cylindrocephalus* (Sch.Bip.) G. Lom. Sm.]

Carphobolus Schott subgen. *Biumbelluliferi* Sch.Bip. [unranked] A. *Cylindrocephalus* Sch.Bip., Jahresber. Pollichia 20/21: 421 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. Hypericoides (Sch.Bip.) G. Lom. Sm. sect. Macrolepideae (Sch.Bip.) G. Lom. Sm. ser. *Cylindrocephalus* (Sch.Bip.) G. Lom. Sm.]

Carphobolus Schott subgen. *Biumbelluliferi* Sch.Bip. [unranked] B. *Oocephalus* Sch.Bip., Jahresber. Pollichia 20/21: 422 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. *Piptocarpha* sect. *Oocephalus* (Sch.Bip.) G. Lom. Sm.]

Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip., Jahresber. Pollichia 20/21: 412 (1863)[30 March 1864].

Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] B. *Macrolepideae* Sch.Bip., Jahresber. Pollichia 20/21: 414 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. Hypericoides (Sch.Bip.) G. Lom. Sm. sect. Macrolepideae (Sch.Bip.) G. Lom. Sm.]

Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] B. *Macrolepideae* Sch.Bip. [unranked but cited as ser. by Smith & Coile!] *Acutanguli* Sch.Bip., Jahresber. Pollichia 20/21: 418 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. Hypericoides (Sch.Bip.) G. Lom. Sm. sect. *Vanilosma* (Less.) G. Lom. Sm.]

Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] B. *Macrolepideae* Sch.Bip. [unranked] α *Axillares* Sch.Bip., Jahresber. Pollichia 20/21: 416 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. Hypericoides (Sch.Bip.) G. Lom. Sm. sect. Macrolepideae (Sch.Bip.) G. Lom. Sm.]

Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] B. *Macrolepideae* Sch.Bip. [unranked] β *Oblongifoliae* Sch.Bip., Jahresber. Pollichia 20/21: 416 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. Hypericoides (Sch.Bip.) G. Lom. Sm. sect. Macrolepideae (Sch.Bip.) G. Lom. Sm. ser. *Pyrifoliae* (Sch.Bip.) G. Lom. Sm.]

Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] B. *Macrolepideae* Sch.Bip. [unranked] α *Pyrifoliae* Sch.Bip., Jahresber. Pollichia 20/21: 414 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. Hypericoides (Sch.Bip.) G. Lom. Sm. sect. Macrolepideae (Sch.Bip.) G. Lom. Sm. ser. *Pyrifoliae* (Sch.Bip.) G. Lom. Sm.]

Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] A. *Microlepidieae* Sch.Bip., Jahresber. Pollichia 20/21: 412 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. *Hypericoides* (Sch.Bip.) G. Lom. Sm. sect. *Macrolepidieae* (Sch.Bip.) G. Lom. Sm.]

Carphobolus Schott subgen. *Hypericoides* Sch.Bip., Jahresber. Pollichia 20/21: 418 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. *Hypericoides* (Sch.Bip.) G. Lom. Sm.]

Carphobolus Schott subgen. *Leiothamnus* Sch.Bip., Jahresber. Pollichia 20/21: 425 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. *Hypericoides* (Sch.Bip.) G. Lom. Sm.]

Carphobolus Schott subgen. *Trigonachaena* Sch.Bip., Jahresber. Pollichia 20/21: 424 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. *Piptocarpha*]

Carphobolus Schott subgen. *Umbelluliferi* Sch.Bip., Jahresber. Pollichia 20/21: 425 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. *Piptocarpha*]

Carphobolus Schott subgen. *Umbelluliferi* Sch.Bip. [unranked] A. *Apodocephali* Sch.Bip., Jahresber. Pollichia 20/21: 426 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. *Piptocarpha* sect. *Piptocarpha*]

Carphobolus Schott subgen. *Umbelluliferi* Sch.Bip. [unranked] B. *Umbelluliferi* legitimi Sch.Bip., Jahresber. Pollichia 20/21: 427 (1863)[30 March 1864] = **Piptocarpha** R.Br. [subgen. *Piptocarpha* sect. *Piptocarpha*]

Carphobolus asterotrichia (Poepp.) Sch.Bip., Jahresber. Pollichia 20-21: 426 (1863)[30 March 1864] = **Piptocarpha asterotrichia** (Poepp.) Baker

Carphobolus lechleri Sch.Bip., Jahresber. Pollichia 20-21: 428 (1863)[30 March 1864] = **Piptocarpha lechleri** (Sch.Bip.) Baker

Carphobolus poeppigianus (DC.) Sch.Bip., Jahresber. Pollichia 20-21: 422 (1863)[30 March 1864] = **Piptocarpha poeppigiana** (DC.) Baker

Carphobolus tereticaulis (DC.) Sch.Bip., Jahresber. Pollichia 20-21: 422 (1863)[30 March 1864] = **Piptocarpha poeppigiana** (DC.) Baker

Carthamus fluminensis Vell., Fl. Flum. : 342 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 78 (1831) = **Dasyphyllum brasiliense** (Spreng.) Cabrera

Castra Vell., Fl. Flum. : 342 (1825)[7 Sept. - 28 Nov. 1829], pp. = **Trixis** P. Browne, **Holocheilus** Cass.

Castra regia Vell., Fl. Flum. : 343 (1825)[7 Sept. - 28 Nov. 1829] = **Trixis divaricata** (Kunth) Spreng.

Celmisia Cass. sect. *Oritrophium* (Kunth) Solbrig, Contr. Gray Herb. 188: 85 (1960) = **Oritrophium** (Kunth) Cuatrec.

Celmisia hieracioides (Wedd.) Solbrig, Contr. Gray Herb. 188: 85 (1960) = **?Podocoma hieracifolia** (Poir.) Cass. (see note under *Podocoma hieracifolia*)

Cenia Comm. ex Juss., Gen. Pl.: 183 (1789) = **Cotula** L.

Cenia Comm. ex Juss. sect. *Actinocenia* DC., Prodr. 6: 82 (1838) = **Cotula** L.

Cenia Comm. ex Juss. sect. *Discocenia* DC., Prodr. 6: 82 (1838) = **Cotula** L.

Centratherum Cass., Bull. Sci. Soc. Philom. Paris 1817: 31 (Feb 1817); Dict. Sci. Nat. 7: 383 (May 1817).

Spixia Schrank, Pl. Rar. Hort. Monac. : tab. 80 (1819). Type: *Spixia violacea* Schrank = **Centratherum punctatum** Cass.

Ampherephes Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 24 (1818). Type: *Ampherephes mutica* Kunth = **Centratherum punctatum** Cass.

Amphibecis Schrank, Syll. Ratisb. 1: 86 (1824). Type: *Amphibecis violacea* Schrank = **Centratherum punctatum** Cass.

Crantzia Vell., Fl. Flum. Icones 8: tab. 153 (1831). Type: *Crantzia ovata* Vell. = **Centratherum punctatum** Cass.

Type: **Centratherum punctatum** Cass.

References

Cabrera, A. L.† & M. Dematteis (2009). Vernoniaeae. In: A. L. Cabrera, M. Dematteis & S. E. Freire, Flora del Paraguay (L. Ramella & P. Perret, eds), vol. 39. Compositae VI. Senecioneae & Vernoniaeae. Editions des Conservatoire et Jardin botaniques de la Ville de Genève & Missouri Botanical Garden. pp. 65–268 [[1]–298].

Cristóbal, C. L. & M. Dematteis. (2003). Tribu I. Vernoniaeae. In: L. Ariza Espinar & E. Urtubey, Flora fanerogámica Argentina, Fasc. 83, 280. Asteraceae, parte 12. Tribu XIII. ProFlora CONICET. pp. 3–53.

Jones, S. B. (1980). Compositae, Part. I: Tribe Vernoniaeae. In: J. F. Macbride & collab., Flora of Peru, Fieldiana, Bot. n.s. 5: 22–69.

Kirkman, L. K. (1981). Taxonomic revision of *Centratherum* and *Phyllocephalum* (Compositae: Vernoniaeae). *Rhodora* 83: 1–24.

Robinson, H. (1980). New species of Vernoniaeae (Asteraceae). VII. *Centratherum cardenasii* from Bolivia. *Phytologia* 46(7): 443–445.

Note: Cabrera & Dematteis (2009) and Cristóbal & Dematteis (2003) were of the opinion that *Centratherum* contained only two species, *C. confertum* and *C. punctatum*, perhaps in ignorance of the Bolivian *Centratherum cardenasii*. In this account *Centratherum confertum* is considered a synonym of the variable *C. punctatum*, and *C. cardenasii* is clearly a distinct, epappose, species.

Key to species

| | |
|---|----------------------|
| Achenes epappose; leaves covered with a dense indumentum of 'T'-shaped hairs over glandular punctae; petioles and foliaceous bracts of involucre winged | <i>C. cardenasii</i> |
| Achenes pappose; leaves only glandular-punctate; petioles and outer bracts of involucre lacking wings | <i>C. punctatum</i> |

Centratherum aristatum (Kunth) Cass. ex B. D. Jacks., Index Kewensis 1: 478 (1895) = **Centratherum punctatum** Cass. ssp. **punctatum**

Centratherum brachylepis Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 12 (1873) = **Centratherum punctatum** Cass. ssp. **punctatum**

Centratherum brevispinum Cass., Dict. Sci. Nat. 57: 346 (1829), nom. illegit. superfl. pro *Amphirephes aristata* Kunth = **Centratherum punctatum** Cass. ssp. **punctatum**

Centratherum camporum (Hassl.) Malme, Ark. Bot. 24(6): 15 (1931) = **Centratherum punctatum** Cass. ssp. **punctatum**

Centratherum camporum (Hassl.) Malme var. *longipes* (Hassl.) Malme, Arkiv. Bot. 24A 6: 15 (1931) = **Centratherum punctatum** Cass. ssp. **punctatum**

Centratherum cardenasii H. Rob., *Phytologia*, 46(7): 444 (1980). Type: 'BOLIVIA: Santa Cruz: San Miserato-Chiquitos, 900 m, en pendiente de gramíneas. Herb 30-40 cm, flowers purpuras. V-66. M. Cardenas 6253.'

Holotype: US (02481736); isotype: NY (00951464).

Bolivia (Santa Cruz).

Grassland in cerrado.

660–900 m.

March–May.

Santa Cruz: Wood et al. 24323 (K, USZ).

Centratherum holtonii Baker in Mart., Fl. Bras. 6(2): 12 (1873) = **Centratherum punctatum** Cass. ssp. **punctatum**

Centratherum intermedium (Link) Less., *Linnaea* 4(3): 320 (1829) = **Centratherum punctatum** Cass. ssp. **punctatum**

Centratherum longispinum Cass., Dict. Sci. Nat. 57: 346 (1828), nom. illegit. superfl. pro **Centratherum punctatum** Cass. = **Centratherum punctatum** Cass. ssp. **punctatum**

Centratherum muticum (Kunth) Less., *Linnaea* 4(3): 320 (1829) = **Centratherum punctatum** Cass. ssp. **punctatum**

Centratherum parviflorum Moricand ex Baker in Mart., Fl. Bras. 6(2): 12 (1873), nom. nud. pro syn. = **Centratherum punctatum** Cass. ssp. **punctatum**

Centratherum pulchellum (Cass.) Steud., *Nomencl. Bot.* ed. 2 : 324 (1840) = **Centratherum punctatum** Cass. ssp. **punctatum**

Centratherum punctatum Cass., Dict. Sci. Nat. 7: 384 (1817). Type: 'Cette plante s'étée recueillie dans l'isthme de Panama par J. de Jussieu, et se trouve dans l'herbier de son illustre neveu sous le nom de *jacea panamensis*.' Holotype: P-JU.

ssp. **punctatum**

Ampherephhis aristata Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 25 (1818). Type: 'Crescit in ripa fluvii Orinoci juxta pagum Maypures. ■ Floret Majo.' Holotype: P-Bonpl. Material in P-Bonpl. is simply marked 'Orinoco'.

Ampherephhis mutica Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 25 (1818). Type: 'Crescit locis temperatis Novæ Andalusie in monte summo Cocollard, alt. 410 hex. ■ Floret Septembri.' [*Humboldt & Bonpland* 'no. 278. Cumana (Cocollar)']. Holotype: P-Bonpl.

Spixia violacea Schrank, Pl. Rar. Hort. Monac. : t. 80 (1819). Type: 'PATRIA Brasilia, unde D. Martius semina misit.' Holotype: M.

Amphibecis violacea (Schrank) Schrank, Syll. Ratisb. 1: 86 (1824).

Centratherum brevispinum Cass., Dict. Sci. Nat. 57: 346 (1829), nom. illegit. superfl. pro *Ampherephhis aristata* Kunth

Centratherum longispinum Cass., Dict. Sci. Nat. 57: 346 (1828), nom. illegit. superfl. pro **Centratherum punctatum** Cass.

Ampherephhis pilosa Cass., Dict. Sci. Nat. 57: 346 (1828), nom. illegit. superfl. pro *Ampherephhis mutica* Kunth

Ampherephhis pulchella Cass., Dict. Sci. Nat. 57: 346 (1828). Types: 'Nous avons fait cette description sur deux échantillons sec, en très-mauvais état, donnés à M. Méraſt, en 1825, par MM. d'Urville et Lesson: ces échantillons proviennent d'individus cultivés dans le jardin du port Jackson, où ils ont été transplantés, dit-on, de la Nouvelle-Zélande.'

Ampherephhis intermedia Link, Ic. Pl. Rar./Abbild. 5: 65, t. 29 (Dec. 1829). Type: 'Habitat in Brasilia I. C. ... Plantam ex horto Monacensi accepimus nomine Ampherephhis muticae Humb. corollis non inelegantem.' Holotype: B.

Centratherum intermedium (Link) Less., Linnaea 4(3): 320 (1829).

Centratherum muticum (Kunth) Less., Linnaea 4(3): 320 (1829).

Crantzia ovata Vell., Fl. Flum. Icones 8: tab. 153 (1827)[1831]. Type: not cited. [Original of tab. 153.] The citation in Arch. Mus. Nac. Rio de Janeiro 5: 351-352 (1881) reads 'Habitat campis apricis mediterraneis transalp. Floret Mart.'

Centratherum pulchellum (Cass.) Steud., Nomencl. Bot. ed. 2: 324 (1840).

Centratherum holtonii Baker in Mart., Fl. Bras. 6(2): 12 (1873). Type: 'Exstat in Hb. Kewensi e Columbia (Ibague: Holton 301) varietus tertia hujus speciei vel verosimillius species nova ..'

Centratherum brachylepis Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 12 (1873). Types: [Brazil:] 'Crescit in prov. Bahia ad Almada, S. Pedro d'Alcantara et ad ripas fluvio Itahypé: Martius, Princ. Neuwied; loco Brasiliae non addicto: Riedel.' Syntype: Riedel s.n., K.

Centratherum punctatum var. β *parviflorum* Baker in Mart., Fl. Bras. 6(2): 12 (1873). Type: [Brazil:] 'Habitat in prov. Bahia: Blanchet 3689.' Holotype: K. Note: The lectotype was unnecessarily selected by Kirkman (1981: 18) as Blanchet 3689, K.

Centratherum parviflorum Moricand ex Baker in Mart., Fl. Bras. 6(2): 12 (1873), nom. nud. pro syn.

Baccharoides punctatum (Cass.) Kuntze, Revis. Gen. Pl. 1: 320 (1891).

Baccharoides violaceum (Schrank) Kuntze, Revis. Gen. Pl. 1: 320 (1891).

Baccharoides muticum (Kunth) Kuntze, Revis. Gen. Pl. 1: 320 (1891).

Baccharoides brachylepis (Sch.Bip. ex Baker) Kuntze, Revis. Gen. Pl. 1: 320 (1891).

Baccharoides holtonii (Baker) Kuntze, Revis. Gen. Pl. 1: 320 (1891).

Centratherum aristatum (Kunth) Cass. ex B. D. Jacks., Index Kewensis 1: 478 (1895).

Centratherum punctatum Cass. var. *foliosa* [sic!] Chodat, Bull. Herb. Boissier, Ser. 2, 2(3): 298 (1902). Type: 'Suffrutex 0,2-0,4, petala violacea, in arenosis p. Vaquerios Capibuy, Aug., [Hassler] 4378.' Holotype: G; isotypes: K (determined as isolectotype by Kirkman), NY (00163150).

Centratherum punctatum Cass. ssp. *camporum* Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 369 (1913). Type not cited, but one new subspecies, three new varieties, and two new formas described at the same time, q.v. Lectotype (selected by Ramella et al., 2009: 158): Hassler 9572 (the type collection of Hassler's 'var. albicans', q.v.), G (00092799); isolectotypes (cited as isotypes by Ramella et al., 2009: 158): BM, G (0009280, 00077336), GH, K, MO, MPU, NY (00163149), P, S, UC.

- Centratherum punctatum* Cass. ssp. *camporum* Hassl. var. *longipes* Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 369 (1913). Type: 'Paraguay: Centurion, trockener Camp, flor. mens. Jan.; Fiebrig no. 4532 in Herb. Hassler.' Holotype: G (00092882); isotypes: B†, GH, K, L, M, US. Note: Kirkman (1981: 18) unnecessarily lectotypified this name, based on material in B (probably based on the photos in GH and TEX), since Hassler expressly said 'Herb. Hassler', which is in G. Ramella et al. (2009: 159) also noted the following isotypes: G (00092881), SI.
- Centratherum punctatum* Cass. var. *viscosissimum* Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 369 (1913). Type is unclear since two formas were described, neither bearing the type formas name: forma *brachyphyllum* Hassl. Types: 'Paraguay: Hassler no. 4768, 7745, Pl. Hassl., I p. 137 et II, p. 125.'; and, forma *foliosum* (Chodat) Hassl., without citing the place of publication, but based on 'Paraguay: Hassler no. 4378, Pl. Hassl., I, p. 137 sub P. [sic!] *punctato* Cass. var. *foliosa* Chod.' Syntypes: G; isosyntype: Hassler 4768, K. Lectotype (selected by Ramella et al., 2009: 159): Hassler 7745, G (00092920).
- Centratherum punctatum* Cass. var. *viscosissimum* Hassl. f. *brachyphyllum* Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 369 (1913). Types: 'Paraguay: Hassler no. 4768, 7745, Pl. Hassl., I, p. 137 et II, p. 125.' Kirkman (1981: 18) lectotypified this name based on Hassler 4768, in GH (4640), with isoelectotypes in BM, G, MO, MPU, NY (00163151), P, S. Ramella et al. (2009: 159) have suggested that Kirkman's selection is in serious conflict with the protologue, citing Art. 9. 17 of the present Code, and have selected the same Hassler collection, 4768, but the duplicate in G as the lectotype over that in GH.
- Centratherum punctatum* Cass. var. *viscosissimum* Hassl. f. *foliosum* (Chodat) Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 369 (1913).
- Centratherum camporum* (Hassl.) Malme, Ark. Bot. 24(6): 15 (1931).
- Centratherum camporum* (Hassl.) Malme var. *longipes* (Hassl.) Malme, Arkiv. Bot. 24A 6: 15 (1931).
- Widespread pantropic weed. New World distribution: Bolivia (Pando, Santa Cruz), Brazil, Costa Rica, Ecuador, Honduras, Panama, Paraguay, Peru, West Indies.
- Pastures, disturbed areas, cerrado.
- 0–1000 m.
- Flowering throughout the year.
- Santa Cruz: Pozo & Villarreal 589 (K, USZ), Wood et al. 22876 (K, USZ), Wood et al. 24119 (K, USZ), Wood et al. 24741 (K, USZ), Wood et al. 24782 (K, USZ).
- Vernacular names: PERPÉTUA, PERPÉTUA-ROXA-DO-MATO (Cabrera & Klein, 1980); YERBA DE LAS SOMBRAS (Freire et al., 2006).
- Centratherum punctatum* Cass. ssp. *camporum* Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 369 (1913) = **Centratherum punctatum** Cass. ssp. **punctatum**
- Centratherum punctatum* Cass. ssp. *camporum* Hassl. var. *longipes* Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 369 (1913) = **Centratherum punctatum** Cass. ssp. **punctatum**
- Centratherum punctatum* Cass. var. *foliosa* [sic!] Chodat, Bull. Herb. Boissier, ser. 2, 2(3): 298 (1902) = **Centratherum punctatum** Cass. ssp. **punctatum**
- Centratherum punctatum* var. β *parviflorum* Baker in Mart., Fl. Bras. 6(2): 12 (1873) = **Centratherum punctatum** Cass. ssp. **punctatum**
- Centratherum punctatum* Cass. var. *viscosissimum* Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 369 (1913) = **Centratherum punctatum** Cass. ssp. **punctatum**
- Centratherum punctatum* Cass. var. *viscosissimum* Hassl. f. *brachyphyllum* Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 369 (1913) = **Centratherum punctatum** Cass. ssp. **punctatum**
- Centratherum punctatum* Cass. var. *viscosissimum* Hassl. f. *foliosum* (Chodat) Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 369 (1913) = **Centratherum punctatum** Cass. ssp. **punctatum**
- Centratherum violaceum* (Schrank) Gleason, N. Amer. Fl. 33: 49 (1922) = **Centratherum punctatum** Cass. ssp. **punctatum**
- Centroclinium* D. Don, Trans. Linn. Soc. London 16(2): 254 (1830) = **Onoseris** Willd.
- Centroclinium albicans* D. Don, Trans. Linn. Soc. London 16(2): 254 (1830) = **Onoseris albicans** (D. Don) Ferreyra
- Centroclinium appressum* Hook., Curtis's Bot. Mag. 58: t. 3115 (1831) = **Onoseris albicans** (D. Don) Ferreyra
- Centroclinium reflexum* Hook., Curtis's Bot. Mag. 58: t. 3114 (1831) = **Onoseris albicans** (D. Don) Ferreyra

- Centrospermum* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 212 (1818) = **Acanthospermum** Schrank
Centrospermum xanthoides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 213 (1818), nom. illegit. = **Acanthospermum australe** (Loefl.) Kuntze
- Cephalobembix* Rydb., N. Amer. Fl. 34: 46 (1914) = **Schkuhria** Roth
Cephalobembix neo-mexicana (A. Gray) Rydb., N. Amer. Fl. 34: 46 (1914) = **Schkuhria multiflora** Hook. & Arn.
- Cephalanophlos* Neck., Elem., 1: 68 (1790), nom. inval., publ. in opera utiq. oppr. = **Cirsium** Mill.
- Cephalonoplos* Fourr., Ann. Soc. Linn. Lyon., n.s. 17: 95 (1869) = **Cirsium** Mill.
- **Cephalophora robusta* Rusby, Mem. Torrey Bot. Club 3(3): 63 (1893) = **Hymenoxys robusta** (Rusby) K. F. Parker
- Cephaloseris poeppigii* Kunze ex Less., Linnaea 5(1): 5 (1830), nom. inval. (genus not validly published at that date) = **Polyachyrus poeppigii** Less. ex Poepp. & Endl.
- Ceratocephalus* Vaill. ex Cass., Dict. Sci. Nat. 7: 432 (1817), non *Ceratocephalus* Moench (1794), nom. superfl. = **Bidens** L.
- Ceratocephalus* Kuntze, Revis. Gen. Pl. 1: 326 (1891), nom. illegit. superfl. pro **Spilanthes** Jacq. = **Acmella** Rich. pp. & **Spilanthes** Jacq. pp.
- Ceratocephalus acmella* (L.) Kuntze, Rev. Gen. Pl. 1: 326 (1891) = **Blainvillea acmella** (L.) Philipson
Ceratocephalus acmella (L.) Kuntze var. *uliginosa* (Sw.) Kuntze, Revis. Gen. Pl. 1: 326 (1891) = **Acmella uliginosa** (Sw.) Cass.
- Ceratocephalus acmella* (L.) Kuntze var. *depauperata* Kuntze, Revis. Gen. Pl. 1: 326 (1891) = **Acmella uliginosa** (Swartz) Cass.
- Ceratocephalus beccabunga* (DC.) Kuntze, Revis. Gen. Pl. 1: 326 (1891) = **Acmella repens** (Walter) Rich.
Ceratocephalus caespitosa (DC.) Kuntze, Revis. Gen. Pl. 1: 326 (1891) = **Acmella brachyglossa** Cass.
Ceratocephalus ciliatus (Kunth) Kuntze, Revis. Gen. Pl. 1: 326 (1891) = **Acmella ciliata** (Kunth) Cass.
Ceratocephalus debilis (Kunth) Kuntze, Revis. Gen. Pl. 1: 326 (1891) = **Acmella radicans** (Jacq.) R. K. Jansen var. **debilis** (Kunth) R. K. Jansen
Ceratocephalus diffusus (Poepp.) Kuntze, Revis. Gen. Pl. 1: 326 (1891) = **Acmella repens** (Walter) Rich.
Ceratocephalus fimbriatus (Kunth) Kuntze, Revis. Gen. Pl. 1: 326 (1891) = **Acmella ciliata** (Kunth) Cass.
Ceratocephalus poeppigii (DC.) Kuntze, Revis. Gen. Pl. 1: 326 (1891) = **Acmella ciliata** (Kunth) Cass.
Ceratocephalus subhirsutus (DC.) Kuntze, Revis. Gen. Pl. 1: 326 (1891) = **Acmella repens** (Walter) Rich.
Ceratocephalus tenellus (Kunth) Kuntze, Revis. Gen. Pl. 1: 326 (1891) = **Acmella radicans** (Jacq.) R. K. Jansen var. **debilis** (Kunth) R. K. Jansen
- Chabraea* DC., Ann. Mus. Nat. Hist., Paris 19: 65 (1812) = **Leucheria** Lag.
Chabraea daucifolia (D. Don) Wedd., Chloris Andina 1: 35 (1855) = **Leucheria daucifolia** (D. Don) Crisci
Chabraea laciniata Wedd., Chloris Andina 1: 34, t. 10 (1855) = **Leucheria daucifolia** (D. Don) Crisci
- Chaenocephalus* Griseb., Fl. Brit. W. I. : 374 (1861) = **Verbesina** L.
Chaenocephalus cumingii Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 196 (March-April 1879); Symb. Fl. Argent. : 196 (1879) = **Verbesina cumingii** (Griseb.) S. F. Blake
Chaenocephalus heterophyllus Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 196 (March-April 1879); Symb. Fl. Argent. : 196 (1879) = **Verbesina suncho** (Griseb.) S. F. Blake
Chaenocephalus macrophyllus Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 196 (March-April 1879); Symb. Fl. Argent.: 196 (1879) = **Verbesina suncho** (Griseb.) S. F. Blake
Chaenocephalus suncho Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 195 (March-April 1879); Symb. Fl. Argent. : 195 (1879) = **Verbesina suncho** (Griseb.) S. F. Blake

Chaetachlaena D. Don, Trans. Linn. Soc. Bot., ser. 2, 16(2): 256 (1830) = **Onoseris** Willd.

Chaetanthera Ruiz & Pav., Prodr. : 106 (1794), non Nutt. (1834) [= *Chaetopappa* DC.]

Cherina Cass., Bull. Sci. Soc. Philom. Paris 1817: 67 (1817). Type: *Cherina microphylla* Cass. = *Chaetanthera microphylla* (Cass.) Hook. & Arn.

Proselia D. Don., Trans. Linn. Soc. Bot. ser. 2, 16(2): 234 (1830). Type: *Proselia serrata* (Ruiz & Pav.) D. Don = *Chaetanthera serrata* Ruiz & Pav.

Tylloma D. Don, Trans. Linn. Soc., Bot. ser. 2, 16(2): 238 (1830). Type: *Tylloma limbatum* D. Don = *Chaetanthera limbata* (D. Don) Less.

Euthrixia D. Don, Trans. Linn. Soc. Bot., ser. 2, 16(2): 257 (1830). Type: *Euthrixia salsoloides* D. Don = *Chaetanthera salsoloides* (D. Don) Kuntze = *Chaetanthera microphylla* (Cass.) Hook. & Arn.

Carmelita Gay ex DC., Prodr. 7: 14 (1838). Type: *Carmelita formosa* DC. = *Chaetanthera villosa* D. Don

Elachia DC., Prodr. 7: 256 (1838). Type: *Elachia euphrasioides* DC. = *Chaetanthera euphrasioides* (DC.) F. Meigen

Oriastrum Poepp., Nov. Gen. Sp. 3: 50, t. 257 (1843). Type: *Oriastrum pusillum* (D. Don) Poepp. = *Chaetanthera pusilla* (D. Don) Hook. & Arn.

Aldunatea J. Rémy in Gay, Flora de Chile 3: 320, t. 38 (1849). Type: not stated.

Egania J. Rémy in Gay, Flora de Chile 3: 324 (1849). Type: not stated.

Chondrochilus Phil., Linnaea 28: 711 (1856). Type: *Chondrochilus crenatus* Phil. = *Chaetanthera crenata* (Phil.) Meigen

Luciliopsis Wedd., Chloris Andina 1: 159 (1856). Type: *Luciliopsis perpusilla* Wedd. = **Chaetanthera perpusilla** (Wedd.) Anderb. & S.A. Freire

Minythodes Phil. ex Benth. & Hook. f., Gen. Pl. 2: 496 (1873), nom. nud.

Tiltilia Phil. ex Reiche, Anal. Univ. Chile 115: 322 (1904), nom. nud.

Type: not designated. Lectotype (selected by Cassini, 1817: 53): *Chaetanthera ciliata* Ruiz & Pav.

References

Anderberg, A. A. & S. E. Freire. (1990). *Luciliopsis perpusilla* Weddell is a species of *Chaetanthera* Ruiz & Pavón (*Asteraceae*, *Mutisieae*). *Taxon* 39(3): 430–432.

Cabrera, A. L. (1937). Revisión del genero *Chaetanthera* (*Compositae*). *Revista Mus. La Plata, Bot. ser. 2*, 1(3): 87–210.

Davies, A. M. R. & E. Facher. (2001). Achene hairs and their diversity in the genus *Chaetanthera* Ruiz & Pav. (*Mutisieae*, *Asteraceae*). *Sendtnera* 7: 13–33.

Pruski, J. F. & A. Davies. (2004). On the lectotypification of *Chaetanthera* Ruiz & Pav. (*Compositae*: *Mutisieae*). *Compositae Newslett.* 41: 54–57.

Note: Cabrera (1937, rev.) divided the genus into seven subgenera. Detailed work by Anderberg & Freire (1990) has added one minute species to the genus, belonging to subgenus *Chaetanthera*. Work by Davies & Facher (2001) has provided a useful view on the use of achene setulae in the systematics of the genus; a modern revision is currently being worked on.

Key to species

1. Leaves glabrous; ray florets 5; disc florets c. 5 2
Leaves arachnoid pubescent to glabrescent above; ray florets c. 10; disc florets c. 20 *Ch. boliviensis*
2. Achenes c. 1 mm long, glabrous; leaf apex obtuse; capitula 7–8 mm tall; apices of inner
phyllaries green *Ch. stuebelii*
Achenes c. 2 mm long, densely covered in ‘mucilaginous’ setulae; leaf apex acute; capitula c.
4 mm tall; apices of inner phyllaries purplish *Ch. perpusilla*

***Chaetanthera boliviensis** J. Koster, *Blumea* 5(3): 673 (1945). Type: [Bolivia:] ‘Hab.: an sonnigen, begrasten Erdhängen von Choquecatachico, 4600 m alt., Okt. 1911, [Herzog] n. 2339’. Holotype: L(94437132). Note: The original label, handwritten by Herzog, suggests that the locality may well be of two words, ‘Choquecota’ and ‘chico’ not the single word in the typewritten transcription on the label above.

Bolivia (?La Paz), Peru.
Puna Peruana.
4600 m.
October.

Chaetanthera multiflora Humb. & Bonpl., Pl. Aequinoct. 2: 168, pl. 135 (1809) = **Perezia multiflora** (Humb. & Bonpl.) Less.

Chaetanthera perpusilla (Wedd.) Anderb. & S. E. Freire, Taxon 39(3): 431 (1990).

**Luciliopsis perpusilla* Wedd., Chloris Andina 1: 160 (1856). Types: 'Hab. BOLIVIE: pelouses rases et un peu arides de la Lancha!, dans la partie supérieure du ravine de Chuquiaguillo, aux environs de La Paz (Wedd.)'. Syntypes: P. Note: Anderberg & Freire (1990: 431) considered that the single Weddell collection (from 1851) in P was the holotype, although I consider the use of the shriek, or exclamation mark, significant in the middle of Weddell's protologue habitat sentence.

Lucilia perpusilla Wedd., Chloris Andina 1: Pl. 26 (see also p. 160) (1855). Type: the same as *Luciliopsis perpusilla* Wedd.

Note: *Luciliopsis perpusilla* Wedd. and *Lucilia perpusilla* Wedd. are taken as 'alternative names' (ICBN 2006, Art. 34.2) since they were published contemporaneously in the same work, with the same type – one as a description, the other as a plate with diagnostic dissections. Anderberg & Freire (1990: 431) were incorrect in stating that *Lucilia perpusilla* Wedd. was 'pro syn., nom. illeg.'.

Bolivia (La Paz).
Dry grassy forest clearings.

Chaetanthera pinnatifida Humb. & Bonpl., Pl. Aequinoct. 2: 170, pl. 136 (1809) = **Perezia pinnatifida** (Humb. & Bonpl.) Wedd.

Chaetanthera pungens Humb. & Bonpl., Pl. Aequinoct. 2: 146, pl. 127 (1809) = **Perezia pungens** (Humb. & Bonpl.) Less.

***Chaetanthera stuebelii** Hieron., Bot. Jahrb. Syst. 21(4): 368 (1896). Type: 'Bolivia: crescit prope Sicasica inter Tomarapé et La Paz alt. s. m. 3800 m, ubi floret mense Octobri et Novembri ([*Stübel*] coll. boliv. n. 15a).'

Holotype: B†.
Argentina; Bolivia (La Paz), Peru.
3000-→4500 m.
October–November.

Note: Two varieties are known from Argentina, however, which other variety is known from Bolivia needs to be confirmed.

Chaetanthera stuebelii Hieron. var. *argentina* Cabrera, Revista Mus. La Plata, Bot. 1: 115 (1937). Type: [Argentina:] 'La Laguna Seca, Cerro del Cajón, 4280 m. s. m., leg. Rodríguez n° 1331, 18-II-1914'. Syntypes: 'LP, BA, Li [= LIL]'. Isosyntypes: NY (00163317, 01085889).

Chaetanthera stuebelii Hieron. var. *abbreviata* Cabrera, Revista Mus. La Plata, Bot. 1: 115 (1937). Type: [Argentina:] 'Tucumán: Cumbres Calchaquies, Callejones, 4200 m. s. m., leg. Castillón, n° 3258, 27-XII-1913'. Holotype: LIL (16305).

Chaetospira S. F. Blake, J. Wash. Acad. Sci. 25: 311 (1935) = **Elephantopus** L.

Chaetospira funckii (Turcz.) S. F. Blake, J. Wash. Acad. Sci. 76: 301 (1938) = **Elephantopus spiralis** (Less.) Clonts

Chaetospira spiralis (Less.) Asplund & S. F. Blake, Svensk Bot. Tidskr. 52(1): 50 (1958) = **Elephantopus spiralis** (Less.) Clonts

Chamaestephanum Willd., Ges. Naturf. Freunde Berlin Mag. neuesten Entdeck. Gesamtten Naturk. 1: 140 (1807) = **Schkuhria** Roth

Chaptalia Vent. sect. *Lieberkuhna* (Cass.) Burkart, Darwiniana 6(4): 539 (1944) = **Chaptalia** Vent.

Chaptalia Vent. sect. *Microchaptalia* Burkart, Darwiniana 6(4): 586 (1944), p.p. = **Chaptalia** Vent.

Chaptalia Vent., Descr. Pl. Jard. Cels : tab. 61 (1802).

Thyrsanthema Necker, Elem. Bot. 1: 6 (1790), nom. rej. Type: not designated. (See discussion by Nesom (1995: 154–155)).

Leria DC., Ann. Mus. Natl. Hist. Nat. 19: 68 (1812). Type: not stated. Lectotype (selected by Burkart, 1944: 561). Type: *Tussilago nutans* L. = **Chaptalia nutans** (L.) Polak.

Loxodon Cass., Dict. Sci. Nat. 27: 253 (1823). Type: not state. Lectotype (selected by Burkart, 1944: 534). Type: *Tussilago exscapa* Pers. = *Loxodon exscapa* (Pers.) Cass. = *Chaptalia exscapa* (Pers.) Baker

Lieberkuhna Cass., Dict. Sci. Nat. 27: 286 (1823). Lectotype (selected by Burkart, 1944: 539): *Perdicium piloselloides* Vahl = *Chaptalia piloselloides* (Vahl) Baker

Oxydon Less., Linnaea 5(3): 357 (1830). Type: *Oxydon bicolor* Less. = *Chaptalia runcinata* Kunth

Oxydon DC., Prodr. 7: 43 (1838), orth. var. pro *Oxydon* Less.

Chaptalia Vent. sect. *Archichaptalia* Burkart, Darwiniana 6(4): 525 (1944). Type: **Chaptalia rotundifolia** D. Don

Chaptalia Vent. sect. *Pseudotrichocline* Burkart, Darwiniana 6(4): 524 & 532 (1944). Type: *Chaptalia isernia* Cuatrec.

Chaptalia Vent. sect. *Loxodon* (Cass.) Burkart, Darwiniana 6(4): 524 & 534 (1944).

Chaptalia Vent. sect. *Lieberkuhna* (Cass.) Burkart, Darwiniana 6(4): 524 & 539 (1944).

Chaptalia Vent. sect. *Leria* (DC.) Burkart, Darwiniana 6(4): 525 & 560 (1944). Lectotype (selected by Burkart, 1944: 561): **Chaptalia nutans** (L.) Polak.

Chaptalia Vent. sect. *Microchaptalia* Burkart, Darwiniana 6(4): 525 & 586 (1944), p.p. Type: *Tussilago pumila* Sw. = *Chaptalia pumila* (Sw.) Urban

Type: *Chaptalia tomentosa* Vent.

References

Burkart, A. (1944). Estudio del género de compuestas *Chaptalia* con especial referencia a las especies argentinas. Darwiniana 6(4): 505–594.

Hansen, H. V. (1990). Phylogenetic studies in the *Gerbera*-complex (*Compositae*, tribe *Mutisieae*, subtribe *Mutisiinae*). Nordic J. Bot. 9(5): 469–485.

Nesom, G. L. (1984). Taxonomy and distribution of *Chaptalia dentata* and *C. albicans* (*Asteraceae: Mutisieae*). Brittonia 36(4): 396–401.

Nesom, G. L. (1995). Revision of *Chaptalia* (*Asteraceae: Mutisieae*) from North America and continental Central America. Phytologia 78(3): 153–188.

Key to species

1. Leaves long-petiolate, petiole as long as or much longer than lamina *Ch. rotundifolia*
Leaves short-petiolate, sessile or long-attenuate or pseudopetiolate 2
2. (1) Leaves lyrate or lyrate-pinnatifid 3
Leaves entire or dentate 4
3. (2) Stipe ebracteolate; capitula 100–300-flowered; rostrum much longer than achene body; plants relatively large and robust, to 60 cm tall *Ch. nutans*
Stipe bracteolate; capitula 25–40-flowered; rostrum shorter than achene body; plants relatively small, 10–20 cm tall *Ch. similis*
4. (2) Leaves usually entire, sometimes denticulate; stipe nodding when young, ebracteolate; florets 100–200; achene body brown *Ch. integerrima*
Leaf margins retrorsely serrate; stipe always erect, bracteolate; florets 20–60; achene body reddish or reddish-violet 5
5. (4) Secondary veins insculcate (= sunken) on upper surface of leaf; lamina papyraceous; achene body papillose throughout *Ch. mandonii*
Secondary veins almost invisible; lamina membranaceous; achene body glabrous or papillose at base *Ch. runcinata*

Chaptalia cordata Hieron. var. *ferrugineo-tomentosa* Hieron., Bot. Jahrb. Syst. 36(5): 512 (1905) = ***?Chaptalia rotundifolia** D. Don

- Chaptalia diversifolia* Greene, Leafl. Bot. Observ. Crit. 1: 194 (1906) = **Chaptalia nutans** (L.) Polak.
- **Chaptalia ebracteata* (Kuntze) K. Schum., Bot. Jarhb. Syst. 26(1): 376 (1900) = **Chaptalia nutans** (L.) Polak.
- Chaptalia erosa* Greene, Leafl. Bot. Observ. Crit. 1: 196 (1906) = **Chaptalia nutans** (L.) Polak.
- Chaptalia fibrosa* Beauverd, Bull. Soc. Bot. Genève 2, ser. 13: 11 (1921), nom. nud. (based on Herzog 1257) = untreated by Burkart but determined as '*Chaptalia piloselloides* var. *graminifolia* Malme' (vide Koster, 1945: 675). The taxon cited Koster was treated as a variety of *C. runcinata* by Burkart, but considered endemic to Brazil.
- Chaptalia graminifolia* (Dusén) Cabrera, Fl. Ilust. Catarinense, Compostas Tribo 1. Mutisieae : 69 (1973) = **Chaptalia runcinata** Kunth
- **Chaptalia integrifolia* (Cass.) Baker in Mart., Fl. Bras. 6(3): 377 (1884), comb. illeg., non *Chaptalia integrifolia* (Michx.) Nutt. (= *Chaptalia tomentosa* Vent.) = **Chaptalia integerrima** (Vell.) Burkart
- Chaptalia integerrima** (Vell.) Burkart, Darwiniana 6(4): 576 (1944).
- Tussilago integerrima* Vell., Fl. Flum. Icones 8, tab. 140 (1831). Type: not cited; the original of Fl. Flum. Icones 8: tab. 140 (1831) is best treated as the lectotype in the event that no material of *Flora Fluminensis* is found.
- Leria integrifolia* Cass., Dict. Sci. Nat. 26: 103 (1823). Types: 'Uruguay 'Nous avons fait cette description sur deux échantillons secs de l'herbier de M. de Jussieu, recueillis par Commerson dans les environs de Montevideo; l'un de ces deux échantillons porte des fleurs, et l'autre des fruits mûrs: ce dernier, étant plus grand que l'autre dans toutes ses parties, nous fait présumer que la plante acquiert de l'accroissement après la fleuraison.' Type material: P-JU.
- Leria nutans* (L.) DC. var. *integrifolia* (Cass.) Less., Linnaea 5(3): 354 (1830).
- Leria lutescens* Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865), nom. nud. (based on Mandon 10).
- Leria lutescens* Sch.Bip., Linnaea 34(5): 527 (Feb. 1866). Type: '[Mandon] 10. *Leria lutescens* Sz. Bip. a sp. aff. *L. integrifoliae* Cass. sed capitula duplo minor.' [Enumerato Cassiniacearum a cl. G. Mandon in Bolivia a. 1857–1861 lectarum]. Holotype P; isotypes: B†, K, LE.
- **Chaptalia integrifolia* (Cass.) Baker in Mart., Fl. Bras. 6(3): 377 (1884), comb. illeg., non *Chaptalia integrifolia* (Michx.) Nutt. (= *Chaptalia tomentosa* Vent.)
- Thyrsanthema integrifolia* (Cass.) Kuntze, Revis. Gen. Pl. 3(3): 182 (1898).
- **Chaptalia microdonta* Greene, Leafl. Bot. Observ. Crit. 1: 196 (1906). Type: 'Yungas, Bolivia, 1894, Miguel Bang, n. 2095.' Holotype: US (00325857); isotypes: B†, K, US (01418795), Z.
- Brazil: Bahia, Goiás, Minas Gerais, Rio de Janeiro, São Paulo.
- Argentina, Bolivia (La Paz, Santa Cruz), ?Guyana, Paraguay, Peru, Uruguay.
- Woodland, Chaco, cerrado, path and track margins and embankments.
- 0–2500 m.
- Potentially flowering throughout the year.
- Santa Cruz: Villarroel et al. 2023 (K, USZ), Wood et al. 19862 (K), Wood et al. 22737 (k, USZ), Wood et al. 23058 (K, USZ), Wood et al. 23630 (K, USZ), Wood et al. 23775 (K, USZ). Burkart (1944: 580) cited the following: 'Santa Cruz, prov. Sara, Steinbach 6497 (BA, LIL); Buena Vista, Steinbach 1574 (LIL).'
- Vernacular names: LENGUA DE VACA; PELOSILLA (Burkart, 1944; Katinas, 1996); LÍNGUA-DE-VACA (Cabrera & Klein, 1973); VAKAKÚ, YTY ARÉ (Cabrera, 1998); LENGUA DE VACA, PELOSILLA, VAKAKU, YERBA DE SAN JUAN, YTY ARE (Freire et al., 2006).
- **Chaptalia integrifolia* (Cass.) Baker in Mart., Fl. Bras. 6(3): 377 (1884), comb. illeg., non *Chaptalia integrifolia* (Michx.) Nutt. (= *Chaptalia tomentosa* Vent.) = **Chaptalia integerrima** (Vell.) Burkart
- **Chaptalia majuscula* Greene, Leafl. Bot. Observ. Crit. 1: 196 (1906) = **Chaptalia nutans** (L.) Polak.
- ***Chaptalia mandonii** Burkart, Darwiniana 6(4): 551 (1944). Types: [Bolivia:] 'Larecaja, en la vecind. de Sorata, monte Ch[?]heca a 3000 m, Mandon 11; X-1858, sub *Leria mandoni* Schultz-Bip. (B., GOET., LE) (Typus).' Syntypes: B†, GOET, K, LE, NY (00180560, 00180561), P, S. Note: In Burkart's protologue (1944: 553) one unprinted character is present in the specimen citation in the copy of Darwiniana seen by the present author. Taken from the isotype in K, the collection details are 'Hab. Prov. Laracaja. Viciniis Sorata ad Quiabaya, monté Chitieca, in humopingui. Alt. Reg. tempa. 2800 m. 30 8^{bre} 1858.', suggesting a misinterpretation by Burkart of some of the label data.
- Leria mandonii* Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 527 (Feb. 1866), nom. nud. (based on Mandon 11)
- **Chaptalia piloselloides* sensu Baker in Mart., Fl. Bras. 6(3): 378 (1884), p.p.
- Brazil: Minas Gerais, São Paulo.

Argentina, Bolivia (Chuquisaca, La Paz), Brazil, Uruguay.
Mountain slopes, woodland.
1500–3100 m.
July–March.

Note: One collection, *Wood et al.* 23324 (K)(Chuquisaca, Zudañez, El Palmar) is clearly this taxon, has exceptionally long fruiting scapes (to 32 cm), and shows a remarkable variation in leaf size, the longest 160 × 10 mm; the achene body is clearly papillate throughout.

Chaptalia microdonta* Greene, Leafl. Bot. Observ. Crit. 1: 196 (1906) = **Chaptalia integerrima (Vell.) Burkart

Chaptalia nutans* (L.) Hemsley, Biol. Centr. Amer. Bot. 2: 255 (1881) = **Chaptalia nutans (L.) Polak.

Chaptalia nutans (L.) Polak., *Linnaea* 41: 582 (1877).

Tussilago nutans L., *Syst. Nat.* ed 10, 2: 1214 (1759). Type: 'Habitat in America'. . Lectotype (selected by Simpson in Woodson & Schery, 1975: 1278): Browne, Herb. Linn. No. 995.5 (LINN). Note: Additional commentary has been provided by Nesom (1995: 162).

Tussilago lyrata Pers., *Syn. Pl.* 2: 456 (1807). Type: not cited 'Hab. in Amer. meridionali.'. The following specimens were cited by Cassini (1823: 103), 'les uns dans l'île de Saint-Domingue par M. Poiteau, les autres dans l'île de Porto-Rico par M. Riedlé.' when the same species was transferred to *Leria*.

Leria nutans (L.) Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 4 (1818).

Leria lyrata (Pers.) Cass., *Dict. Sci. Nat.* 26: 102 (1823).

Tussilago vaccina Vell., *Fl. Flum. Icones* 8: tab. 143 (1831). Type: not cited. [Fl. Flum. Ic. 8: tab. 143].

Gerbera nutans (L.) Sch.Bip. in Seem., *Bot. Voy. Herald* : 313 (1856).

**Chaptalia nutans* (L.) Hemsley, Biol. Centr. Amer. Bot. 2: 255 (1881), comb. illegit. superfl.

Thyrsanthema nutans (L.) Kuntze, *Revis. Gen. Pl.* 1: 369 (1891).

Thyrsanthema ebracteata Kuntze, *Revis. Gen. Pl.* 3(3): 182 (1898). Type: 'Bolivia: 2600 m Copachuncho in Sierra de Santa Cruz.' ['BOLIVIA. Copachuncho in Sierra de Santa Cruz, 2600 m, May 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 338]. Holotype: NY (00273841); isotype: B†; US (00702176).

**Chaptalia ebracteata* (Kuntze) Schumann, *Bot. Jahrb. Syst.* 26: 376 (1898).

Chaptalia texana Greene, Leafl. Bot. observ. Crit. 1: 191 (1906). Type: 'Rocky sparsley wooded ground in western Texas, the type Neally's 297 as in U.S. Herb., Lindheimer's n. 446 and the n. 674 of the Mexican Boundary Survey appear to be the same; perhaps also Reverchon's n. 1546, but that is doubtful. It seems different.' Holotype: US (47227); isotype: SI.

Chaptalia diversifolia Greene, Leafl. Bot. Observ. Crit. 1: 194 (1906). Type: 'Near Mazarenango, Guatemala, 20 Febr., 1905 W.R. Maxon & R. Hay, n. 3504.' Holotype US (473485).

Chaptalia subcordata Greene, Leafl. Bot. Observ. Crit. 1: 195 (1906). Type: 'St. Croix. Ricksecker's n. 447'. Holotype US (278318).

Chaptalia erosa Greene, Leafl. Bot. Observ. Crit. 1: 196 (1906). Type: 'Costa Rica, June, 1892, Conduz [sic!], n. 447 [sic!]. Holotype: US. (Nesom (1995) gave this as 'COSTA RICA. San José, bords des chemins et fosses, 115 m, Jun 1892. A. Tonduz 4147.'). Holotype: US (47231).

**Chaptalia majuscula* Greene, Leafl. Bot. Observ. Crit. 1: 196 (1906). Types: 'Bolivian species. Rusby's n. 1677 from Mapiri and Bang's 237 from Yungas ...'. Syntypes: US (*Rusby* 1677, US 00600283; *Bang* 237, US 00600284) ; isosyntypes (*Rusby* 1677), NY (00163334 – ex Princeton University Herbarium, 00163335 – ex Columbia College Herbarium); isosyntype (*Bang* 237), K.

Chaptalia nutans (L.) Polak. var. *texana* (Greene) Burkart, *Darwiniana* 6(4): 569 (1944).

Argentina, Bolivia (Chuquisaca, La Paz, Santa Cruz), Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Panama, Paraguay, Peru, Puerto Rico, Uruguay, Venezuela.

Woodlands, embankments, scrub, fertile soils, often in shade.
0–3000 m.

Flowering throughout the year.

Chuquisaca: *Wood & Huaylla* 21107 (K), *Wood & Huaylla* 23336 (K), *Wood et al.* 22594 (K).

Santa Cruz: *Villarroel et al.* 2022 (K, USZ), *Wood & Landivar* 17527 (K), *Wood & Mendoza* 22083 (K, USZ), *Wood et al.* 23037 (K, USZ), *Wood et al.* 23043 (K, USZ).

Vernacular names: LÍNGUA-DE-VACA, COSTA-BRANCA (Cabrera & Klein, 1973); TAPYI RAPEO (Cabrera, 1998); ARRACACHUELA, BURRO-CAÁ, CERRAJA, COSTA BRANCA, LECHUGUILLA, LENGUA DE VACA, PELUDILLA, PELUSA, RAÍZ DE LOMBRIZ, TAPYI RAPEO (Freire et al., 2006); CERRAJA; PELUSA (Katinas, 1996).

Note: The combination '*Leria nutans* (L.) DC., Ann. Mus. Natl. Hist. Nat. 19: 68 (1812)' is cited in *Index Kewensis* and on the IPNI database but the combination was never actually made by de Candolle, simply a comment that several species of *Tussilago* belonged in *Leria*!

Chaptalia piloselloides* (Vahl) Baker in Mart., Fl. Bras. 6(3): 378 (1884), p.p. = **Chaptalia mandonii (Sch.Bip.) Burkart

Chaptalia piloselloides (Vahl) Baker var. *graminifolia* Dusén ex Malme, (1933) = **Chaptalia runcinata** Kunth

Chaptalia piloselloides* (Vahl) Baker in Mart., Fl. Bras. 6(3): 378 (1884), p.p. = **Chaptalia runcinata Kunth

***Chaptalia rotundifolia** D. Don, Trans. Linn. Soc. London 16(2): 242 (1830). Type: 'In stagnatis altis frigidis Peruviae ad Pillao. Ruiz et Pavon. ■ Holotype: originally in Aylmer Bourke Lambert's herbarium now presumably in BM – see Miller (1970: 538–540). Note: the original Ruiz & Pavón collection is in MA, to be counted as an isotype [sheet marked B8 of microfiche sheet 286 of the Ruiz & Pavón herbarium. This sheet is labelled 'Perdicium lanatum/sp. n./ Pillao 1787' and on which are mounted seven plants.]

Chaptalia cordata Hieron. var. *ferrugineo-tomentosa* Hieron., Bot. Jahrb. Syst. 36(5): 512 (1905). Type: 'Peruvia: crescit prope Cutervo (J.[elski] n. 726, m. Aprili 1879).' Holotype: B†.

Bolivia (?La Paz), Peru.

High alpine marshes.

3000–4500 m.

January–April.

Note: The following synonymy is sometimes attributable to *Chaptalia rotundifolia*, but may be more appropriate under *Trichocline* – *T. ovalis* is not present in Bolivia.

Chaptalia ovalis D. Don, Trans. Linn. Soc. London 16(2): 241 (1830). Type: 'In Peruvia ad Huassahuassi et Churapallanam. Ruiz et Pavon. ■ Holotype: originally in Aylmer Bourke Lambert's herbarium now presumably in BM – see Miller (1970: 538–540). Note: No material is immediately evident in the microfiche of Ruiz & Pavón herbarium! It is possible that since Pavón sold further material that the location of any duplicates of the type material needs further investigation.

Perdicium ovale Ruiz & Pav. ex D. Don, Trans. Linn. Soc. London 16(2): 241 (1830), nom. nud. pro syn.

Trichocline ovalis (D. Don) Hieron., Bot. Jahrb. Syst. 21(4): 370 (1896).

Chaptalia runcinata Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 5 (1818). Type: [Colombia:] 'Crescit locis temperatis, scopulosis Andium Novo-Granatensium in ripa fluvii Smita, alt. 590 hex. ■ Floret Octobri.' [Humboldt & Bonpland 2031]. Holotype: P-Bonpl.; isotype: B-W.

Loxodon longipes Cass., Dict. Sci. Nat. 27: 255 (1823), nom. illegit. pro *Chaptalia runcinata* Kunth

Oxydon bicolor Less, Linnaea 5(3): 357 (1830), nom. illegit. pro *Chaptalia runcinata* Kunth

**Chaptalia piloselloides* (Vahl) Baker in Mart., Fl. Bras. 6(3): 378 (1884), p.p.

Chaptalia piloselloides (Vahl) Baker var. *graminifolia* Dusén ex Malme, Kongl. Svensk. Vetenskapsakad. Handl. 12(2): 115 (1933). Types: [Brazil:] '[Paraná] Inter Capão Grande et Villa Velha ^{12/304} ([Dusén] n. 4062), ..., Curityba ^{2/909} ([Dusén] n. 8796), ..., Jaguarihyba ^{5/710} ([Dusén] 10037), ^{21/514} ([Dusén] n. 406a). Hab. in ripis rivulorum et campis plus minusve uliginosis'. Note: In his discussion of this taxon Burkart (1944: 557) noted that a specimen in B was a duplicate of the type, this effectively indicating that Burkart lectotypified the name based on *Dusén* 4062; the lectotype is assumed to be in S. Burkart also cited a duplicated of *Dusén* 10037 in B, and duplicates of *Dusén* 406a in LE and SI.

Chaptalia runcinata Kunth var. *graminifolia* (Dusén ex Malme) Burkart, Darwiniana 6(4): 556 (1944).

Chaptalia graminifolia (Dusén) Cabrera, Fl. Ilust. Catarinense, Compostas Tribo Mutisieae : 69 (1973).

Argentina, Bolivia (Santa Cruz), Brazil, Colombia, Costa Rica, Ecuador, Paraguay, Uruguay. Note: this species is not apparently recorded for Peru.

Stream and river margins, marshes, sandstone cliff faces.

0–2500 m.

October–May.

Santa Cruz: Wood 14186 (K) – vel aff.

Vernacular names: LÍNGUA-DE-VACA, LÍNGUA-DE-VACA-FOLHA-DE-GRAMA (Cabrera & Klein, 1973); CERRAJA (Cabrera, 1998).

Chaptalia similis R. E. Fr., Nova Acta Regiae Soc. Sci. Upsal., ser. 4, 1: 95 (1905). Syntypes: [Argentina:] 'Prov. Jujuy: S:a Catalina in fissuris rupium, ca. 3650 m. s. m. (16–18 Jan. 1901; KURTZ 11460); Moreno in

fissuris rupium, 3500 m. s. m. (10 Dec. 1901; FR[IES] 823 a); Abra de Palomar in rupibus siccis, ca. 3800 m. s. m. (16 Nov. 1901; FR[IES] 823, leg. G. v. HOFSTEN).’ Syntypes: S; isosyntype: Kurtz 11460, BAF Argentina, Bolivia (Chuquisaca, La Paz), Peru.

Alpine pastures, rocks, Puna.

(0–) 1300–4000 m.

November–March.

Chuquisaca: Wood et al. 20125 (K). Burkart cited: ‘Puna Patanca, *Fiebrig* 3197 (SI, LE, LIL, B†)’; La Paz, Potopoto, a 3700 m, *Mandon* 13; I-1861 (K).’

Note: Bukart (1944: 573) cited two collections from Bolivia, noting that *Mandon* 13 (K) was a ‘cotype’ (= syntype), which it most certainly couldn’t be since it was never cited in the protologue!

Chaptalia subcordata Greene, Leaf. Bot. Observ. Crit. 1: 195 (1906) = **Chaptalia nutans** (L.) Polak.

Chaptalia texana Greene, Leaf. Bot. Observ. Crit. 1: 191 (1906) = **Chaptalia nutans** (L.) Polak.

Chatiakella Cass., Dict. Sci. Nat. 29: 491 (1823) = **Tilesia** G. Mey.

Chatiakella platyglossa Cass., Dict. Sci. Nat. 46: 403 (1827), based on *Chylodia sarmentosa* (Rich.) Rich. ex Cass. = **Tilesia baccata** (L.) Pruski

Chatiakella stenoglossa Cass., Dict. Sci. Nat. 46: 403 (1827), based on *Chylodia sarmentosa* (Rich.) Rich. ex Cass. = **Tilesia baccata** (L.) Pruski

Cheilodiscus Triana, Ann. Sci. Nat. Bot., sér. 4, 9: 36 (1858) = **Pectis** L.

Cherina Cass., Bull. Sci. Soc. Philom. Paris 1817: 67 (1817) = **Chaetanthera** Ruiz & Pav.

Chersodoma Phil. subgen. *Diclinanthus* B. Nord., Opera Bot. 44: 22 (1978) = **Chersodoma** Phil.

Chersodoma Phil., Anales Mus. Nac. Chile 1891: 33 (1891).

Senecio L. subgen. *Dioicosenecio* Cabrera, Lilloa 5(1): 68 (1939), nom. nud.

Senecio L. sect. *Diclini* Cabrera, Lilloa 5(1): 73 (1939). Type: not stated. Note: Dillon & Sagástegui (1996: 591) stated that the lectotype ‘designated by Nordenstam, 1978’ was *Senecio jodopappus* Schultz-Bip. ex Wedd. However, it is quite clear that Nordenstam (1978: 22) listed ‘*C. candida* Phil. (type), ...’

Chersodoma Phil. subgen. *Diclinanthus* B. Nord., Opera Bot. 44: 22 (1978). Type: **Chersodoma antennaria** (Wedd.) Cabrera

Type: **Chersodoma candida** Phil.

References

Cabrera, A. L. (1946). Rehabilitación del género *Chersodoma* Philippi (Compositae). Revista Mus. La Plata, Secc. Bot. 6: 343–355.

Nordenstam, B. (1978). Taxonomic studies in the tribe Senecioneae (Compositae). Opera Bot. 44: 22–23.

Dillon, M. O. & A. Sagástegui-Alva. (1996). Revision of the dioecious genus *Chersodoma* Phil. (Senecioneae, Asteraceae), including a new species and status change. Brittonia 48(4): 582–604.

Key to species

1. Low erect shrubs; capitula very short-pedicellate; phyllaries 5–10 (subgen. *Chersodoma*) 2
Perennial herbs, rhizomatous, with stoloniferous stems and rosetiform leaves; capitula
solitary on long scapes or subsessile; phyllaries 18 (subgen. *Diclinanthus*) *C. antennaria*
2. (1) Leaves ovate or orbicular, with 2–3 pairs of teeth *C. candida*
Leaves lanceolate or elliptic, entire or with one tooth *C. jodopappa*

***Chersodoma antennaria** (Wedd.) Cabrera, Revista Mus. La Plata 6: 352 (1946).

Senecio antennaria Wedd., Chloris Andina 1: 106 (1856). Types: ‘Hab. PÉROU: sur les sommets de la Cordillère d’Ayapata!, province de Carabaya (*Lechler*, exsic., n° 1943). – BOLIVIE: creux des rochers, au sommet de la

- Cordillere de Sorata!, sur le chemin de Tipuani, h. 5100 mètres (Wedd.).' Syntypes: P. Lectotype (selected by Dillon & Sagástegui-Alva, 1996: 595): 'PERU. Dept. Puno: Prov. Carabaya, "Sur les sommités de la Cordillere d' Ayapata," Lechler 1943 - F(9972551); isolectotype: K, P.
- Senecio antennaria* Wedd. [var.] *β caulescens* Wedd., *Chloris Andina* 1: 106 (1856). Type: 'Culcitium lechleri Schultz Bip., in Bonplandia, ann. 1856, p. 52 ...' see also *S. antennaria* for all material cited after the species.
- Senecio diclinus* Wedd., *Chloris Andina* 1: 107 (1856). Type: 'Hab. PÉROU! (Dombey).' Holotype: P.
- Culcitium lechleri* Sch.Bip., *Bonplandia* 4(4): 55 (1856), nom. nud., based on Lechler 1943.
- Senecio pellitus* A. Gray, *Proc. Amer. Acad. Arts* 5: 143 (1861). Type: 'High Andes of Peru near Casa Cancha.' [Collections made on the United States South Pacific Exploring Expedition under Captain Wilkes]. Holotype: US (1121674); isotypes: GH pp., K, US (1121687).
- Senecio diclinus* Wedd. var. *glabriusculus* Cabrera, *Notas Mus. La Plata, Bot.* 1(No. 4): 96 (1935). Type: [Argentina:] 'La Rioja: en las cercanías del Potrerillo, lado del Poniente del Cerro Famatina, leg. G. Hieronymus et G. Niederlein, n° 698, 14-II-1879'. Holotype: BD.
- Chersodoma antennaria* (Wedd.) Cabrera var. *caulescens* (Wedd.) Cabrera, *Bol. Soc. Argent. Bot.* 1(1): 352 (1946).
- **Chersodoma diclina* (Wedd.) Cabrera, *Revista Mus. La Plata* 6: 353 (1946).
- Chersodoma diclina* (Wedd.) Cabrera var. *glabriuscula* (Cabrera) Cabrera, *Bol. Soc. Argent. Bot.* 1(1): 355 (1946). Argentina, Bolivia (La Paz), Peru.
- Puna Peruana.
3500–5190 m.
February–September.
- Chersodoma antennaria* (Wedd.) Cabrera var. *caulescens* (Wedd.) Cabrera, *Bol. Soc. Argent. Bot.* 1(1): 352 (1946)
= **Chersodoma antennaria** (Wedd.) Cabrera
- ***Chersodoma candida** Phil., *Anales Mus. Nac. Chile, Secc. 2, Bot.* 8: 33 (1891). Type: 'Inter Amincha et Paroma lecta.' Lectotype (selected by Dillon & Sagástegui-Alva, 1996: 593): 'CHILE. Antofagasta (Región II): Prov. Antofagasta, entre Amincha y Paroma, 25 Feb 1885, F. Philippi 2055 - SGO (44623); isolectotypes: LP (59683), SGO (59961), SI (10010).
- Senecio oxydon* Phil., *Anales Univ. Chile* 114: 179 (1904). Type: 'Habitat prope Calcalhuay.' Lectotype (selected by Dillon & Sagástegui-Alva, 1996: 593): CHILE. Tarapacá (Región I): Prov. Iquique, Calcalhuay [19°50'S, 68°20'W], Jan 1886, C. Rahmer s.n.' - SGO 44424; isolectotypes: LP 59684, SGO 60778.
- Senecio chersodoma* Reiche, *Anales Univ. Chile* 114: 189 & 261 (1904), nom. nud. based on **C. candida** Phil. Argentina, Bolivia (Oruro, Potosí), Chile.
- Puna.
c. 4200 m.
January–March.
- **Chersodoma diclina* (Wedd.) Cabrera, *Revista Mus. La Plata* 6: 353 (1946) = **Chersodoma antennaria** (Wedd.) Cabrera.
- Chersodoma diclina* (Wedd.) Cabrera var. *glabriuscula* (Cabrera) Cabrera, *Bol. Soc. Argent. Bot.* 1(1): 355 (1946)
= **Chersodoma antennaria** (Wedd.) Cabrera.
- ***Chersodoma jodopappa** (Sch.Bip.) Cabrera, *Revista Mus. La Plata* 6: 350 (1946). [Cited by Foster (1958: 206) as 'iodopappa'].
- Senecio jodopappus* Sch.Bip., *Bonplandia* 4(4): 51 (1856). Type: not cited, although in the contemporaneous paper by Hohenacker (1856: 55) it is clear this is Lechler 1706.
- Note: Although Cabrera (1946) clearly combined Schultz Bipontinus' name (dating from February 1856) under *Chersodoma* he noted 'nominum nudum' after the place of publication, which is clearly incorrect. Dillon & Sagástegui-Alva (1996: 594) ignored this noting the basionym as '*Senecio jodopappus* Sch.Bip. ex Wedd., *Chloris Andina* 1: 116 (1856)'. The account in *Chloris Andina* (dating from June 1856) would suggest that the types should be selected from '*S. jodopappus* Schultz Bip., in Bonplandia, ann. 1856, p. 51. ... 'Hab. PÉROU: sur les rochers, dans le voisinage du lac de Titicaca!, h. 3900 mètres (Lechler, exsicc., 1706 et 1755, Wedd.)'. Dillon & Sagástegui-Alva, 1996: 594) selected a lectotype 'PERU. Dept. Puno: "Sur les rochers, dans le voisinage du lac de Titicaca, h. 3900 m," W. Lechler 1706' - F (972556); isolectotypes: NY, P. This is unnecessary as Schultz Bipontinus' name has priority of several months. Duplicates of Lechler 1706 and 1755, in a distribution determined by Schultz Bipontinus, are in K.

Argentina, Bolivia (La Paz, Oruro, Potosí, Tarija), Chile, Peru.

Amongst and over rocks, Khewiñar Altiplánico occidental (Western Altiplano sclerophyllous seasonal evergreen woodland), Matorralies seriales orotrophicales altiplánico occidentales, Cardonales orotrophicales semiáridos centro altiplánicos (Central Andean semiarid thorn and succulent scrub).

3200–4650 m.

November–August.

La Paz: *Wood & Wendelburger* 16396 (K).

Potosí: *Wood* 12827 (K), *Wood* 14822 (K).

Chevreulia Cass., Bull. Sci. Soc. Philom. Paris 1817: 69 (1817).

Leucopodium Gardner, London J. Bot. 4: 124 (1845). Type: *Leucopodium campestre* Gardner = **Chevreulia acuminata** Less.

Type: *Xeranthemum caespitosum* Thouars = **Chevreulia sarmentosa** (Pers.) S. F. Blake

Key to species

| | |
|--|----------------------|
| Leaves oblong-lanceolate, apices acuminate, evenly distributed along stems | <i>C. acuminata</i> |
| Leaves spatulate, apices obtuse, leaves in a rosette | <i>C. sarmentosa</i> |

Chevreulia acuminata Less., Linnaea 5(3): 360 (1830). Types: '*Beyrich legit in collibus siccis montium Serrados Orgos [sic!] pr. Rio Janeiro Jan. 1828. Sellow misit e Brasilia. (v. sp. s. ∞.)*' Syntypes: B†.

Chevreulia filiformis Hook. & Arn., Companion Bot. Mag. 1(No. 4): 102 (1835). Type: 'St. Catherine's, South Brazil. – *Tweedie*.' Holotype: GL (according to Dillon & Sagástegui, 1991: 22). Note: There is a good specimen at K, ex Herb. Hookerianum that probably should be considered the holotype, especially since the GL material was probably transferred to E, if it existed.

Leucopodium campestre Gardner, London J. Bot. 4: 124 (1845). Type: 'HAB. Open grassy places, Organ Mountains, at an elevation of about 3500 feet. Fl. March.' [*Gardner*] 5787. Note: Bentham (in Gardner, 1845: 124) added the following footnote after the collection number: 'There is some mistake in this No., as 5787 is properly described above as a new *Erigeron*. The present plant may perhaps be 5788, of which I have no specimen. G.B.'

Chevreulia longipes Wedd., Chloris Andina 1: 157 (1856). Type: '... charmante petite plante que j'ai rencontrée dans la collection faite par M. Claude Gay, dans le département de Cuzco. ... Hab. In Peruvia! (Gay).'

Holotype: P.

**Chevreulia elegans* Rusby, Bull. New York Bot. Gard. 4(14): 389 (1907). Type: [Bolivia:] ' "Rather scarce in dry soil along roadsides." Coripata, Yungas, March 20, 1894. ([*Bang*] No. 2100.)' Holotype: NY (163341 – see note); isotypes: CORD, K, NY (163342), US (01415522). Note: Of the two specimens in NY (163341 & 163342), only 163341 bears the full field label and date.

Argentina, Bolivia (La Paz), Brazil, Paraguay, Peru, Uruguay.

Mountain pastures, dry grassland.

0–3500 m.

September–June.

Vernacular names: JATE'Í KA'A MIRÍ (Freire, 1998); YATEÍ CAÁ MIRI (Freire et al., 2006).

Chevreulia elegans* Rusby, Bull. New York Bot. Gard. 4(14): 389 (1907) = **Chevreulia acuminata Less.

Chevreulia filiformis Hook. & Arn., Companion Bot. Mag. 1(No. 4): 102 (1835) = **Chevreulia acuminata** Less.

Chevreulia longipes Wedd., Chloris Andina 1: 157 (1856) = **Chevreulia acuminata** Less.

***Chevreulia sarmentosa** (Pers.) S. F. Blake, Proc. Biol. Soc. Washington 38: 85 (1925).

Tussilago ? sarmentosa Pers., Syn. Pl. 2: 456 (1807). Types: 'Hab. in Monte-Video, et in ins. Tristan d'Anguna. Aubert. ...'

Xeranthemum caespitosum Thouars, Esquisse Fl. Tristan d'Acugna: 39, t 8 (1808); re-issued/reproduced in *Mélange de botanique et des voyages, ...* (1811), with the same pagination and plates. Type: not cited. Note: Du Petit-Thouars had clearly seen the plant as he noted 'Quoiqu'il soit assez commun, je n'ai pu rencentrer sa fleur au moment de son épanouissement.'

Gnaphalium calycinum Poir., Encycl. Suppl. 2: 807 (3 July 1812). Type: 'Cette plante croît à Buenos-Ayres, où elle a été recueillie par Commerson. † ? (V. s. in herb. Desfont.)' Holotype: ?P.

Chevreulia stolonifera Cass., Dict. Sci. Nat. 8: 517 (1817), nom. illegit. pro '*Chaptalia sarmentosa*, Pers. Syn. 2, 456 ...' Note: Persoon's name was placed in *Tussilago* [sect.] † *Chaptalia*; Cassini definitely wrote *Chaptalia*, not *Tussilago*!

Leria caespitosa (Thouars) Spreng., Syst. Veg., ed. 16, 3: 502 (1826).

Chevreulia thouarsii Remy in Gay, Hist. Chile, Bot. 3: 332 (1847), nom. illegit.

Argentina, Bolivia (Chuquisaca, Tarija), Brazil, Chile, Paraguay, Uruguay.

Mountain pasture, grassland, woodland margins, grassy banks, moist Tucumán forest.

0–2220 m.

July–March.

Chuquisaca: Wood et al. 22360 (K).

Tarija: Wood & Goyder ?s.n. (23.1.2000) (K).

Vernacular names: JATE'Í KA'A HATA (FREIRE, 1998); YATEÍ CAÁ HATA (Freire et al., 2006).

Chevreulia stolonifera Cass., Dict. Sci. Nat. 8: 516 (1817), nom. illegit. = ***Chevreulia sarmentosa*** (Pers.) S. F. Blake

Chevreulia thouarsii Remy in Gay, Hist. Chile, Bot. 3: 332 (1847) = ***Chevreulia sarmentosa*** (Pers.) S. F. Blake

Chiliotrichiopsis Cabrera, Notas Mus. La Plata, Bot. 2(No. 16): 172 (1937).

Type: *Chiliotrichiopsis keideli* Cabrera

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Nesom, G. L., Robinon, H. & A. G. Paucar. (2001). A new species of *Chiliotrichiopsis* (Asteraceae: Astereae) from Peru. Brittonia 53(3): 430–434.

****Chiliotrichiopsis keideli*** Cabrera, Notas Mus. La Plata, Bot. 2(No. 12): 172 (1937). Type: [Argentina:] 'Salta: Quebrada de la Quesnera, 3550 m. s. m., leg. J. Keidel, 12-II-1932'. Holotype: LP (2149); isotype: LP (60261).

Argentina, Bolivia (Potosí).

Puna, on rocky mountain slopes.

2200–4300 m.

December–April.

Vernacular names: LEGIA PLOMA, TOLA, TOLA'E VIZCACHA, TOLA TUNI, TROMPO, TOLA VISCACHA (Bonifacino, 2009).

Chlaenobolus Cass., Dict. Sci. Nat. 49: 337 (1827) = ***Pterocaulon*** Elliott

Chlaenobolus alopecuroides (Lam.) Cass., Dict. Sci. Nat. 49: 339 (1827) = ***Pterocaulon alopecuroides*** (Lam.) DC.

Chlenobolus virgatum (L.) Cass., Dict. Sci. Nat. 49: 340 (1827) = ***Pterocaulon virgatum*** (L.) DC.

Chondrochilus Phil., Linnaea 28: 711 (1856) = ***Chaetanthera*** Ruiz & Pav.

Chresta Vell., Fl. Flum. Icones 8: tabs. 150 & 151 (1831), nom. inval. = ***Chresta*** DC.

Chresta DC. sect. *Euchresta* Gardner, London J. Bot. 1: 239 (1882), nom. inval. = ***Chresta*** DC.

Chresta angustifolia Gardner, London J. Bot. 1: 240, t. 8 (1842) = ***Pycnocephalum angustifolium*** (Gardner) MacLeish

Chresta DC., Prodr. 5: 85 (1836).

Chresta Vell., Fl. Flum. Icones 8: tabs. 150 & 151 (1827)[1831], nom. non rite publ.

Chresta DC. sect. *Euchresta* Gardner, London J. Bot. 1: 239 (1882), nom. inval.

Eremanthus Less. sect. *Chresta* (DC.) Baker in Mart., Fl. Bras. 6(2): 166 (1873).

Lectotype (selected by Robinson, 1980: 91): *Chresta sphaerocephala* DC.

Note: At the time of publication of two plates with the names *Chresta cordata* and *C. lanceolata* Vellozo did not validly publish the generic name *Chresta*; it was not a description generico-specifica, based on a single illustration with analysis. MacLeish (1985: 465) was incorrect when providing the citation 'Fl. Flum. n. 325. 1829', although correct in stating that Vellozo's generic name was invalid.

References

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Robinson, H. (1980). Notes on the Lychnophorine genera *Chresta* and *Eremanthus* (Vernoniaeae: Asteraceae). *Phytologia* 45(2): 89–100.

Chresta exsucca DC., *Prodr.* 5: 85 (1836). Type: '■ in motosis prov. Minar. Gener. Brasiliae legit cl. Martius. *Vernonia exsucca* Mart.! herb. ... (v.s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC (fragments – two leaves and one inflorescence).

Eremanthus exsuccus (DC.) Baker in Mart., *Fl. Bras.* 6(2): 166 (1873).

Eremanthus labordeii Glaz., *Bull. Soc. Bot. France* 56, *Mém. 3d*: 380 (1909), nom. nud. (based on *Glazieu* 21675)

Eremanthus imbricatus G. M. Barroso, *Rodriguesia* 23-24: 6 (1962). Type: [Brazil:] 'Distrito Federal, Brasilândia, leg. Waldir Macedo, 4 (25-VII-19610)'. Holotype: RB (110389).

Bolivia (Santa Cruz), Brazil.

Cerrado.

700–1150 m.

March–October.

Chromolaena DC., *Prodr.* 5: 133 (1836).

Eupatorium L. sect. *Cylindrocephala* DC., *Prodr.* 5: 141 (1836). Type: not stated. Lectotype: *Eupatorium odoratum*

L. = ***Chromolaena odorata*** (L.) R. M. King & H. Rob.

Osmia Sch.Bip., *Jahresber. Pollichia* 22-24: 251 (1866). Type: *Eupatorium odoratum* L. = ***Chromolaena odorata*** (L.) R. M. King & H. Rob.

Heterolaena Sch.Bip. ex Benth. & Hook. f., *Gen. Pl.* 2: 245 (1873), nom. superfl. (based on *Osmia* Sch.Bip.)

Eupatorium L. sect. *Osmia* (Sch.Bip.) Benth. ex Baker in Mart., *Fl. Bras.* 6(2): 275 (1876).

Eupatorium L. sect. *Chromolaena* (DC.) Benth. ex Baker in Mart., *Fl. Bras.* 6(2): 300 (1876).

Eupatorium L. sect. *Heterolaena* (Sch.Bip. ex Benth. & Hook.f.) Baker in Mart., *Fl. Bras.* 6(2): 328 (1876).

Type: ***Chromolaena horminoides*** DC.

References

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Robinson, B. L. (1920). The Eupatoriums of Bolivia. *Contr. Gray Herb.* 61: 30–80.

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Eupatorium phyllocephalum* Klatt, *Ann. K. K. Naturhist. Hofmus.* 9: 358 (1894). Types: 'Hab.: Bolivia (Chuquisaca), leg. d'Orbigny, Nr. 1226, leg. Cuming.' = *Chromolaena*** sp.? Listed by Foster (1958: 209) but unplaced by King & Robinson (1987). Syntype: *D'Orbigny* 1226 – GH × 2 (7898 & 7900).

Chromolaena alternifolia Gardner, *London J. Bot.* 5: 465 (1846) = ***Chromolaena stachyophylla*** (Spreng.) R. M. King & H. Rob.

Chromolaena arnottiana (Griseb.) R. M. King & H. Rob., *Phytologia* 20(3): 198 (1970).

**Eupatorium arnottianum* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19([1]): 167 (1874); *Pl. Lorentz.*: 119 (1874). Types: 'Cordoba, infrequens in humidis pr. Las Peñas, S. Francisco. (»Tucuman, Entre Rios-Brasil. austr.«)'. Syntype: *Lorentz*, 178, GOET.

Argentina, Bolivia (Santa Cruz, Tarija).

Pasture and open areas in woodland.

1000–3000 m.

December–April.

Vernacular name: UOUÉ (FREIRE ET AL., 2006).

Chromolaena austera (B. L. Rob.) R. M. King & H. Rob., *Phytologia* 20(3): 199 (1970).

**Eupatorium* (§ *Cylindrocephalum*) *austerum* B. L. Rob., *Contr. Gray Herb.* 68: 9 (1923). Type: 'BOLIVIA: in the bush region of Tres Cruces, alt. 1500 m., Feb. 1911 [*Herzog* 1610]'. Holotype: G; isotypes: GH (photo and fragm.), L(944292282).

Bolivia (?).

1500 m.

February.

Chromolaena bangii (Rusby) R. M. King & H. Rob., *Phytologia* 20(3): 199 (1970).

**Eupatorium bangii* Rusby, *Mem. Torrey Bot. Club* 6(1): 56 (1896). Types: [Bolivia:] 'Vic. Cochabamba, 1891 ([*Bang*] 1133). ... Also collected in Bolivia by *Bridges*'. Syntypes: K; isosyntypes: *Bang* 1133, GH, NY 2 (00168904, 100168905), US (00078735). Note: Following Rusby's comments (Rusby, 1993) about the distribution of material and the assistance that Britton provided over notes on material not examined by Rusby, it is more than likely that the *Bridges* collection was seen only at K; the slip of paper pinned to the *Bridges* sheet in K supports this.

Bolivia (Cochabamba), Peru.

2500–3000 m.

Chromolaena beckii R. M. King & H. Rob. *Phytologia* 51(3): 172 (1982). Type: 'BOLIVIA: Santa Cruz: Prov. A. Ibañez, Santa Cruz ca. 22 kms. hacia Abapó (Sud). ca. 500 m.s.n.m. Chaparral abierto con cespes bajo. -20 cm. 14.3.1981. *St. G. Beck* 6502'. Holotype: US (02926146); isotype: LPB

Bolivia (Santa Cruz).

500 m.

March.

Chromolaena connivens (Rusby) R. M. King & H. Rob., *Phytologia* 20(3): 200 (1970).

Eupatorium paucidentatum Sch.Bip., *Bull. Soc. Bot. France* 12: 81 (1865); *Linnaea* 34(5): 535 (Feb. 1866), nom. nud. (based on *Mandon* 248), non Sch.Bip. ex Baker (1876) (= *Chromolaena congesta* (Hook. & Arn.) R. M. King & H. Rob.)

**Eupatorium connivens* Rusby, *Mem. Torrey Bot. Club* 6(1): 57 (1896). Types: [Bolivia:] 'Vic. Cochabamba, 1891 ([*Bang*] 1114). ... The same as *Mandon's* 248. Also collected by *Bridges* in Bolivia.' [Isosyntype (*Bang* 1114): NY (00168927 & 00168928 – barcodes on same sheet, 00168929 & 00168930 – barcodes on same sheet), US (01403437), Z (000003348).]

**Eupatorium cochabambense* Hieron., *Bot. Jahrb. Syst.* 22(4–5): 745 (1897). Types: 'Bolivien: bei Cochabamba (O. KUNTZE, 26. März 1892); MIG. BANG, 1891, n. 1114 unter dem Namen *E. paucidentatum* Schultz-Bip. ausgegeben.' Syntypes: B†; isosyntypes (*Bang* 1114): GH, MO, NY (see specimens cited under *E. connivens*), US; syntype (*Kuntze* s.n.): NY (00168924, 00168925).

Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz), Peru.

2000–3500 m.

March–April.

Chromolaena desmocephala (B. L. Rob.) R. M. King & H. Rob., *Phytologia* 49(1): 4 (1981).

**Eupatorium* (§ *Cylindrocephalum*) *desmocephalum* B. L. Rob., *Contr. Gray Herb.* 68: 14 (1923). Type: 'BOLIVIA: on rocky slopes of the Cuesta de Guayabillas, alt. 1200 m., March, 1911, *Th. Herzog*, no. 1739'. Holotype: G; isotype: GH (fragment).

Bolivia (Tarija).

1200 m.
March.

Chromolaena epaleacea Gardner, London J. Bot. 6: 436 (1847). Type: [Brazil:] '[Gardner] 3828 ... Hab. Upland campos, near Villa de Arrayas, Province of Goyaz. March, 1840.' Holotype: BM; isotypes: K × 2, NY (00163370, 00163371, 00163372).

Eupatorium lupulinum Baker in Mart., Fl. Bras. 6(2): 301 (1876), nom. illegit. (based on **Chromolaena epaleacea** Gardner)

Eupatorium epaleaceum (Gardner) B. L. Rob., Proc. Amer. Acad. Arts 51: 534 (1916).
Bolivia (Santa Cruz), Brazil (Goiás, Mato Grosso, Minas Gerais).
Cerrado, grassland.
500–1000 m.
March–June.

Chromolaena extensa (Gardner) R. M. King & H. Rob., Phytologia 20(3): 201 (1970).

**Eupatorium extensum* Gardner, London J. Bot. 6: 440 (1847). Type: [Brazil] 'HAB. Bushy places between Capella da Posse and San Pedro, Province of Goyaz. May, 1840.' [Gardner] 4214.

Bolivia (La Paz, Santa Cruz), Brazil, Peru.
0–500 m.
May.
Britton (1891) cited 'Guanai, 2,000 ft. ([Rusby] 1627).'

Chromolaena herzogii (B. L. Rob.) R. M. King & H. Rob., Phytologia 20(3): 201 (1970).

**Eupatorium* (§ *Cylindrocephalum*) *herzogii* B. L. Rob., Contr. Gray Herb. 68: 19 (1923). Type: 'BOLIVIA: common on mountain meadows near Samaipata, Dec. 1907, *Th. Herzog*, no. 694'. Holotype: Z (000003355); isotype: GH (fragment).

Bolivia (Santa Cruz).
Montane grassland.
December.

?*Chromolaena hirsuta* (Hook. & Arn.) R. M. King & H. Rob., Phytologia 20(3): 201 (1970).

**Eupatorium hirsutum* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 239 (1836). Type: 'Banda Orientale and Rio Grande do Sul, *Tweedie*.' Note: There is no distinction between the typical variety and the unnamed variety β as it appears only one collection may have been cited.

Note: Although listed by Foster (1958: 208) under *Eupatorium*, King & Robinson (1987: 386) only listed the species from Argentina, Brazil and Uruguay, although also present in Paraguay (Cabrera, 1996: 80).

Chromolaena hookeriana (Griseb.) R. M. King & H. Rob., Phytologia 47(3): 231 (1980).

Eupatorium ciliatum Hook. & Arn., Companion Bot. Mag. 1(No. 8): 240 (1836), nom. illegit., non Less. (1831) (= *Ageratina ciliata* (Less.) R. M. King & H. Rob.). Type: 'Buenos Ayres, *Tweedie*.' Holotype: K.

Eupatorium hookerianum Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 166 (1874), as nom. nov. pro *E. ciliatum* Hook. & Arn.

**Eupatorium conyzoides* Vahl var. *ciliatum* (Hook. & Arn.) Hieron., Bot. Jahrb. Syst. 22(4–5): 741 (1897).

Eupatorium jujuiense Hieron., Bot. Jahrb. Syst. 22(4–5): 744 (1897). Type: 'Jujui: bei ser Stadt Jujui (LOR. u. Hieron., April 1873, n. 1017).' Holotype: B†.

Eupatorium hookerianum Griseb. var. *jujuiense* (Hieron.) Cabrera & Vittet, Revista Mus. La Plata, Secc. Bot. 8: 216 (1954).

Chromolaena jujuiensis (Hieron.) R. M. King & H. Rob., Phytologia 20(3): 202 (1970).

Argentina, Bolivia (La Paz).
Woodland margins, *Alnus* woodland, Boliviano-Tucumano montane pastures.
400–2500 m.
November–May.

Chromolaena ivifolia (L.) R. M. King & H. Rob., Phytologia 20(3): 202 (1970).

**Eupatorium ivifolium* [as *ivaefolium*] L., Syst. Nat. (ed. 10) : 1205 (1759). Type: 'Habitat in Jamaica.' Lectotype (selected by King & Robinson in Woodson & Schery, 1975: 924): *Browne*, Herb. Linn. No. 978.28 (LINN).

Eupatorium concinnum Hook. & Arn., Companion Bot. Mag. 1(No. 8): 239 (1835), non DC. (1836) (= *Neocabreria concinna* R. M. King & H. Rob.). Types: 'Banda Orientale and Rio Grande, *Tweedie*.' Syntypes: K.

Eupatorium obscurum DC., Prodr. 5: 142 (1836). Type: '■in Brasiliae prov. Rio-Grande. ... (v. s. in h. Mus. reg. ar. à Mus. imp. Bras. sine num. miss.)'. Holotype: P; isotype: G-DC.

Ooclinium clavatum Benth., Ann. Nat. Hist. 2(8): 108 (Oct. 1838). Type: 'British Guiana. *Schomburgk*, n. 165.' Holotype: K. Note: The IPNI data base, Baker in Flora Brasiliensis and other references misquote the place of publication as Ann. Nat. Hist. 1(2): 108 (1839) – apart from the wrong date, this is an interesting article by Mr Gunn on mammals and fishes of 'Van Diemen's Land'.

Osmia ivifolia (L.) Sch.Bip., Jahresber. Pollichia 22-24: 252 (1866).

Osmia obscura (DC.) Sch.Bip., Jahresber. Pollichia 22-24: 252 (1866).

Eupatorium ivifolium L. var. *serratum* Griseb., Cat. Pl. Cub.: 146 (1866). Type: [Cuba:] '*Wr[ight]*. 2800.' Holotype: GOET; isotype: K.

Eupatorium polyanthum Sch.Bip. ex Baker in Mart. Fl. Bras. 6(2): 285 (1876). Types: 'Habitat in Brasilia meridionali, loco accuratius non designato: *Sello* n. 511, 545; Uruguay ad ripas fluminis Rio Negro: *Gibert* n. 226.' Syntype: *Gibert* 226, K × 2.

Osmia polyantha Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 285 (1876), nom. nud. pro syn.

**Eupatorium ivifolium* L. var. β *extrorsa* [sic!] Baker in Mart., Fl. Bras. 6(2): 290 (1876). Types: [Brazil:] 'Ad Sorocaba prov. S. Paulo: *Riedel*; prov. Minas Geraës ad Lagoa Santa: *Warming*.' Syntype: *Riedel* s.n., K.

Eupatorium extrorsum Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 290 (1876), nom. nud. pro syn.

Eupatorium ivifolium L. var. γ *gracillima* Baker in Mart., Fl. Bras. 6(2): 290 (1876), based on *Ooclinium clavatum* Benth.

Osmia gracillima Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 290 (187), nom. nud. pro syn.

Osmia stenophylla Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 290 (1876), nom. nud. pro syn.

Eupatorium ivifolium L. var. δ *laxiflora* Baker in Mart., Fl. Bras. 6(2): 290 (1876). Type: [Brazil:] 'Ad ripas fluminis Maranhão: *Pohl* n. 289.' Note: There are two sheets of this collection in K, the material ex herb. Benthamianum bearing the locality handwritten by Baker on the sheet; this sheet is taken as the holotype.

Eupatorium ivifolium L. var. ϵ *aspera* Baker in Mart., Fl. Bras. 6(2): 291 (1876). Type: [Brazil:] 'Prov. Goyaz in udis ad Arrayas: *Gardner* n. 4207.' Holotype: K (ex herb. Hookerianum).

**Eupatorium guanaiense* Britton, Bull. Torrey Bot. Club 18(11): 333 (1891). Type: [Bolivia:] 'Guaniai, 2,000 ft. ([*Rusby*] 1735).' Holotype: NY (00169021 – ex Columbia College Herbarium); isotype: US (01394845).

Eupatorium luquense Hassl., Bull. Herb. Boissier, ser. 2, 1(4): 413 (1901). Types: [Paraguay:] 'In dumeto pr. Sapucay, Dec., [Hassler] 1657; fleurs roses, Luque, dans les pâturages, Mars, 939, *Balansa*.' Syntypes: G. Note: Cabrera (1996: 88), in citing the two syntypes listed the *Balansa* collection as '937' from 'L' Assomption', which was clearly not cited in the protologue. Chodat (1902: 307) listed *Balansa* 939 as the type collection of *Eupatorium ivifolium* var. *foliosum* Chod., repeated also by Cabrera (1996). However, this collection was one of the syntypes listed in the protologue of *Eupatorium luquense* Chod. (Chodat, 1901: 413).

Eupatorium ivifolium L. var. *genuinum* Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 280 (1916).

Eupatorium ivifolium L. var. *hirsutum* Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 280 (1916). Types: 'Paraguay: *Hassler* no. 1518a, 6174. Pl. Hassl., l.c., Caaguazú, *Hassler* no. 9205 bis Estrella, *Hassler* no. 10267. Gran Chaco: Santa Elisa, *Hassler* no. 2602, 2788.' Syntypes: G; isosyntypes: *Hassler* 2788 & 10267, K.

Eupatorium ivifolium L. var. *pilcomayense* Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 280 (1916). Type: [Paraguay:] 'Gran Chaco: Ad flumen Pilcomayo, *Rojas* no. 236.' Holotype: G.

Eupatorium ivifolium L. var. *perturbatum* B. L. Rob., Contr. Gray Herb. 80: 23 (1928). Type: 'ARGENTINA: Formosa: Guayalec, *Jørgensen*, no. 3351'. Holotype: GH (7734).

Osmia gracillima Sch.Bip. ex Malme, Ark. Bot. 24A(8): 23 (1932), nom. nud. pro syn.

Chromolaena luquensis (Hassl.) R. M. King & H. Rob., Phytologia 20(3): 203 (1970).

SE United States, Greater Antilles, Lesser Antilles, Mexico, Central America, South America.

Bolivia (La Paz, Santa Cruz), Brazil, Paraguay, Peru, Uruguay.

Open grassland and pastures, llanos, adjacent to wet areas.

0–2500 m.

August–May, but probably flowering throughout the year.

Note: '*Eupatorium affine* Hook. & Arn.' was equated with *Chromolaena odorata* by King & Robinson (1987), although syntype material in K most certainly doesn't resemble that species. Baker (1876) clearly equated it with *Ch. ivifolia*.

Vernacular names: TYPYCHA PITO (Cabrera, 1996); EUPATÓRIO (Cabrera & Klein, 1991); PIRONÁK-LEK (Freire et al., 2006).

Chromolaena jujuiensis (Hieron.) R. M. King & H. Rob., *Phytologia* 20(3): 202 (1970) = **Chromolaena hookeriana** (Griseb.) R. M. King & H. Rob.

Chromolaena laevigata (Lam.) R. M. King & H. Rob., *Phytologia* 20(3): 202 (1970).

**Eupatorium laevigatum* Lam., *Encycl.* 2: 408 (1786). Type: 'Cette plante nous a été communiquée par M. de Jussieu; nous la croyons originair d'Amérique. (v.s.)'. Holotype (cited by King & Robinson, 1975: 924): P-JU (8394); isotype: P-LA (306/20). Note: Although King & Robinson cited the 'holotype' as a Jussieu collection the original protologue citation indicates that Jussieu sent the material Lamarck suggesting that the material in P-LA is most likely to be considered the holotype, that in P-JU the isotype.

Eupatorium australe Thunb., *Pl. Bras.*, *Decas* 2: 26 (1818). Type: not cited.

Chrysocoma punctulata Vell., *Fl. Flum.* : 335 (1825)[7 Sept. - 28 Nov. 1829]; *Fl. Flum. Icones* 8: tab. 49 (1831). Type: 'Habitat fruticetis maritimis.'

Eupatorium psiadiifolium DC., *Prodr.* 5: 144 (1836). Type: '■in Brasiliâ (h. L'Hér.!), in siccis ad Cercovado (Lhostky!). (v.s.)'. Syntype: *Lhostky* s.n., G-DC. Presumably the L'Héritier syntype is in NEU; there is collection in G-DC without a collector's name on the label which may represent a duplicate of this material.

Eupatorium psiadiifolium DC. var. β *latifolium* DC., *Prodr.* 5: 145 (1836). Types: '■in Cajennâ legit cl. Patris! (v. s.)'. Holotype: G-DC.

Eupatorium propinquum DC., *Prodr.* 5: 146 (1836). Type: '■in Brasiliae prov. Rio-Grande. ... (v. s. in h. Mus. reg. Par. à Mus. imp. Bras. miss. sub n. 1064.)'. Holotype: P; isotype: G-DC.

Eupatorium fasciculare Poepp., *Nov. Gen. Sp. Pl.* 3: 54 (1845). Type: 'Crescit in Peruviae subandinae montibus calcareis herbidis ad Cassapi. Januario lectum.' Holotype: ?

Eupatorium resinolum Poepp., *Nov. Gen. Sp.* 3: 54 (1845). Type: 'Crescit cum praecedente. Floret Octobre.' q.v. *Eupatorium fasciculare* - 'Crescit in Peruviae subandinae montibus calcareis herbidis ad Cassapi. Januario lectum.' Holotype: W.

Osmia alternans (DC.) Sch.Bip., *Jahresber. Pollichia* 22-24: 252 (1866).

Osmia laevigata (Lam.) Sch.Bip., *Jahresber. Pollichia* 22-24: 252 (1866).

Osmia propinqua (DC.) Sch.Bip., *Jahresber. Pollichia* 22-24: 252 (1866).

Eupatorium laevigata Lam. var. *squamulosa* Hieron., *Bot. Jahrb. Syst.* 22(4-5): 747 (1897). Type: Brazil: 'Santa Catharina: in der Capoeira bei São Francisco (*ULE*, März 1884, n. 136)'. Holotype: B†; isotype: S.

Eupatorium laevigata Lam. var. *submembranaceum* Hieron., *Bot. Jahrb. Syst.* 22(4-5): 748 (1897). Type: [Argentina:] 'Salta: bei der Estancia Yacone (*Lor.[entz]* u. *Hieron.[ymus]*, März 1873, n. 325)'. Isotype: GOET.

**Eupatorium laevigatum* Lam. f. *albiflorum* Kuntze, *Revis. Gen. Pl.* 3(3): 147 (1898). Type: 'Bolivia: Yapacani, 400 m.' ['BOLIVIA. Yapacani, 400 m, Jun 1892, *Kuntze* s.n.' - according to Wetter & Zandoni, 1985: 330] Holotype: NY (00169075).

**Eupatorium laevigatum* Lam. f. *flavidum* Kuntze, *Revis. Gen. Pl.* 3(3): 147 (1898). Type: 'Bolivia: 1600 m Santa Cruz.' ['BOLIVIA. Sierra de Santa Cruz, 1600 m, May 1892, *Kuntze* s.n.' - according to Wetter & Zandoni, 1985: 331] Holotype: NY (00169076).

**Eupatorium laevigatum* Lam. f. *lilacinum* Kuntze, *Revis. Gen. Pl.* 3(3): 147 (1898). Types: 'Bolivia: Ost-Velasco 200 m, Yapacani 400 m.' ['BOLIVIA. Ost-Velasco, 200 m, Jul 1892, *Kuntze* s.n.' - according to Wetter & Zandoni, 1985: 331]. Holotype: NY (00169077); isotype: US.

Eupatorium laevigatum Lam. var. *psidiifolia* (DC.) Hassl., *Repert. Spec. Nov. Regni Veg.* 14(10-15): 282 (1916).

Eupatorium laevigatum Lam. var. *longepetiolatum* Hassl., *Repert. Spec. Nov. Regni Veg.* 14(10-15): 282 (1916).

Types: 'Gran Chaco: Ad ripas fluminis Paraguay, *Hassler* no. 2327, (foliis ovatis cuspidulato-acuminatis argute serratis): eod. loco no. 2327a. (foliis ovato-ellipticis apice obtusis breviter cuspidatis crenato-serratis)'. Syntypes: G.

Argentina, Bolivia (La Paz, Santa Cruz), Brazil, Costa Rica, Ecuador, Honduras, Mexico, Panama, Paraguay, Peru.

Forest margins, scrub.

0-3500 m.

December-July.

Vernacular names: SANATODO (Cabrera & Freire, 1997: 33), CAMBARÁ, CAMBARÁ-FALSO, CAMBARAZINHO, MATA-PASTO, VASSOURA-DO-CAMPO (Cabrera & Klein, 1991); CAÁ-HÚ, CAMPANELA, DOCTORCITO (Freire et al., 2006).

Chromolaena leptocephala (DC.) R. M. King & H. Rob., *Phytologia* 20(3): 202 (1970).

**Eupatorium leptocephalum* DC., *Prodr.* 5: 148 (1836). Type: '■in Andibus Peruvianorum legit indef. Haenke. ... (v.s. in h. Haenke à cl. Sternb. comm.)'. Holotype: PR; isotype: G-DC.

**Eupatorium leptocephalum* DC. var. *hypomalacum* B. L. Rob., *Contr. Gray Herb.* 80: 24 (1928). Type: 'PERU: Urubamba Valley at Cedrobamba, 2200 m., Aug. 1927, Prof. F. L. Herrera, no. 1572'. Holotype: GH (7767).

Note: the following paratype was also cited: 'BOLIVIA: Prov. Larecaja: in woods, Queliguaya, vicinity of Sorata, in temperate region, alt. 2700 m., Sept. 1858, Mandon, no. 247' - G, GH, K, P.

Bolivia (La Paz), Colombia, Ecuador, Peru. Note: The record for Bolivia, recorded by B.L. Robinson (1920) and based on a Mandon collection (Mandon 247), was originally determined by Schultz Bipontinus, and much later by Robinson himself, for the variety (q.v. Robinson, 1828: 24).

Disturbed areas, forest, grassland, scrub.

1000–3500 m.

August–September.

Chromolaena luquensis (Hassl.) R. M. King & H. Rob., *Phytologia* 20(3): 203 (1970) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.

Chromolaena mallota (B. L. Rob.) R. M. King & H. Rob., *Phytologia* 20(3): 203 (1970).

Eupatorium clematitis DC. var. *tomentosum* Sch.Bip., *Bull. Soc. Bot. France* 12: 81 (1865); *Linnaea* 34: 535 (1866), nom. nud.

**Eupatorium mallotum* B. L. Rob., *Proc. Amer. Acad. Arts* 55: 22 (1919). Type: 'BOLIVIA: Dept. LaPaz [sic!], Prov. Larecaja: "viciniis Sorata; inter Munaypata et rivum Chalassayo, in schistosis. Reg. temp. 2600–2700 m.", Mandon, no. 249'. Holotype: GH (7797); isotypes: GH (7795, 7796), NY (00169099, 00169100), S.

**Eupatorium mallotum* B. L. Rob. var. *aporum* B. L. Rob., *Proc. Amer. Acad. Arts* 55: 23 (1919). Type: 'BOLIVIA WITHOUT LOCALITY: Bang, no. 2875 (Gr., U.S.)'. Syntypes: GH (7798), MO, US (00326029).

Bolivia (La Paz).

On slate/schist slopes.

2600–2700 m.

October–May.

Chromolaena odorata (L.) R. M. King & H. Rob., *Phytologia* 20(3): 204 (1970).

Eupatorium odoratum L., *Syst.*, ed. 10, 2 : 1205 (1759). Type: 'Habitat in America.' Lectotype (selected by King & Robinson in Woodson & Schery 1975: 925): [icon] 'Eupatoria Conyzoides folio molli & incano, capitulis magnis, Americana' in Plukenet, *Phytographia*: t. 177, f. 3 (1692); *Almag. Bot.* : 141 (1696). Typotype: Herb. Sloane 96: 25 (BM-SL).

Eupatorium conyzoides Vahl, *Symb. Bot.* 3: 96 (1794), nom. illegit., non Mill. (1768) (= *Vernonia arborescens* (L.) Sw.). Type: 'Habitat in America meridionali? Dn. THOUIN.' Holotype: ?C.

Eupatorium floribundum Kunth in Humb., *Bonpl. & Kunth.*, *Nov. Gen. Sp. Pl.* 4 (ed. folio): 92 (1818). Type: 'Crescit locis frondosis, temperatis Loxam inter et fluvium Catamayo, alt. 1080 hex. (Peruvia.) ■Floret Augusto.' [*Humboldt & Bonpland* 'mss. n. 3426. Gonzanama']. Holotype: P-Bonpl.

? *Chrysocoma maculata* Vell., *Fl. Flum.* : 325 (1825)[7 Sept. - 28 Nov. 1829]; *Fl. Flum. Icones* 8: tab. 6 (1831).

Type: 'Habitat fruticetis maritimis Pharmacopolitanis. Floret April. May.'

Eupatorium divergens Less., *Linnaea* 5(1): 138 (1830). Type: 'Prope Hacienda de la Laguna. Octbr.' Holotype: B†.

Eupatorium clematitis DC., *Prodr.* 5: 144 (1836). Type: '■in Peruvia? legit cl. Poeppig. (v. s. comm. à cl. inv. sub n. 3108.)'. Holotype: G-DC.

Eupatorium graciliflorum DC., *Prodr.* 5: 145 (1836). Types: '■in Mexico leg. cl. Haenke, circa Acapulco (Karvinski). ... (v. s. in h. Haenke à cl. Sternb. comm. et h. Acad. reg. Monac.)'. Syntypes: G-DC; isosyntype: Haenke s.n., M, PR.

Eupatorium conyzoides Vahl var. *heterolepis* Griseb., *Fl. Brit. W.I.* : 358 (1861) Types: 'Hab. Bahamas!, Swains.; Jamaica! all coll. (α, β); Antigua!, Nichols., Wullschl.; [Cuba! and Mexico! to Brazil!]. Location of all syntypes unknown. Syntypes: *Wullschlaegel* 883, *Wright*, 294, GOET.

Osmia odorata (L.) Sch.Bip., *Jahresb. Pollichia* 22/24: 250 (1866).

Osmia divergens (Less.) Sch.Bip., Jahresb. Pollichia 22/24: 252 (1866).
Osmia graciliflorum (DC.) Sch.Bip., Jahresb. Pollichia 22/24: 252 (1866).
? *Eupatorium conyzoides* Vahl var. δ *incanum* Baker in Mart., Fl. Bras. 6(2): 278 (1876). Types: [Brazil:] 'In prov. Bahia: Salzmänn, Blanchet, Sello n. 565; prov. Mato Grosso ad Cuiabá: Manso n. 91.' Note: There are two collections of Salzmänn 14 in K but neither were determined by Baker as var. *incanum*; they may well be syntype material. None of the other syntypes are apparently in K; the Manso collection is in BR.
Eupatorium conyzoides Vahl var. ϵ *pauciflorum* Baker in Mart., Fl. Bras. 6(2): 278 (1876). Types: 'In "Brasilia meridionali": Riedel n. 358; Surinamia: Wallschlaegel n. 883. Frequens etiam in ditione occidentali Andina et in Antillia.' Note: None of these collections, nor material annotated by Baker, has been found in K.
Eupatorium klattii Millsp., Publ. Field Columbian Mus., Bot. Ser. 2: 105 (1900). Type: 'Cuba, shores of Santiago Bay'. Millspaugh 1126'. Holotype: F (61126).
Eupatorium odoratum L. var. *pauciflorum* (Baker) Hieron., Bot. Jahrb. Syst. 28(5): 564 (1901).
Eupatorium conyzoides Vahl var. *scaberulum* Hassl., Repert. Spec. Nov. Regni Veg. 14: 279 (1916). Type: 'Paraguay: Ad margines silvarum, scandens, Cordillera de Altos, Hassler no. 11859.' Holotype: G. 'SE USA, Mexico, West Indies south to Argentina and widely adventive.' Argentina, Bolivia (La Paz, Santa Cruz), Brazil, Ecuador, Mexico, Paraguay, Puerto Rico, USA. A widely naturalized and pernicious weed in the Old World.
Disturbed areas, riversides, forest margins, scrub.
0–3000 m.
March–August, but possibly flowering throughout the year.
La Paz: Franz Tamayo, 688 m, 28 Septiembre 2005, Torrez et al. 3 (K, MO).
Vernacular names: KA'A KATÍ (Cabrera, 1996); CRUZEIRO, EUPATÓRIO (Cabrera & Klein, 1991); PILARCITO (Freire et al., 2006).

Chromolaena oxylepis (DC.) R. M. King & H. Rob., Phytologia 20(3): 204 (1970).

Eupatorium oxylepis DC., Prodr. 5: 145 (1836). Type: '■ in Brasiliae prov. Sancti-Pauli. ... (v. s. in h. Mus. reg. Par. à Mus. imp. Bras. miss. sub. n. 468.)' Holotype: P; isotype: G-DC (fragments of leaves and a short piece of stem).

Eupatorium ferrugineum Gardner f. *parvifolium* Hassler, Repert. Spec. Nov. Regni Veg. 11(9/15): 175 (1912). Type 'Paraguay' Sierra de Amambay in arenosis pr. Punta Porá, flor. mens. Jan.; Hassler no. 10007.' Holotype: G.

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay.

Chromolaena oyadensis (Hieron.) R. M. King & H. Rob., Phytologia 20(3): 204 (1970) = **Chromolaena squarrosoramosa** (Hieron.) R. M. King & H. Rob.

Chromolaena porophylloides (B. L. Rob.) R. M. King & H. Rob., Phytologia 49(1): 4 (1981).

**Eupatorium* (§ *Praxelis*) *porophylloides* B. L. Rob., Contr. Gray Herb. 68: 29 (1923). Type: 'Bolivia: Dept. of Santa Cruz: Prov. of Chiquitos: on plain of the Cerro de Santiago, alt. 800 m., May, 1907, Th. Herzog, no. 24'. Holotype: Z (000003365); isotype: GH (fragment).

Bolivia (Santa Cruz).

800 m.

May.

Chromolaena pratensis Gardner, London J. Bot. 1: 176 (1842) = **Campuloclinium macrocephalum** (Less.) DC.

Chromolaena squalida (DC.) R. M. King & H. Rob., Phytologia 20(3): 206 (1970).

Eupatorium squalidum DC., Prodr. 5: 142 (1836). Type: '■ in Brasiliae, prov. Minarum Gener. ad Mariannum legit cl. Vauthier. ... (v. s. comm. à cl. Vauthier sub n. 279.). Holotype: G-DC.

Eupatorium subvelutinum DC., Prodr. 7: 268 (1838). Type: Guianâ Anglicâ legit cl. Schomburgh! ... (v. s. comm. ab amic. Bentham.)' Holotype: G-DC; isotype: K.

Eupatorium martiusii DC., Prodr. 7: 269 (1838). Type: '■ in Brasiliâ Mart.! herb. fl. bras. n. 270 text. nondùm edito. ... (v. s. comm. à cl. Martius.)' Type: G-DC; isotype: M.

Eupatorium martii Mart., Flora 21(2): 88 (1838). Type: 'Crescit in campis editis Prov. Matto Grosso, e. g. in Morro do Ernesto. Floret Aprili. Oreas.'

Eupatorium ramosissimum Gardner, London J. Bot. 6: 441 (1847). Type: [Brazil:] 'HAB. Margins of woods near Villa de Arrayas, Province of Goyaz. March, 1840.' [Gardner] 4206. isotypes: NY (00169178, 00169179, 00806525)

Eupatorium crenatum Gardner, London J. Bot. 6: 441 (1846). Type: [Brazil:] 'Hab. Near Villa de Arrayas, Province of Goyaz. April 1840.' [Gardner] 3829. Holotype BM; isotypes K × 2, NY (00168934, 00168935, 00168936).

Eupatorium dichotomum Sch.Bip. ex Miq., Stirp. Surinam. Select. : 184 (1850). Type: 'In Surinamo legerunt cl. HOSTMANN et KAPPLER (Herb. n^o. 1273).' Holotype: U; isotype: NY (00335329).

Eupatorium venosum Mart. ex Baker in Mart., Fl. Bras. 6(2): 281 (1876), nom. nud. pro syn.

Eupatorium squalidum DC. var. *β caleoides* Baker in Mart., Fl. Bras. 6(2): 282 (1876). Types: [Brazil:] 'Prov. Goyaz in Serra d'Ourada et ad Rio Ayapite: *Pohl* n. 602; inter Corallinho et S. Isidoro: *Pohl*; in campis circa urbem Goyaz: *Burchell* n. 7107; prov. Minas Geraës ad Lagoa Santa: *Warming*; loco non indicato: *Sello* n. 578.'

Osmia caleoides Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 282 (1876), nom. nud. pro syn.

Osmia trifoliata Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 282 (1876), nom. nud. pro syn.

Eupatorium squalidum DC. var. *γ tomentosum* Baker in Mart., Fl. Bras. 6(2): 282 (1876). Types: [Brazil:] 'Ad Cuiaba prov. Mato Grosso: *Manso* n. 89, 150, 167; in Brasilia occidentali: *Tamberlik*; prope Goyaz: *Pohl* n. 291, *Burchell* n. 6935, 6950; in campis ad S. Paulo: *Martius*.'

Osmia tomentosa Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 282 (1876), nom. nud. pro syn.

Eupatorium squalidum DC. var. *δ subvelutina* (DC.) Baker in Mart., Fl. Bras. 6(2): 282 (1876).

Eupatorium sitiense Hieron., Bot. Jahrb. Syst. 22(4-5): 751 (1897). Types: [Brazil:] 'Minas Geraës: im Camp bei Sitio (*H. Schenk* 20. März 1887, n. 3184 und 3197).' Syntypes: B†. (S).

**Eupatorium squalidum* DC. var. *rusbyanum* B. L. Rob., Proc. Amer. Acad. Arts 55: 34 (1919). Type: 'BOLIVIA: at Guanai in Prov. Laraceja, Dept. La Paz, alt. 610 m., May, 1886, *Rusby*, no. 1623'. Holotype: NY (00169204 - ex Columbia College Herbarium); isotype: NY (0019205 - ex College of Pharmacy Herbarium), US (01401203).

Bolivia (Bení, La Paz, Santa Cruz), Brazil, Guyana, ?Paraguay, Peru, Venezuela. Note: Cabrera (1996) did not list this taxon for Paraguay.

Grassy open cerrado, sandy soils, amongst rocks, roadsides and path edges.

0–3000 m.

December–July.

Chromolaena squarrosoramosa (Hieron.) R. M. King & H. Rob., Phytologia 20(3): 206 (1970).

**Eupatorium squarrosoramosum* Hieron., Bot. Jahrb. Syst. 22(4-5): 753 (1897). Types: [Argentina:] 'Tucuman: im Camp bei Estancia La Cruz (*LOR[ENTZ]*., 20–24 April 1872, n. 187). Salta: in der Quebrada de San lorenzo unweit Salta (*LOR. u. HIERON.*, 9. März 1873).' Syntypes: B†; isosyntyple (*Lorentz & Hieronymus* 187): CORD.

Eupatorium oyadense Hieron., Bot. Jahrb. Syst. 22(4-5): 755 (1897). Types: [Argentina:] 'Salta: bei la Oyada und einem anderen Ort im Flussgebiet des Rio del Tala an der Grenze der Provinz Tucuman (*LOR[ENTZ]*. u. *HIERON[YMUS]*., 5. Febr. 1873, n. 1203 und Febr. 1873, n. 531).' Syntypes: B†; isosyntypes: CORD.

Eupatorium oyadense Hieron. var. *paraguayense* Hieron., Bot. Jahrb. Syst. 22(4-5): 756 (1897). Type: 'Nord-Paraguay: bei Esperanza (*O. KUNTZE*, Sept. 1892).' Holotype: B†; isotype: NY (00169133).

Chromolaena oyadensis (Hieron.) R. M. King & H. Rob., Phytologia 20(3): 204 (1970).

Argentina, Bolivia (Tarija), Brazil, Paraguay.

November–May.

Note: Hieronymus (1897) placed in 'synonymy' '*E. squarrulosum* Griseb., Plant. Lorentz. p. 119. n. 397, Symb. p. 168. n. 1003. partim, non Hook. & Arn.'. Chodat (1902: 307) listed *Balansa* 939 as the type collection of *Eupatorium ivifolium* var. *foliosum* Chod., repeated also by Cabrera (1996). However, this collection was one of the syntypes listed in the protologue of *Eupatorium luquense* Chod. (Chodat, 1901: 413).

Chromolaena stachyophylla (Spreng.) R. M. King & H. Rob., Phytologia 20(3): 206 (1970).

**Eupatorium stachyophyllum* Spreng., Syst. Veg., ed. 16, 3: 420 (1826). Type: 'Brasil. *Sello*.' Holotype: P.

Eupatorium subalternifolium DC., Prodr. 5: 152 (1836). Types: '■ in Brasiliae prov. Minarum General. ad Serra do Frio (*Vauth.*! n. 335), in campis editis prov. Sancti-Paulo (*Lund* herb. n. 851!). ... (v. s.)' Syntypes: G-DC.

Eupatorium scaberrimum Walp., Linnaea 14: 505 (1840). Type: 'In Brasiliae Campos boa Perna legit *Luschnath*.' Holotype: B†.

Chromolaena alternifolia Gardner, London J. Bot. 5: 465 (1846). Type: [Brazil:] 'HAB. Dry hills near Morro Velho, Province of Minas Gerais, Brazil. Fl. in Sept.' [Gardner] 4860.
Eupatorium pulchrum Gardner, London J. Bot. 6: 444 (1847), nom. superfl., pro *Chromolaena alternifolia* Gardner
Eupatorium claussenii Gardner, London J. Bot. 6: 445 (1847). Type: 'HAB. Province of Minas Geraes, Brazil. Claussen.' Holotype: K.
Bolivia (?), Brazil.
September–June.

Chromolaena subscandens (Hieron.) R. M. King & H. Rob., Phytologia 20(3): 207 (1970).
Eupatorium subscandens Hieron., Bot. Jahrb. Syst. 22(4–5): 742 (1897). Type: 'Bolivien: in der Nähe von Cochabamba (MIG. BANG, 1891, n. 1208, als *E. conyzoides* verteilt).' Holotype: B†; isotypes: GH, ?NY, US.
Bolivia (Cochabamba).

Chromolaena toldensis (Hieron.) R. M. King & H. Rob., Phytologia 20(3): 207 (1970).
**Eupatorium toldense* Hieron., Bot. Jahrb. Syst. 40(3): 378 (1908). Type: 'Bolivia: prope Toldos haud procul a pago Bermejo, alt. s. m. 1800 m, locis campestribus sparse herbis obsitis (K. FIEBRIG n. 2371; 8. m. Dec. 1903).' Holotype: B†; isotype: S.
Argentina, Bolivia (Tarija).
1000–2000 m.
November–December.

Chromolaena tunariensis (Hieron.) R. M. King & H. Rob., Phytologia 20(3): 207 (1970).
E. conyzoides Vahl var. *tunariensis* Hieron., Bot. Jahrb. Syst. 22(4–5): 742 (1897). Types: 'Bolivien: bei Tunari um 2400 m über Meer (O. KUNTZE, April, Mai 1892); in der Sierra bei Santa Cruz (O. KUNTZE, Mai 1892).' Syntypes: B†; isosyntypes: NY (00168921 – 'bei Sierra de Sa Cruz', 00168922 – 'Tunari').
**Eupatorium tunariense* (Hieron.) B. L. Rob., Contr. Gray Herb. 61: 39 (1920).
Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz).
Mountain pastures, rocky slopes.
840–2400 m.
April–May.

Chrysanthellina Cass., Dict. Sci. Nat. 25: 391 (1828) = **Chrysanthellum** Rich. in/ex Pers.

Chrysanthellum Rich. in Pers., Syn. Pl. 2: 471 (1807).
Sebastiania Bertol., Lucubr. : 37 (1822). Type: *Sebastiania heterophylla* Bertol. = *Chrysanthellum americanum* (L.) Vatke
Collaea Spreng., Syst. Pl. 3: 622 (1826). Type: *Collaea procumbens* (Rich. ex Pers.) Spreng. (based on *Chrysanthellum procumbens* Rich. ex Pers., nom. illegit. superfl.) = *Chrsanthellum americanum* (L.) Vatke
Chrysanthellina Cass., Dict. Sci. Nat. 25: 391 (1828). Type: not specified.
Adeospermum Hook. & Arn., J. Bot. (Hooker) 3(No. 22): 318 (1841). Type: *Adenospermum tuberculatum* Hook. & Arn. = **Chrysanthellum indicum** DC. ssp. **afroamericanum** B. L. Turner
Hinterhubera Sch.Bip., Flora 25(2): 419 (1842), nom. nud, non Sch.Bip. ex Wedd. (1857). Note: The name *Hinterhubera kotschyi* Sch.Bip. ex Hochst., (= **Chrysanthellum indicum** DC. ssp. **afroamericanum** B. L. Turner) had appeared in Flora 24(1, Intelligenzblatt, I. Nro. 3): 42 (1841), in a list of 'species' of 'new genera' but all were also *nomina nuda*.

Type: *Anthemis americana* L. = *Chrysanthellum americanum* (L.) Vatke

References

Ariza Espinar, L. & M. M. Cerana (1983). Una nueva especie de *Chrysanthellum* (Compositae) del centro de Argentina. Bol. Soc. Argent. Bot. 22(1–4): 267–273.

Turner, B. L. (1982). New species and combinations in *Chrysanthellum* (Asteraceae-Coreopsidae). Phytologia 51(4): 291–293.

Turner, B. L. (1988). Taxonomic study of *Chrysanthellum* (Asteraceae, Coreopsideae). Phytologia 64(6): 410–444.

**Chrysanthellum americanum* (L.) Vatke, Abh. Naturwiss. Vereine Bremen 9: 122 (1885) was recorded by Foster (1958: 206) but is not present in Bolivia; material is referable to *Chrysanthellum indicum*. *Chrysanthellum americanum* is a species of North and Central America and some of the Caribbean Islands.

Chrysanthellum argentinum Ariza & Cerana, Bol. Soc. Argent. Bot. 22(1-4): 267 (1983) = **Chrysanthellum indicum** DC. ssp. **afroamericanum** B. L. Turner

Chrysanthellum boliviense Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865), nom. nud. = **Chrysanthellum indicum** DC. ssp. **afroamericanum** B. L. Turner

Chrysanthellum indicum DC. ssp. **afroamericanum** B. L. Turner, Phytologia 51(4): 291 (1982). Type: 'ARGENTINA. Prov. Cordoba, Dept. Colon; Rio Ceballos, 15 Mar 1944, C. A. O'Donnell & J. M. Rodrigues V. 501'. Holotype: A; isotypes: ?F, LIL, ?UC.

Adenospermum tuberculatum Hook. & Arn., J. Bot. (Hooker) 3(No. 22): 318 (1841). Types: [Argentina:] 'Province of Cordova; Dr. Gillies. Cordova; Tweedie, (n. 1109).' Lectotype (selected by Turner, 1988: 432): 'ARGENTINA, Prov. Cordoba, Cordoba. "On hillsides and hard dry soils", w/o date, L. Tweedie 1107 (not 1109 as cited).' - K.

Hinterhubera kotschyi Sch.Bip. ex Hochst., Flora 24(1, Intelligenzblatt, I. Nro. 3): 42 (1841), nom. nud., illegit. Turner (1988: 433) cited a type (*Kotschy* 175) for this name giving a page reference in Flora 24(2) which is a prose text 'Zusätze und Verbesserungen zur Synopsis Florae Germanicae et Helveticae'. Where the name does appear, q.v. there is no associated description, nor specimen citation. The binomial, followed by the generic name, also appeared in Flora 25(2): 419 (1842), although neither appeared with a validating descriptions or diagnosis in Latin or German.

**Plagiocheilus erectus* Rusby, Mem. Torrey Bot. Club 4(3): 212 (1895). Type: [Bolivia:] '[Cochabamba, 1891][Bang] 965.' Holotype: NY (00232688); isotypes: K, US (00049209), Z (000003799).

Chrysanthellum boliviense Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); Linnaea 34(5): 536 (Feb. 1866), nom. nud. [based on Mandon 295].

Chrysanthellum weberbaueri Chung, Phytologia 14(6): 321 (1967). Type: 'Peru, Weberbauer 6465.' Holotype: F (629085); isotypes: GH (4801), S, US (1876711). Note: In Brako & Zarruchi (1993) this was accepted as a distinct species in opposition to Turner's revision.

Chrysanthellum tuberculatum (Hook. & Arn.) Cabrera, Bol. Soc. Argent. Bot. 15(1): 117 (1973).

Chrysanthellum indicum DC. var. *afroamericanum* B. L. Turner, Phytologia 51(4): 291 (1982). Type: see subspecies.

Chrysanthellum argentinum Ariza & Cerana, Bol. Soc. Argent. Bot. 22(1-4): 267 (1983). Type: 'ARGENTINA. Prov. La Rioja: Dpto. San Martín: Estancia El Tala, Bajo Hondo, potrero 21 Anderson 2629, 27-XI-1972.' Holotype: CORD.

Argentina, Bolivia (Cochabamba, La Paz, Potosí, Santa Cruz, Tarija), Peru. Turner (1988: 433) suggested that it was possibly introduced in 'relatively recent times' into both Brazil and Africa (where it is now widespread throughout, north to south and east to west).

A weedy plant of gardens, disturbed areas, open stony grassland.
0-2720 m.

Flowering throughout the year.

Cochabamba: Wood et al. 23067 (K).

Potosí: Wood et al. 23235 (K).

Santa Cruz: Mendoza & Calzadilla 776 (K, USZ), Wood et al. 24057 (K, USZ).

Tarija: Wood 21375 (K).

Note: Ariza Espinar (2000: 35) still treated this entity as *Chrysanthellum tuberculatum* rather than recognize a more widespread species with an equally widespread subspecies.

Chrysanthellum indicum DC. var. *afroamericanum* B. L. Turner, Phytologia 51(4): 291 (1982) = **Chrysanthellum indicum** DC. ssp. **afroamericanum** B. L. Turner

Chrysanthellum tuberculatum (Hook. & Arn.) Cabrera, Bol. Soc. Argent. Bot. 15(1): 117 (1973) =

Chrysanthellum indicum DC. ssp. **afroamericanum** B. L. Turner

Chrysanthellum weberbaueri Chung, Phytologia 14(6): 321 (1967) = **Chrysanthellum indicum** DC. ssp. **afroamericanum** B. L. Turner

Chrysanthemum L., Sp. Pl. 887 (1753); Gen. Pl., ed. 5: (1754).

Chrysanthemum parthenium* (L.) Bernh., Syst. Verz. Planz. Erfurt. : 145 (1800) = **Tanacetum parthenium (L.) Sch.Bip.

'*Chrysastrum* Willd. ex Wedd., *Chloris Andina* 1: 211 (1857)' appears in various references, sometimes as a 'nom. nud.', but was certainly not mentioned in *Chloris Andina* by Weddell, and could only be inferred by the following 'manuscript' name mentioned in the text.

Chrysastrum sagittatum Willd. ex Wedd., *Chloris Andina* 1: 211 (1857), nom. nud. = **Munnozia senecionidis** Benth.

Chrysocoma L., Sp. Pl. : 840 (1753) & Gen. Pl. ed. 5 : 364 (1754).

Chrysocoma aphylla Vell., Fl. Flum. : 324 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 1 (1831) = **Baccharis aphylla** (Vell.) DC.

Chrysocoma cruciata Vell., Fl. Flum. : 326 (1825)[7 Sept. - 28 Nov. 1829] = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.

Chrysocoma herbacea Vell., Fl. Flum. : 330 (1825)[7 Sept. - 28 Nov. 1829] = **Vernonia obovata** Less.

?*Chrysocoma maculata* Vell., Fl. Flum. : 325 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 6 (1831) = **Chromolaena odorata** (L.) R. M. King & H. Rob.

Chrysocoma nuda Vell., Fl. Flum. : 335 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 50 (1831) = **Baccharis aphylla** (Vell.) DC.

Chrysocoma repanda Vell., Fl. Flum. : 327 (1825)[7 Sept. - 28 Nov. 1829] = **Vernonia scorpioides** (Lam.) Pers.

Chrysogonum L. sect. *Baltimora* (L.) Baill., Hist. Fam. Pl. : 232 (1882) = **Baltimora** L.

Chrysolaena H. Rob., Proc. Biol. Soc. Washington 101(4): 956 (1988) = **Vernonia** Schreb.

Chrysolaena desertorum (Mart. ex DC.) Dematteis, Ann. Bot. Fennici 44(1): 62 (2007) = **Vernonia desertorum** Mart. ex DC.

Chrysolaena herbacea (Vell.) H. Rob., Proc. Biol. Soc. Washington 101(4): 956 (1988) = **Vernonia obovata** Less.

Chrysolaena simplex (Less.) Dematteis, Ann. Bot. Fenn. 44(1): 62 (2007) = **Vernonia simplex** Less.

Chrysomelea Tausch, Hortus Canal. 1 (Decas Prima): [unpaginated] sub t. 4 (1823) = **Coreopsis** L.

Chrysostemma Less., Syn. Gen. Comp. : 227 (1832) = **Coreopsis** L.

Chrysothamnus Nutt. sect. *Diplostephioides* Benth. & Hook. f., Gen. Pl. 2(1): 255 (1873) = **Llerasia** Triana

Chthonia Cass., Dict. Sci. Nat. 9: 173 (1817) = **Pectis** L.

Chuquiraga Juss. sect. *Erinesa* D. Don, Trans. Linn. Soc. London 16(2): 287 (1830) = **Dasyphyllum** Kunth

Chuquiraga Juss., Gen. Pl. : 178 (1789).

Johannia Willd., Sp. Pl. 3(3): 1705 (1803), homotypic syn.

Joannesia Pers., Syn. Pl. 2: 383 (1807), orth. var.

Joannea Spreng., Anleit. ed. 2, 2(2): 535 (1818), orth. var.

Type: **Chuquiraga jussieui** J. F. Gmel.

References

Ezcurra, C. (1985). Revision del genero *Chuquiraga* (Compositae-Mutisieae). Darwiniana 26(1-4): 219-284.

Gaspar, F. C. (1945). Las especies Argentinas del género *Chuquiraga*. Revista Argent. Agron. 12(3): 157-173.

Tovar, O. (1952). Revision de las especies peruanas del genero *Chuquiraga*. Publ. Mus. Hist. Nat. 'Javier Prado', Ser. B., Bot. 5: 1-29.

Key to species

1. Leaf lamina ovate, elliptic or oblong (less frequently lanceolate), margins flat, with mid-rib prominent beneath; axillary spines present (exceptionally reduced or absent) (sect. *Chuquiraga*) 2
 Leaf lamina triangular-lanceolate, margins involute, mid-rib not prominent; axillary spines always absent (sect. *Acanthophylla*) 5
2. (1) Capitula large, more than 3 cm tall; corollas more than 17 mm long; anthers 15–20 mm long (ser. *Chuquiraga*) 3
 Capitula medium or small, less than 3 cm tall; corollas less than 16 mm long; anthers 8–12 mm long *Ch. parviflora*
3. (2) Leaves alternate and spiralled, frequently imbricate; involucre turbinate with (10–) 30–50 florets; phyllaries 8–10-seriate *Ch. jussieui*
 Leaves opposite in upper branches; capitula with less than 30 florets; phyllaries 6–9-seriate 4
4. (3) Involucre narrowly cylindrical-campanulate to cylindrical-turbinate; phyllaries acute, outer generally pungent; leaves acute, very frequently coriaceous *Ch. spinosa* ssp. *australis*
 Involucre campanulate; phyllaries obtuse and mucronate; leaves oblong-lanceolate to narrowly elliptic, subcoriaceous *Ch. longiflora*
5. (1) Inner phyllaries acute; leaves open but not divergent from stem *Ch. atacamensis*
 Inner phyllaries obtuse; leaves spreading and diverging markedly from stems *Ch. acanthophylla*

***Chuquiraga acanthophylla** Wedd., *Chloris Andina* 1: 5 (1855). Type: 'Hab. BOLIVIE: plaines de la province de Cinti!, au sud du Rio Pilcomayo, h. 3500 mètres (Wedd.).' Holotype: P; isotype: LP.

Chuquiraga punensis Gasper, *Revista Argent. Agron.* 12(3): 166 (1945). Type:[Argentina] 'Jujuy, Yaví, cerca La Quiaca.' [A. L. Cabrera, 7780]. Holotype: LP.

Argentina, Bolivia (Chuquisaca, Tarija).

Puna.

3500–4000 m.

January–March.

Chuquiraga alpestris Barb. Rodr., *Plantas Novas Cult Jard. Bot. Rio de Janeiro* 4: 20, tab. 5 (1894) =

Dasyphyllum velutinum (Baker) Cabrera

Chuquiraga armata* J. Koster, *Blumea* 5(3): 662 (1945) = **Dasyphyllum armatum (Koster) Cabrera

Chuquiraga atacamensis Kuntze, *Revis. Gen. Pl.* 3(3): 141 (1898), nom. nov. pro *Chuquiraga glabra* Phil.. Type: [Kuntze (1898) cited 'Atacama-Wüste: Ascotan.' but *Ch. atacamensis* is not listed by Wetter & Zanoni (1985).]

Chuquiraga glabra Phil., *Anales Mus. Nac. Chile, Bot.* 8: 30 (1891), non *Ch. glabra* (Spreng.) Baker (1882)(=

Dasyphyllum brasiliense (Spreng.) Cabrera var. **brasiliense**). Types: 'Ad Cebollar et Colorados lecta.'

Pizzaro (1960: 136) cited SGO 62551, 43861 & 43860.

Argentina, Bolivia (Potosí), Chile.

Puna.

3000–4500 m.

December–February.

Vernacular names: CANDELA, RAMA AMARILLA (Ezcurra, 1985); SAN PEDRO (Gaspar, 1945: 166).

Chuquiraga brasiliensis* (Spreng.) Kuntze, *Revis. Gen. Pl.* 3(3): 141 (1898) = **Dasyphyllum brasiliense (Spreng.) Cabrera

Chuquiraga brasiliensis* (Spreng.) Kuntze var. *divaricata* (Griseb.) Kuntze, *Revis. Gen. Pl.* 3(3): 141 (1898) = **Dasyphyllum brasiliense (Spreng.) Cabrera var. **divaricatum** (Griseb.) Cabrera

Chuquiraga canodlleana (Gardner) Baker in *Mart., Fl. Bras.* 6(3): 358 (1884) = **Dasyphyllum candolleianum** (Gardner) Cabrera

Chuquiraga chapadensis S. Moore, *Trans. Linn. Soc., Bot. ser.* 2, 4(3): 389 (1895) = **Dasyphyllum latifolium** (Gardner) Cabrera

Chuquiraga chrysantha Gard. var. *longiflora* Griseb., *Abhand. Königl. Ges. Wis. Göttingen* 19([1]): 195 (1874) = **Chuquiraga longiflora** (Griseb.) Hieron.

Chuquiraga doniana (Gardner) Cabrera var. *velutina* (Baker) Toledo, Fl. Dist. Ibiti: 130 (1947) = **Dasyphyllum velutinum** (Baker) Cabrera

Chuquiraga ferox* (Wedd.) Britton, Bull. Torrey Bot. Club 19: 266 (1892) = **Dasyphyllum ferox (Wedd.) Cabrera

Chuquiraga glabra (Spreng.) Baker in Mart., Fl. Bras. 6(3): 363 (1884) = **Dasyphyllum brasiliense** (Spreng.) Cabrera

Chuquiraga glabra Spreng. var. *hassleriana* (Chodat) Chodat, Bull. Herb. Boissier, Ser. 2, 3(9): 781 (1903) = **Dasyphyllum brasiliense** (Spreng.) Cabrera var. **varians** (Gardner) Cabrera

Chuquiraga glabra Spreng. var. *rectispina* Chodat, Bull. Herb. Boissier, Ser. 2, 3(9): 781 (1903) = **Dasyphyllum brasiliense** (Spreng.) Cabrera var. **varians** (Gardner) Cabrera

Chuquiraga glabra Spreng. var. *varians* (Gardner) Baker in Mart., Fl. Bras. 6(3): 363 (1884) = **Dasyphyllum brasiliense** (Spreng.) Cabrera var. **varians** (Gardner) Cabrera

Chuquiraga glabra Phil., Anales Mus. Nac. Chile, Bot. 8: 30 (1891), comb. illegit. = **Chuquiraga atacamensis** Kuntze

Chuquiraga hassleriana Chodat, Bull. Herb. Boissier, Ser. 2, 1(4): 418 (1901) = **Dasyphyllum brasiliense** (Spreng.) Cabrera var. **varians** (Gardner) Cabrera

Chuquiraga insignis (Willd.) Humb. & Bonpl., Pl. Aequinoct. 1: 153 (1813) = **Chuquiraga jussieui** J. F. Gmel.

Chuquiraga insignis* (Willd.) Humb. & Bonpl. var. δ *armata* Wedd., Chloris Andina 1: 3 (1855) = **Chuquiraga jussieui J. F. Gmel.

Chuquiraga insignis (Willd.) Humb. & Bonpl. var. *lancifolia* (Humb. & Bonpl.) Wedd., Chloris Andina 1: 3 (1855) = **Chuquiraga jussieui** J. F. Gmel.

Chuquiraga insignis (Willd.) Humb. & Bonpl. var. β *microphylla* (Humb. & Bonpl.) DC., Prodr. 7: 9 (1838) = **Chuquiraga jussieui** J. F. Gmel.

Chuquiraga jussieui J. F. Gmel., Syst. Nat., ed. 13, 2(2): 1205 (1796). Type: not stated but referring back to Jussieu's Genera Plantarum : 178 (1789), 'Character ex sicco Jos. Jussæi specimine Peruviano Chuquiraga vernacule dicto.' Ezcurra (1985: 247) cited the following ' "Perou-herb. d. Jos. De Jussieu sans nom dans l'herbier. Chuquiragua foliis rusci minoris, capitulis cinaerae splendentibus ..." leg. Joseph de Jussieu, herb. A. L. de Jussieu no 8320.' Holotype: P-JU.

Johannia insignis Willd., Sp. Pl. 3: 1705 (1804). Type: 'Habitat in Peru, ■' Type: B-W (14990). Note: there are two sheets in B-W, and both indicate that this material was collected by *Humboldt*.

Chuquiraga peruviana J. St.-Hil., Expos. Fam. Nat. 1(2): 394 (1805). Type: 'Habite le Pérou, où il a été observé par J. de Jussieu.' Holotype: presumably P-JU.

Joannesia insignis (Willd.) Pers., Syn. Pl. 2: 383 (1807).

Chuquiraga microphylla Humb. & Bonpl., Pl. Aequinoct. 1: 151 (1813). Type: 'Habitat in altis et frigidis montibus Peruviae.' Holotype: P-Bonpl.

Chuquiraga insignis (Willd.) Humb. & Bonpl., Pl. Aequinoct. 1: 153 (1813).

Chuquiraga lancifolia Humb. & Bonpl., Pl. Aequinoct. 1: 153 (1813). Type: 'Habitat in monte Antisana.' Holotype: P-Bonpl.

Chuquiraga insignis (Willd.) Humb. & Bonpl. var. β *microphylla* (Humb. & Bonpl.) DC., Prodr. 7: 9 (1838).

Chuquiraga insignis (Willd.) Humb. & Bonpl. var. *lancifolia* (Humb. & Bonpl.) Wedd., Chloris Andina 1: 3 (1855).

**Chuquiraga insignis* (Willd.) Humb. & Bonpl. var. δ *armata* Wedd., Chloris Andina 1: 3 (1855). Type: '... BOLIVIE (γ et δ): lieux sablonneux près d'Acoraimes!, sur le lac de Titicaca, h. 3900 mètres (Wedd.); Chivisivi! (Pentland).' Lectotype (selected by Ezcurra, 1985: 247, but as holotype): 'BOLIVIE: Chivisivi, Vallée de la Paz alt. 8500 a 1200 [sic!] p. angl.; 1839', leg M. Pentland.' - P.

Chuquiraga pseudoruscifolia Muschl., Bot. Jahrb. Syst. 50(2/3), Beibl. 111: 93 (1913). Types: 'Peruvia: Supra Cuyocuyo, in provincia Sandia, in graminosis fruticibus solitariis intermixtis, 3600-3800 m s.m. (WEBERBAUER n. 936. - Specim. florig. fructiferaque. - 3. Maii 1902). - Departamento Puno, ad rupes, 4200 m s.m. (WEBERBAUER n. 500. - Specim. florig. - 2. Martii 1902). Via ad Ocos, Departamento Ancachs, provincia Cajatambo, in declivibus, 4400-4500 m s.m. (WEBERBAUER n. 2805. - Florens 6. Aprilis 1903). - La Oroya, ad rupes, 3700 m s.m. (WEBERBAUER sin. num. - Florens 22. Novembris 1902).' Syntypes: B†.

**Chuquiraga jussieui* J. F. Gmel. var. *lancifolia* (Humb. & Bonpl.) J. Koster, Blumea 5(3): 662 (1945).0 Bolivia (La Paz), Colombia, Ecuador, Peru.

Humid Puna, Puna Peruana.

(2200-) 3000-4500 m.

Flowering throughout the year.

Vernacular names: CHUQUIRAGUA, CHUQUIRAGUA, SAÑI (Ecuador), KISAURA, CKENTAI (Peru) (Ezcurra, 1985).

**Chuquiraga jussieui* J. F. Gmel. var. *lancifolia* (Humb. & Bonpl.) J. Koster, *Blumea* 5(3): 662 (1945) =
Chuquiraga jussieui J. F. Gmel.

Chuquiraga lancifolia Humb. & Bonpl., *Pl. Aequinoct.* 1: 153 (1813) = **Chuquiraga jussieui** J. F. Gmel.

Chuquiraga latifolia (Gardner) Baker in *Mart., Fl. Bras.* 6(3): 357 (1884), comb. illegit. non D. Don (1830) =
Dasyphyllum latifolium (Gardner) Cabrera

***Chuquiraga longiflora** (Griseb.) Hieron., *Pl. Diaphoricae* : 165 (1882).

**Chuquiraga oppositifolia* D. Don var. β *macrocephala* Wedd., *Chloris Andina* 1: 3 (1855). Types: 'Hab. BOLIVIE (α et β): Cordillères de Tacopaya! et de Tarabuco!, dans la province de la Laguna (*d'Orbigny*); dépt. de Chuquisaca, dans la région alpestre (*Wedd.*) – CHILE: commun dans la Cordillère d'Ovalle!, etc. (*Gay, Poeppig*).' Syntypes: P. Lectotype (selected by Ezcurra, 1985: 251- but as holotype): "Prov. Tarija, I-1846; In declivibus praeruptis aridis. ...", leg. *Weddell* 3994' – P.

Chuquiraga chrysantha Gardner var. *longiflora* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19([1]): 195 (1874). [Pl. *Lorentz.* : 147 (1874)]. Type: 'Nom. vernac. Azafran. Tucuman, in declivitate superiori montium supra Cienega. (»Andes Boliviae et Chile«).' Ezcurra (1985: 251) cited 'ARGENTINA: " Bis manshoher sparsam vera stelter Strauch hoch über der Cienega am oestl. Berghande, Sierra de Tucuman, 25-III-1872", leg. *Lorentz* 141.' Holotype: GOET; isotype: GH (4844).

Argentina, Bolivia (Tarija).

High altitude pasture.

2500–3000 (4000) m.

February–March.

Vernacular name: AZAFRÁN (Grisebach, 1874: 195; Gaspar, 1945: 163).

Chuquiraga mattogrossensis Malme, *Kongl. Svensk. Vetenskapsakad. Handl.* 32(5): 77 (1899) = **Dasyphyllum latifolium** (Gardner) Cabrera

Chuquiraga microphylla Humb. & Bonpl., *Pl. Aequinoct.* 1: 151 (1813) = **Chuquiraga jussieui** J. F. Gmel.

*?*Chuquiraga oppositifolia* Gillies & D. Don, *Phil. Mag.* 11: 392 (1832). Cited in Foster (1958: 206), but not in Ezcurra (1985) as present in Bolivia, only as varieties as synonyms, q.v. Cabrera (1978: 569) cited the species, but within the synonymy included *C. parviflora* and its synonyms, q.v.

Chuquiraga oppositifolia* D. Don var. β *macrocephala* Wedd., *Chloris Andina* 1: 3 (1855) = **Chuquiraga longiflora (Griseb.) Hieron.

Chuquiraga oppositifolia* D. Don var. α *microcephala* Wedd., *Chloris Andina* 1: 3 (1855) = **Chuquiraga parviflora (Griseb.) Hieron.

Chuquiraga orbignyana Hieron. ex Muschl., *Bot. Jahrb. Syst.* 50, *Beibl.* 111: 93 (1914), as nom. nov. pro *Flotovia hystrix* Wedd. = **Dasyphyllum hystrix** (Wedd.) Cabrera

***Chuquiraga parviflora** (Griseb.) Hieron., *Bot. Jahrb. Syst.* 49: 231 (1913).

Chuquiraga oppositifolia* D. Don [var.] α *microcephala* Wedd., *Chloris Andina* 1: 3 (1855). Types: see listing under **C. longiflora. Lectotype (selected by Ezcurra, 1985: 255, but as holotype): 'BOLIVIA: " ... cordilleres de Tarabuco et Tacopaya, Prov. de La Lagune", leg. *D'Orbigny* 1164' – P.

Chuquiraga spinosa (Ruiz & Pav.) D. Don var. *parviflora* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19([1]): 195 (1874). Types: 'Catamarca, ubi praecipue fruticeta constituit in reg. Cardones, et in convalle Tembladera pr. Fuerte de Andalgalá. (»Andes Peruv. – Chile«).' Syntypes: *Lorentz* 405, 411, GOET. Ezcurra (1985: 255) merely cited the same locality together with one syntype: '3/I/1872, *Lorentz* 411', GOET.

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí, Santa Cruz, Sucre, Tarija).

Rocky slopes, [humid alpine] pastures, open alpine woodland, deep river gullies.

2000–3500 m.

November–April.

Chuquisaca: *Ortuño* et al. 373, Sucre, 13.4.2004 (K).

Cochabamba: *Wood* 22069 (K).

Santa Cruz: *Mendoza & Acebo* 944 (K, USZ).

Chuquiraga peruviana J. St.-Hil., *Expos. Fam. Nat.* 1(2): 394 (1805) = **Chuquiraga jussieui** J. F. Gmel.

Chuquiraga pseudoruscifolia Muschl., Bot. Jahrb. Syst. 50(2/3), Beibl. 111: 93 (1913) = **Chuquiraga jussieui** J. F. Gmel.

Chuquiraga punensis Gaspar, Revista Argent. Agron. 12(2): 166 (1945) = **Chuquiraga acanthophylla** Wedd.

Chuquiraga racemosa Baker in Mart., Fl. Bras. 6(3): 363 (1884) = **Dasyphyllum brasiliense** (Spreng.) Cabrera

Chuquiraga rotundifolia* Wedd., Chloris Andina 1: 4 (1855) = **Chuquiraga spinosa Less. ssp. **rotundifolia** (Wedd.) Ezcurra. Although cited by Foster (1958: 206) as present in Bolivia, this subspecies is only recorded for Chile and Peru.

Chuquiraga spinosa Less., Linnaea 5(2): 259 (April 1830), non (Ruiz & Pav.) D. Don (= *Barnadesia dombeyana* Less.). Type: '*Dombey* in Peru s. Chili. (v. sp. 1. in hrb. Kth.)' Holotype: ?B. Note: Kunth's original herbarium was in B (presumed destroyed), and this may well be where Lessing saw this *Dombey* collection.

ssp. **australis** Ezcurra, Darwiniana 26(1-4): 245 (1985). Type: 'ARGENTINA, Prov. Jujuy: Dep. Humahuaca, Mina Aguilar, 18-I-53, leg. *Sleumer 3484*.' Holotype: SI.

Argentina, Bolivia (Potosí), Chile.

Rocky slopes, Altiplano.

3500-4500 m.

December-February.

Chuquiraga spinosa Less. var. *parviflora* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 195 (1874) =

Chuquiraga parviflora (Griseb.) Hieron.

Chuquiraga sprengeliana (Gardner) Baker var. *chapadensis* (S. Moore) Hassler, Repert. Spec. Nov. Regni Veg. 12(22/24): 371 (1913) = **Dasyphyllum latifolium** (Gardner) Cabrera

Chuquiraga sprengeliana (Gardner) Baker var. *mattogrossensis* (Malme) Hassler, Repert. Spec. Nov. Regni Veg. 12(22/24): 371 (1913) = **Dasyphyllum latifolium** (Gardner) Cabrera

Chuquiraga sprengeliana (Gardner) Baker f. *paraguariensis* Hassler, Repert. Spec. Nov. Regni Veg. 12(22/24): 370 (1913) = **Dasyphyllum latifolium** (Gardner) Cabrera

Chuquiraga sprengeliana (Gardner) Baker f. *subinermis* Hassler, Repert. Spec. Nov. Regni Veg. 12(22/24): 371 (1913) = **Dasyphyllum latifolium** (Gardner) Cabrera

Chuquiraga urceolata Mattf., Notzbl. Bot. Garten Mus. Berlin-Dahlem 9(85): 394 (1925) = **Dasyphyllum candolleanum** (Gardner) Cabrera

Chuquiraga varians* (Gardner) Rusby, Bull. New York Bot. Gard. 4(14): 399 (1907) = **Dasyphyllum brasiliense (Spreng.) Cabrera var. **varians** (Gardner) Cabrera

Chuquiraga velutina Baker in Mart., Fl. Bras. 6(3): 358 (1884) = **Dasyphyllum velutinum** (Baker) Cabrera

Chylodia Rich. ex Cass., Dict. Sci. Nat. 29: 491 (1823) = **Tilesia** G.Mey.

Chylodia sarmentosa (Rich.) Rich. ex Cass., Dict. Sci. Nat. 29: 490 (1823) = **Tilesia baccata** (L.) Pruski

Cineraria L., Sp. Pl. ed. 2: 1242 (1763) & Gen. Pl. ed. 6: 426 (1764).

Cineraria brasiliensis Spreng., Neue Entd. 2: 142 (Jan 1821) = **Senecio brasiliensis** (Spreng.) Less.

Cineraria stipulacea Willd. ex Less., Linnaea 5(1): 36 (1830), nom. nud. pro syn. = **Jungia rugosa** Less.

Cirsium Mill. subgen. *Breea* (Less.) Tzvelev, Novosti Sist. Vyssh. Rast. 28: 148 (1991) = **Cirsium** Mill.

Cirsium Mill., Gard. Dict. abr. ed. 4, 1 (1754).

Ixine Hill, Veg. Syst. 4: 17 (1762), nom. illegit. non Loefl. (1758)[POLYGALACEAE]. Type: Not stated.

Tetralix Hill, Veg. Syst. 4: 17 (1762), non Griseb. (1866) [TILIACEAE]. Type: *Tetralix eriophora* (L.) Hill = *Cirsium eriophorum* (L.) Scop.

Breea Less., Syn. Gen. Comp. : 9 (1832). Type: not stated.

Cephalanophlos Neck., Elem., 1: 68 (1790), nom. inval., publ. in opera utiq. oppr..

Cephalonoplos Fourr., Ann. Soc. Linn. Lyon., n.s. 17: 95 (1869). Type: *Cephalonoplos arvensis* (L.) Fourr. = *Cirsium arvense* L.

Cirsium Mill. subgen. *Breea* (Less.) Tzvelev, Novosti Sist. Vyssh. Rast. 28: 148 (1991).

Lectotype: *C. heterophyllum* (L.) J. Hill (*Carduus heterophyllus* Linnaeus) (vide Britton & Brown, III. Fl. N.U.S. ed. 2. 3: 548. 7 Jun 1913)

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Arènes, J. (1947). A propo de *Cirsium lanceolatum* Hill et de *Cirsium lanceolatum* Scop. Not. Syst. Mus. Nat. d'Hist. Nat. Paris 13(1-2): 59-60.

Klinghamer, P. G. L. & T. J. DeJong. (1993). Biological flora of the British Isles. *Cirsium vulgare* (Savi) Ten. (*Carduuus lanceolatus* L.; *Cirsium lanceolatum* (L.) Scop., non Hill). J. Ecol. 81(1): 177-191.

Talavera, S & B. Valdés. (1976). Revisión del género *Cirsium* (Compositae) en la Península Ibérica. Lagascalia 5: 127-223.

- Cirsium abyssinicum* Sch.Bip. ex A. Rich., Tent. Fl. Abyss.: 456 (1848) = **Cirsium vulgare** (Savi) Ten.
Cirsium balearicum (Willk.) Porta, Nuovo Giorn. Bot. Ital. 19: 309 (1887) = **Cirsium vulgare** (Savi) Ten.
Cirsium crinitum Boiss. ex DC., Prodr. 7: 305 (1838) = **Cirsium vulgare** (Savi) Ten.
Cirsium crinitum Boiss. ex DC. var. *balearicum* Willk., Ill. Fl. Hispan. 2: 20 (1886) = **Cirsium vulgare** (Savi) Ten.
Cirsium dubium Lojac., Fl. Sicul. (Lojacono) 2(1): 155 (1903) = **Cirsium vulgare** (Savi) Ten.
Cirsium firmum (C. Presl) Arcang., Comp. Fl. Ital., ed. 2: 722 (1894) = **Cirsium vulgare** (Savi) Ten.
Cirsium lanceolatum (L.) Scop., Fl. Carn. ed. 2, 2: 130 (1772), non Hill (1769), nom. illegit. = **Cirsium vulgare** (Savi) Ten.
Cirsium lanceolatum (L.) Scop. var. *abyssinicum* (Sch.Bip. ex A. Rich.) Chiov. in Ann. Ist. Bot. Roma 8: 194 (1904) = **Cirsium vulgare** (Savi) Ten.
Cirsium lanceolatum (L.) Scop. ssp. *crinitum* (Boiss. ex DC.) Bonnier & Layens, Tabl. Syn. Pl. Vasc. France : 175 (1894) = **Cirsium vulgare** (Savi) Ten.
Cirsium lanceolatum (L.) Scop. ssp. *hypoleucum* (DC.) Beger in Hegi, Ill. Fl. Mitt. 6(2): 875 (1928/29) = *Cirsium vulgare* (Savi) Ten.
Cirsium lanceolatum (L.) Scop. var. *hypoleucum* DC., Prodr. 6: 636 (1838) = **Cirsium vulgare** (Savi) Ten.
Cirsium lanceolatum (L.) Scop. var. *nemorale* (Rchb.) Naegli ex Koch, Syn. Fl. Germ. Helv. ed. 2, pt. 3: 990 (1845) = **Cirsium vulgare** (Savi) Ten.
Cirsium lanceolatum (L.) Scop. var. *oligocephalum* Erdner, Fl. Neuburg : 500, nom. illegit. non Schur (1866) = **Cirsium vulgare** (Savi) Ten.
Cirsium lanceolatum (L.) Scop. ssp. *savianum* Arènes, Not. Syst. Mus. Hist. Nat. Paris 13(1-2): 60 (1947), nom. superfl. pro. *Cirsium lanceolatum* ssp. *lanceolatum* = **Cirsium vulgare** (Savi) Ten.
Cirsium lanceolatum (L.) Scop. ssp. *silvaticum* (Tausch) Arènes, Not. Syst. Mus. Hist. Nat. Paris 13(1-2): 60 (1947) = **Cirsium vulgare** (Savi) Ten.
Cirsium linkii Nyman, Syll. Fl. Eur. : 23 (1854-55), as nom. nov. pro *Cnicus strigosus* Hoffmanns. & Link = **Cirsium vulgare** (Savi) Ten.
Cirsium lucanicum Lojac., Naturalista Sicil. 3: 283 (1884) = **Cirsium vulgare** (Savi) Ten.
Cirsium microcephalum Lange in Willk. & Lange, Prodr. Fl. Hispan. 2: 185 (1865), nom. illegit. non Moris (1843) = **Cirsium vulgare** (Savi) Ten.
Cirsium misilmerense Ces. Pass., & Gibelli, Comp. Fl. Ital. : 483 (1878) = **Cirsium vulgare** (Savi) Ten.
Cirsium nemorale Rchb., Fl. Germ. Exc. Sect. 2: 286 (1831) = **Cirsium vulgare** (Savi) Ten.
Cirsium silvaticum Tausch, Flora 12(1) Ergänzungsblätter : 38 (1829) = **Cirsium vulgare** (Savi) Ten.
Cirsium strigosum (Hoffmanns. & Link) Cout., Fl. Portug., ed. 2: 766 (1939), comb. et nom. illegit. non Fisch. (1812) = **Cirsium vulgare** (Savi) Ten.
Cirsium vulgare (Savi) Airy-Shaw, Repert. Spec. Nov. Regni Veg. 43(17-20): 304 (1938), comb. superfl. = **Cirsium vulgare** (Savi) Ten.

Cirsium vulgare (Savi) Ten., Fl. Nap. 5: 209 (1836).

Carduus lanceolatus L., Sp. Pl.: 821 (1753). Type: 'Habitat in Europaeae cultis ruderatis.' Lectotype (selected by Talavera & Valdés, 1976: 197): Herb. Linn. 966.1 (LINN). Note: See additional commentary by Jarvis (2007: 385).

Ascalea lanceata Hill., Hort. Kew. : 60 (1768), nom. nud.

- Ascalea lanceolata* (L.) Hill., Herb. Brit. 1: 72, tab 51, fig. 2 (1769).
- Cirsium lanceolatum* (L.) Scop., Fl. Carn. ed. 2, 2: 130 (1772), non Hill (1769), nom. illegit.
- Cnicus lanceolatus* (L.) Willd., Fl. Berol. Prodr.: 259 (1787).
- Carduus spinosissimus* Gerbi, Stor. Nat. Nuov. Insetto : 8, 9 (1794), nom. illegit., non Walt., Fl. Carol. : 194 (1788) (= *Cirsium horridulum* Michx.), nec (L.) Scop. (1769). Type: [Original publication not seen.]
- Carduus vulgaris* Savi, Fl. Pis. 2: 241 (1798). Type: [Italy, Pisa:] 'E comunissime lungo i fossi.' Holotype: PI.
- Cynara lanceata* (Hill) Stokes, Bot. Mat. Med. 4: 155 (1812).
- Cnicus firmus* C. Presl, Delic. Prag.: 107 (1822). Type: 'Hab. in arvi prope Panormum Siciliae. fl. Jun. Jul.'
Holotype: PR.
- Lophiolepis dubia* Cass., Dict. Sci. Nat. 27: 183 (1823), nom. illegit. based on *Carduus lanceolatus* L.
- Cnicus strigosus* Hoffmanns. & Link, Fl. Portug. 2: 191 (1825), nom. illegit. non M. Bieb. (1808). Type: 'Près de Cea et autrepant dans les contrées froide du royaume.' Holotype: ?B† or in B-W.
- Eriolepis lanceolata* (L.) Cass., Dict. Sci. Nat. 41: 331 (1826).
- Cirsium silvaticum* Tausch, Flora 12(1) Ergänzungsblätter : 38 (1829). Type: 'Habitat in humidis silvaticis Bohemiae ad Hozowitz. [2 annual symbols]' Holotype: PR.
- Cirsium nemorale* Rchb., Fl. Germ. Exc. Sect. 2: 286 (1831). Type: 'Im Walde von Lindenthal bei Leipzig van 1810 - 20 beobachtet, auch cultivirt. Jul. Aug. ■ Holotype: Original Reichenbach herbarium destroyed in 1949 but part, via his son, is now in W, and duplicates widespread.
- Cirsium lanceolatum* (L.) Scop. var. *hypoleucum* DC., Prodr. 6: 636 (1838). Type: 'in Occitaniâ, Siciliâ, insulis maris Egei. Reich. fl. exc. 286? (v. s.)'. Note: There are several specimens annotated as this variety in G-DC, but none bearing the Reichenbach exsiccata number. The only specimen agreeing with the locality is an Aucher Eloy collection.
- Cirsium crinitum* Boiss. ex DC., Prodr. 7: 305 (1838). Types: 'in Hispaniâ Granatensi legit cl. Boissier! et circa Narbonem cl. Requien! ... (v. s.)'. Syntypes: G-DC. Note: Images of these two specimens are included within those of vol. 6, under p. 636.
- Cirsium lanceolatum* (L.) Scop. var. *nemorale* (Rchb.) Naegeli ex Koch, Syn. Fl. Germ. Helv. ed. 2, pt. 3: 990 (1845).
- Cirsium abyssinicum* Sch.Bip. ex A. Rich., Tent. Fl. Abyss.: 456 (1848). Types: [Ethiopia:] 'Crescit in provinciis Choho et chiré et circa Memessah (*Quartin Dillon et Ant. Petit*), et in arvis novalibus prope Tchenausa in provincia Semièrè, mense Aprili florens (*Schimper [Cirsium abyssinicum C. H. Schultz in pl. Schimp. Abyss., sect. II, 1321]*).' Syntypes P; isosyntype: *Schimper* 1321, BM, K, UPS.
- Cirsium linkii* Nyman, Syll. Fl. Eur. : 23 (1854-55), as nom. nov. pro *Cnicus strigosus* Hoffmanns. & Link
- Cirsium microcephalum* Lange in Willk. & Lange, Prodr. Fl. Hispan. 2: 185 (1865), nom. illegit. non Moris (1843). Type: 'In campis asperis ad urb. Bilbao, frequ. LGE! - ■ Oct. (v. s.)'. Holotype: C.
- Cnicus lanceolatus* (L.) Willd. var. *abyssinicus* (Sch.Bip. ex A. Rich.) Vatke in Linnaea 39: 510 (1875).
- Cirsium misilmerense* Ces. Pass., & Gibelli, Comp. Fl. Ital. : 483 (1878). Type: 'Sotto Misilmeri (Sicilia).'
Holotype: RO.
- Cirsium lucanicum* Lojac., Naturalista Sicil. 3: 283 (1884). Type: [Original publication not seen.]
- Cirsium crinitum* Boiss. ex DC. var. *balearicum* Willk., Ill. Fl. Hispan. 2: 20 (1886). Type: not cited, except as reference to 'Index plantar. Balear. 280'. Holotype: ?COI.
- Cirsium balearicum* (Willk.) Porta, Nuovo Giorn. Bot. Ital. 19: 309 (1887).
- Cirsium lanceolatum* (L.) Scop. ssp. *crinitum* (Boiss. ex DC.) Bonnier & Layens, Tabl. Syn. Pl. Vasc. France : 175 (1894).
- Cirsium firmum* (C. Presl) Arcang., Comp. Fl. Ital., ed. 2: 722 (1894).
- Cirsium dubium* Lojac., Fl. Sicul. (Lojacono) 2(1): 155 (1903). Type: [Italy: Sicily] 'Fiume di Misilmeri presso il Paese Tin! Regalbuto Tod. Luglio.' Holotype: PAL.
- Cirsium lanceolatum* (L.) Scop. var. *abyssinicum* (Sch.Bip. ex A. Rich.) Chiov. in Ann. Ist. Bot. Roma 8: 194 (1904).
- Cirsium lanceolatum* (L.) Scop. var. *oligocephalum* Erdner, Fl. Neuburg : 500, nom. illegit. non Schur (1866).
Type: [Original publication not seen.]
- Cirsium lanceolatum* (L.) Scop. ssp. *hypoleucum* (DC.) Beger in Hegi, Ill. Fl. Mitt. 6(2): 875 (1928/29).
- Cirsium vulgare* (Savi) Airy-Shaw, Repert. Spec. Nov. Regni Veg. 43(17-20): 304 (1938), comb. superfl.
- Cirsium strigosum* (Hoffmanns. & Link) Cout., Fl. Portug., ed. 2: 766 (1939), comb. et nom. illegit. non Fisch. (1812).
- Cirsium lanceolatum* (L.) Scop. ssp. *savianum* Arènes, Not. Syst. Mus. Hist. Nat. Paris 13(1-2): 60 (1947), nom. superfl. pro. *Cirsium lanceolatum* ssp. *lanceolatum*

Cirsium lanceolatum (L.) Scop. ssp. *silvaticum* (Tausch) Arènes, Not. Syst. Mus. Hist. Nat. Paris 13(1-2): 60 (1947).

Cirsium vulgare (Savi) Ten. var. *hypoleucum* (DC.) Clapham, Fl. Brit. Isles: 1096 (1952).

Cirsium vulgare (Savi) Ten. f. *erdneri* Soó, Acta Bot. Acad. Sci. Hung. 18(1-2): 177 (1973), nom. nov. pro *Cirsium vulgare* var. *oligocephalum* Erdner (1811)

Cirsium vulgare (Savi) Ten. var. *nemorale* (Rchb.) Tzvelev, Fl. Evropejskoj Chasti SSSR 7: 240 (1994).

Cirsium vulgare (Savi) Ten. var. *litorale* P. D. Sell, Fl. Gt. Brit. Ireland 4: 531 (2006). Type: 'Frequent along the shingle beach, Snettisham Scalp, W. Norfolk, v.c. 28, 53/649339, 15 July 1987, P. D. Sell no. 87/211 and L. C. Nicol'. Holotype: CGE.

Widespread in Europe, North Africa, East Africa (Kenya), W Asia, 'Arabia', North and Central America. Naturalized in Australasia, Chile. Bolivia (Cochabamba).

Roadside verges near to cultivated areas and habitation.

0-3500 m.

March-May.

Cochabamba: *Wood & Mercado* 20836 (K).

Notes: Soó (1967) also provided a number of combinations at the level of forma etc., none of which have been included in the considerable synonymy above.

Cirsium vulgare (Savi) Ten. f. *erdneri* Soó, Acta Bot. Acad. Sci. Hung. 18(1-2): 177 (1973), nom. nov. pro *Cirsium vulgare* var. *oligocephalum* Erdner (1811) = **Cirsium vulgare** (Savi) Ten.

Cirsium vulgare (Savi) Ten. var. *hypoleucum* (DC.) Clapham, Fl. Brit. Isles: 1096 (1952) = **Cirsium vulgare** (Savi) Ten.

Cirsium vulgare (Savi) Ten. var. *litorale* P. D. Sell, Fl. Gt. Brit. Ireland 4: 531 (2006) = **Cirsium vulgare** (Savi) Ten.

Cirsium vulgare (Savi) Ten. var. *nemorale* (Rchb.) Tzvelev, Fl. Evropejskoj Chasti SSSR 7: 240 (1994) = **Cirsium vulgare** (Savi) Ten.

Cladoseris (Less.) Spach, Hist. Veg. Phan. 10: 35 (1841), nom. illegit. superfl. = **Onoseris** Willd.

Claotrachelus Zoll. & Moritz ex Zoll., Natuur-Geneesk. Arch. Ned Indië 2: 263 (1845) = **Vernonia** Schreb.

Clarionea Lag. ex DC., Ann. Mus. Hist. Nat. Paris 19: 65 (1812) = **Perezia** Lag.

Clarionea Cass., Opusc. Phytol. 2: 165 (1826), nom. illegit., non *Clarionea* Lag. ex DC. = **Perezia** Lag.

Clarionea atacamensis (Phil.) Reiche, Anales Univ. Chile 116: 425 (1905) = **Perezia purpurata** Wedd.

Clarionea ciliaris (D. Don ex Hook. & Arn.) DC., Prodr. 7: 61 (1838) = **Perezia ciliaris** D. Don ex Hook. & Arn.

Clarionea ciliosa Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 35 (1891) = **Perezia ciliosa** (Phil.) Reiche

Clarionea macrocephala Sch.Bip., Berberid. Amer. Austr. : 57 (1857), nom. nud. = **Perezia pungens** (Humb. & Bonpl.) Less.

Clarionea pinnatifida (Humb. & Bonpl.) DC., Prodr. 7: 62 (1838) = **Perezia pinnatifida** (Humb. & Bonpl.) Wedd.

Clarionea polycephala Cass., Opus. Phytol. 2: 167 (1826), nom. illegit. as nom. nov. pro *Chaetanthera multiflora* Humb. & Bonpl. = **Perezia multiflora** (Humb. & Bonpl.) Less.

Clarionema Phil., Linnaea 28: 717 (1858) = **Perezia** Lag.

Clarionia D. Don, Trans. Linn. Soc. London 16(2): 204 (1830), orth. var. *Clarionea* Lag. ex DC. = **Perezia** Lag.

Clarionia pungens (Humb. & Bonpl.) D. Don, Phil. Mag. 11: 388 (1832) = **Perezia pungens** (Humb. & Bonpl.) Less.

Clavigera DC., Prodr. 5: 127 (1836) = **Brickellia** Elliott

Clibadium L., Mant. Pl. : 161 (1771).

Baillieria Aubl., Hist. Pl. Guiane 2: 804, t. 317 (1775). Type: *Baillieria aspera* Aubl. = *Clibadium surinamense* L.

Trixis Sw., Prodr. : 115 (1788), non P. Br., Civ. Nat. Hist. Jamaica [MUTISIEAE]. Type: *Trixis aspera* (Aubl.) Sw. = *Clibadium surinamense* L.

Oswaldia Cass., Dict. Sci. Nat. 59: 322 (1829). Type: *Oswaldia baillierioides* Cass. = *Clibadium surinamense* L.

Orsinia Bertol. ex DC., Prodr. 5: 104 (1836). Type: *Orsinia eupatoria* DC. = ***Clibadium armanii*** (Balb.) Sch.Bip.

Trichapium Gilli, Feddes Repert. 94: 312 (1983). Type: *Trichapium strigosum* Gilli = *Clibadium manabiense* H. Rob.

Type: *Clibadium surinamense* L.

References

Arriagada, J. E. (2003). Revision of the genus *Clibadium* (Asteraceae, Heliantheae). *Brittonia* 55(3): 245–301.

Robinson, H. (2006). *Clibadium*. In: G. Harling & L. Andersson (eds), *Flora of Ecuador*, No. 77(1): 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 84–113.

Schulz, O. E. (1912). Beiträge zur Kenntnis der Gattung *Clibadium*. *Bot. Jahrb. Syst.* 46(5): 613–628.

Key to species [**C. surinamense* is added to the key just in case it is eventually recognized as occurring in Bolivia and for comparison with *C. peruvianum*]

1. Paleae subtending only female florets; phyllaries strigose, apices acute or acuminate to mucronate 2
Paleae subtending all florets (sometimes with 1–2 central florets not subtended by pleae); male floret corollas 3-lobed; phyllaries glabrous, apices obtuse *C. micranthum*
2. (1) Male floret corollas 4-lobed; phyllaries 5-veined; achenes villous; leaf margins serrate to crenate-serrate to serrate-dentate **C. surinamense*
Male floret corollas 5-lobed; phyllaries 7-veined; achenes glabrous; leaf margins finely and irregularly serrate or mucronate-dentate 3
3. (2) Leaves membranaceous, apices acute, bases attenuate, margins finely and irregularly serrate; male florets 19; phyllaries 3, 7-veined; achenes glabrous *C. peruvianum*
Leaves subcoriaceous, rigid, apices acuminate, bases rounded, margins mucronate-dentate; male florets <10; phyllaries 3–4, 5-veined; achenes setuliferous towards apex *C. armanii*

Clibadium armanii (Balb.) Sch.Bip. ex O. E. Schulz, *Bot. Jahrb. Syst.* 46(5): 616 (1912).

Eupatorium armanii Balb., Hort. Taur. Stirp. 1: 27, t. 6 (1810). Type: 'Quoniam hanc Eupatorii speciem obtinui e seminibus a cl. superius laudato Viro Philippo Armano missis, ut publicam grati animi mei significationem tribuerem, tanti amici et viri praestantissimi nomine insignire existimavi./Planta colitur in olla, hyeme in tepidario collocatur. Floret Augusto. Fruticans.' Holotype: TO.

Clibadium rotundifolium DC., Prodr. 5: 505 (1836). Types: '■ in Brasiliâ circa Bahiam legerunt cl. Salzmänn [36], Blanchet [722], etc., in prov. Sancti-Pauli (h. Mus. Bras. n. 466). ... (v.s.)'. Syntypes: Salzmänn 36 & Blanchet 722, G-DC. Syntype: 'h. Mus. Bras. 466', P. Isosyntypes: Salzmänn 36, K × 2. Lectotype (selected by Arriagada, 2003: 283): Blanchet 632, NY (00345475). Note: This is a little odd since there is a perfectly good specimen in G-DC! There is also other material in G-DC with this name.

Clibadium armanii (Balb.) Sch.Bip., *Linnaea* 30: 80 (1859/60), nom. nud.

Clibadium armanii (Balb.) Sch.Bip. ex Baker in Mart., *Fl. Bras.* 6(3): 152 (1884), comb. illegit. pro syn.

Bolivia (Santa Cruz), Brazil, Paraguay.

Gallery forest, disturbed areas, margins of wet cerrado.

200–1600 m.

November – March.

Santa Cruz: Wood et al. 20007 (K), Wood et al. 26377 (K, USZ).

Note: Arriagada (2003: 283) cited '*Clibadium armanii* (Balb.) Sch.Bip. ex O. E. Schulz, *Linnaea* 30: 180. 1859.', an impossibility since Schulz (1874–1936) could not have made the combination at that date! The combination dates from Schulz's revision.

**Clibadium asperum* (Aubl.) DC., Prodr. 5: 506 (1836). Note: Foster (1958: 206) recorded this name, a synonym of *Clibadium surinamense* L., a species not recorded for by Bolivia by Arriagada (2003).

Clibadium heterotrichum* S. F. Blake, *Contr. Gray Herb.* 52: 3 (1917) = *Clibadium peruvianum*** Poepp. in DC.

Clibadium micranthum O. E. Schulz, Bot. Jahrb. Syst. 46: 625 (1912). Type: 'Hab. in Peruvia: RUIZ n. 3.' Holotype: B† (photos F, GH, MO). Note: Arriagada (2003: 289), although noting that the holotype had been destroyed did not neotypify the name in his revision.
Bolivia (La Paz), Peru.
Secondary vegetation, disturbed areas.
700–1700 m.
April – December.

***Clibadium peruvianum** Poepp. in DC., Prodr. 5: 505 (1836). Type: '(Poepp.! pl. exs. n. 35. diar. n. 1611) ... ■ in Peruvia legit cl. Poeppig. (v.s.)'. Holotype: G-DC.

**Clibadium remotiflorum* O. E. Schulz, Bot. Jahrb. Syst. 46: 621 (1912). Types: 'Hab. in Brasilia in prov. Amazonas prope Sta. Maria de Marmellos in cultis m. Mart. fl. et fr.: E.ULE n. 6103; Bolivia ad vicum Cochabamba: MIGUEL BANG n. 1203'. Lectotype (selected by Arriagada, 2003: 281): *Bang* 1203 – K.

**Clibadium heterotrichum* S. F. Blake, Contr. Gray Herb. 3(52): 3 (1917). Type: 'Bolivia: Polo-Polo, near Coroico, Distr. La Paz, 1100 m., Oct.-Nov. 1912, *Buchtien* sine num.' Holotype: BM; isotypes: K, MO, US (01159072).

Clibadium psilogynum S. F. Blake, J. Wash. Acad. Sci. 21: 329 (1931). Type: 'PERU: Marcapata Valley, near Chilechile, Prov. Quispicanchi, Dept. Cuzco, 21 Feb. 1929, A. Weberbauer 7864'. Holotype: US (1442738); isotypes: F (605309), ?GH.

Clibadium vargasianum H. Rob., *Wrightia* 6: 46 (1979). Type: 'Peru: Madre de Dios: Prov. Manu: Carbón Salvacion, habitat monte alt 670 m., 24 Nov. 1965, *Vargas* 16928'. Holotype: US (2575351^A).

Argentina, Bolivia (Bení, Cochabamba, La Paz, Pando, Tarija), Peru.
Lowland rain forest, open woodland, riverbanks, seasonally inundated places.
100–1200 m.

Flowering throughout the year.

Bení: *Wood* 16277 (K).

Cochabamba: *Wood* 11700 (K), *Wood* 12780 (K).

Note: According to Robinson in Robinson et al. (2006a), as *C. remotiflorum*, this species is also recorded from W. Brazil, but this clearly refers to another species (probably *C. surinamense*).

Clibadium psilogynum S. F. Blake, J. Wash. Acad. Sci. 21: 329 (1931) = **Clibadium peruvianum** Poepp. in DC.

Clibadium remotiflorum* O. E. Schulz, Bot. Jahrb. Syst. 46: 621 (1912) = **Clibadium peruvianum Poepp. in DC.

Clibadium rotundifolium DC., Prodr. 5: 505 (1836) = **Clibadium armanii** (Balb.) Sch.Bip. ex E.O.Schulz

**Clibadium surinamense* L., Mant. Pl. Altera 2: 294 (1771). Note: Foster (1958: 206) cited both *C. asperum* (now considered a synonym of *C. surinamense*) and *C. surinamense*, yet Arriagada (2003) did not record the latter as present in Bolivia. *Bang* 1203, upon which Rusby recorded *C. surinamense* for Bolivia, is referred to *C. peruvianum*. However, Robinson (2006) noted the distribution of *C. surinamense* included Bolivia, but his synonymy also included *C. vargasianum* – considered a synonym of *C. peruvianum* by Arriagada. Jorgensen et al. (2005: 101) cited both *C. peruvianum* and *C. surinamense*; it remains to be seen if both are present.

Clibadium vargasianum H. Rob., *Wrightia* 6: 46 (1979) = **Clibadium peruvianum** Poepp. in DC.

Clybatis Phil., Anales Univ. Chile 41: 742 (1872) = **Leucheria** Lag.

Cnicothamnus Griseb., Abhand. Königl. Ges. Wiss. Göttingen 19([1]): 196 (1874); Pl. Lorentz.: 148 (1874).

Lefrovia Franch., J. Bot. (Morot) 2: 377 (1888). Type: *Lefrovia rhaponticoides* Franch. = **Cnicothamnus lorentzii** Griseb.

Type: **Cnicothamnus lorentzii** Griseb.

References

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Cabrera, A. L. (1944). Compuestas Sudamericanas: nuevas o críticas. *Notas Mus. La Plata, Bot.* 9(No. 46): 243–259.

Cabrera, A. L. (1954). *Polygyne* y *Lefrovia*, dos generos de Compuestas que deben ser pasados a la sinonimia. *Notas Mus. La Plata, Bot.* 17(No. 85): 167–171.

Cabrera, A. L. (1978). *Cnicothamnus*. In: Cabrera, A. L. (ed.), Flora de la Provincia de Jujuy, Republica Argentina. Parte X Compositae. Coeccion Cientifica de INTA, Buenos Aires. pp. 576–579.

Franchet, A. (1888). *Lefrovia*, genre nouveau de Mutisiacées. J. Bot. (Morot) 2(No. 21): 377–378.

Freire, S. A. (1996). *Cnicothamnus*. In: S. E. Freire & G. Sancho, Flora fanerogámica Argentina (A. T. Hunziker, Dir./Ed. in Chief), Fasc. 28. 280. Asteraceae (L. Ariza Espinar, Co-ord.), parte 3. Tribu XII. Mutisieae. ProFlora CONICET, Córdoba, Argentina. pp. 7–8. [1–17].

Key to species

| | |
|---|---------------------|
| Phyllaries apices dilated, rounded, margins lacinate, 4–8 mm wide | <i>C. lorentzii</i> |
| Phyllary apices lanceolate or rhomboid, 1–3 mm wide | <i>C. azafran</i> |

***Cnicothamnus azafran** (Cabrera) Cabrera, Notas Mus. La Plata, Bot. 9(No. 46): 256 (1944).

Cnicothamnus lorentzii Griseb. var. *azafran* Cabrera, Notas Mus. La Plata, Bot. 1(3): 55 (1935). Type: '[Argentina:] Salta: Río Maíz Gordo, leg. A. Ragonese, no. 334, 23-VII-1934'. Syntypes (no holotype indicated!): BA, LP.

Argentina, Bolivia (Cochabamba, Potosí, Santa Cruz, Tarija), Paraguay.

Transition between Chaco and Yungas, dry secondary scrub, rocky slopes, roadside banks, Bosque subhúmedo inferior interandino Boliviano-Tucumano (Boliviano-Tucumano interandean lower subhumid forest).

600–2600 m.

Flowering sporadically throughout the year.

Note: Cabrera (1935) originally provided only a citation of two syntypes (and one paratype), and later (Cabrera, 1944) repeated the citation of these syntypes, adding one other example of the taxon – *Cardenas* 2117, from Bolivia. It is also interesting that Cabrera (1935, 1944) indicated material only agreeing with the *Ragonese* type material (seen at K in a black and white photograph) – with long-acute/acuminate phyllaries. However, in illustrating the two species (Cabrera, 1978) an atypical capitulum and phyllaries of *C. azafran* were provided. There is only one herbarium sheet, *Cabrera et al.* 28015, that has two flowering branches mounted on it, the upper of which corresponds to *C. azafran* with long-acute phyllaries; the lowermost specimen has broader appendages.

Cochabamba: Wood 17767 (K).

Santa Cruz: Wood 16088 (K).

Vernacular names: AZAFRÁN; ARASO, ARASO YVYRA'Í (Cabrera, 1998).

***Cnicothamnus lorentzii** Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 197 (1874); Pl. Lorentz.: 149 (1874). Type: [Argentina] 'Tucuman, in declvitate occidentale m. Cuesta de S. Javier. [Lorentz 182]' Holotype: GOET.

Lefrovia rhaponticoides Franch., J. Bot. (Morot) 2 (No. 21): 378 (1888). Type: 'America meridionalis, in provincia Tarija (Bolivia), ubi detexit Weddell, mens. Jul. et Aug. 1846 (Herb. Mus. paris.; Wedd[ell]. n. 4040, sub *Diazeuxis*.' Holotype: P.

Argentina, Bolivia (Chuquisaca, Santa Cruz, Tarija).

Yungas, dry slopes, semideciduous forest, roadside banks, bosque Chaqueño, Bosque seco superior interandino del Pilcomayo-Pilaya (Pilcomayo-Pilaya interandean upper dry forest), Bosque seco Boliviano-Tucumano del subandino inferior (Boliviano-Tucumano lower subandean dry forest).

600–2200 m.

Flowering sporadically throughout the year.

Santa Cruz: Wood et al. 23059 (K, USZ), Wood et al. 24045 (K, USZ), Wood et al. 24062 (K, USZ).

Vernacular names: AZAFRÁN, AZAFRÁN DEL CAMPO.

Cnicothamnus lorentzii Griseb. var. *azafran* Cabrera, Notas Mus. La Plata, Bot. 1(3): 55 (1935) = **Cnicothamnus azafran** (Cabrera) Cabrera

Cnicus firmus C. Presl, Delic. Prag.: 107 (1822) = **Cirsium vulgare** (Savi) Ten.

Cnicus lanceolatus (L.) Willd., Fl. Berol. Prodr.: 259 (1787) = **Cirsium vulgare** (Savi) Ten.

Cnicus lanceolatus (L.) Willd. var. *abyssinicus* (Sch.Bip. ex A. Rich.) Vatke in Linnaea 39: 510 (1875) = **Cirsium vulgare** (Savi) Ten.

Cnicus strigosus Hoffmanns. & Link, Fl. Portug. 2: 191 (1825), nom. illegit. non M. Bieb. (1808) = **Cirsium vulgare** (Savi) Ten.

Coelestina cordata Pohl ex Baker in Mart., Fl. Bras. 6(2): 345 (1876), nom. nud. pro syn. = **Hebeclinium macrophyllum** (L.) DC.

Coelestina hastata Pohl ex Baker in Mart., Fl. Bras. 6(2): 363 (1876), nom. nud. pro syn. = **Barrosoa betoniciformis** (DC.) R. M. King & H. Rob.

Coleosanthus Cass., Bull. Sci. Soc. Philom. Paris 1817: 67 (1817) = **Brickellia** Elliott

Coleosanthus diffusus (Vahl) Kuntze, Revis. Gen. Pl. 1: 328 (1891) = **Brickellia diffusa** (Vahl) A. Gray

Coleosanthus tiliifolius [sub *tiliaefolius*] Cass., Dict. Sci. Nat. 24: 519 (1822) = **Hebeclinium macrophyllum** (L.) DC.

Collaea Spreng., Syst. Pl. 3: 622 (1826) = **Chrysanthellum** Rich. ex/in Pers.

Colobogyne Gagnep., Notul. Syst. (Paris) 4: 15 (1920) = **Acmella** Rich.

Complaya Strother, Syst. Bot. Monogr. 33: 10 (1991) = **Sphagneticola** O. Hoffm.

Complaya trilobata (L.) Strother, Syst. Bot. Monogr. 33: 14 (1991) = **Sphagneticola trilobata** (L.) Pruski

Condylidium R. M. King & H. Rob., Phytologia 24(5): 380 (1972).

Type: *Eupatorium iresinoides* Kunth = **Condylidium iresinoides** (Kunth) R. M. King & H. Rob.

Condylidium iresinoides (Kunth) R. M. King & H. Rob., Phytologia 24(5): 381 (1972).

**Eupatorium iresinoides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 83 (1818). Type: [Colombia:] 'Crescit in radicibus Andium Novo-Granatensium prope Ibague, alt. 750 hex. ■ Floret Septembri.' [Humboldt & Bonpland 'n. 1819']. Holotype: P-Bonpl.

Eupatorium sieberianum DC., Prodr. 5: 181 (1836). Type: '- in insulâ Trinitatis legit cl. Sieber. Mikania serratifolia Sieb.! fl. trin. exs. n. 72 non Kunth. ... (v.s.)'. Holotype: G-DC; isotypes: K, M.

Mikania serratifolia Sieber ex DC., Prodr. 5: 181 (1836), nom. nud. pro syn. (sub *Eupatorium sieberianum* DC.)

Eupatorium glumaceum DC., Prodr. 5: 181 (1836). Type: 'in insulâ Cubâ legit. cl. de la Ossa. ... (v. s.)'. Holotype: G-DC.

Eupatorium iresinoides Kunth var. *villosum* Steetz in Seem., Bot. Voy. Herald: 145 (1854), based on *Eupatorium iresinoides* Kunth

Eupatorium celosioides Willd. ex Steetz in Seem., Bot. Voy. Herald: 145 (1854), nom. nud. pro syn. (sub *Eupatorium iresinoides* var. *α villosum* Steetz)

Eupatorium exiguum Klotsch ex Steetz in Seem., Bot. Voy. Herald: 145 (1854), nom. nud., pro syn. (sub *Eupatorium iresinoides* Kunth var. *β glabrescens* Steetz)

Eupatorium iresinoides Kunth var. *breviflora* Hieron., Bot. Jahrb. Syst. 28(5): 573 (1900)[1901]. Type: 'Olim (anno 1843) in Horto Regio botanico Berolinensis culta est. Extat specimen satis mancum in herbario Regio berolinensi.'

Eupatorium wagneri Hieron., Bot. Jahrb. Syst. 40(3): 375 (1908). Type: 'Venezuela: loco non indicato (H. WAGENER n. 178)'. Holotype: B†.

Eupatorium macrum Standley & Steyermark, Publ. Field Mus. Nat. Hist., Bot. Ser. 23(4): 184 (1944). Type: 'Guatemala: Dept. Chiquimula: Rocky banks, base of Cerro Colorado, along Río Jocotán, near Jocotán, alt. 400 meters, November 9, 1939, Julian A. Steyermark 31534'. Holotype: F (1036063).

Bolivia (La Paz), Colombia, Cuba, Ecuador, Guatemala, Guyana, Honduras, Lesser Antilles, Nicaragua, Panama, Peru, Venezuela.

Scrub, semi-deciduous secondary forest, seasonal evergreen forest, open secondary vegetation. 0–2400 m.

September–November.

Britton (1891) cited 'Near La Paz, 10,000 ft. ([Rusby] 1637).'

Conoclinium DC., Prodr. 5: 135 (1836).

Conoclinium affine Gardner, London J. Bot. 5: 466 (1846) = **Barrosoa betoniciformis** (DC.) R. M. King & H. Rob.
Conoclinium betoniciforme DC., Prodr. 5: 135 (1836) = **Barrosoa betoniciformis** (DC.) R. M. King & H. Rob.
Conoclinium lasseauxii Durand, Ind. Sem. Hort. Burdigala : 15 (1872) = **Barrosoa candolleana** (Hook. & Arn.) R. M. King & H. Rob.
Conoclinium microcephalum Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 364 (1876), nom. nud. pro syn. = **Barrosoa candolleana** (Hook. & Arn.) R. M. King & H. Rob.
Conoclinium palustre Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 363 (1876), nom. nud. pro syn. = **Barrosoa betoniciformis** (DC.) R. M. King & H. Rob.
Conoclinium scandens Gardner, London J. Bot. 6: 437 (1847) = **Sphaereupatorium scandens** (Gardner) R. M. King & H. Rob.

Conopsis Nutt. ex Less., Syn. Gen. Comp. : 228 (1832), orth. err. pro *Coreopsis* L. = **Coreopsis** L.

Conyza Less. sect. *Caenotus* (Nutt.) Cronquist ex Cuatrec., Webbia 24: 211 (1969) = **Conyza** Less.
Conyza Less. sect. *Laennecia* (Cass.) Cuatrec., Webbia 24: 206 (1969), non *Conyza* Less. sect. *Laennecia* (Cass.) Cuatrec., Phytologia 9:1 (1963), comb. illegit. = **Laennecia** Cass.

Conyza Less., Syn. Gen. Comp. : 203 (1832), nom. cons.

Conyzella Fabric., Enum.: 86 (1759). Type: not stated.

Marsea Adans., Fam. 2: 122 (1763). Type: not stated.

Eschenbachia Moench, Meth.: 573 (1794). Type: *Eschenbachia globosa* Moench = *Conyza aegyptica* (L.) Ait.

Dimorphanthes Cass., Bull. Sci. Soc. Philom. Paris 1818: 30 (1818). Type: not originally stated as no valid combinations of the species transferred from *Erigeron* were made. Lectotype (designated by Nesom, 1990: 231): *Dimorphanthes aegyptica* (L.) Cass. = *Conyza aegyptica* (L.) Ait.

Fimbrillaria Cass., Bull. Sci. Soc. Philom. Paris 1818: 30 (1818). Type: not stated, but based on *Baccharis ivifolia* L. (= *Conyza ivifolia* (L.) Less.)

Leptilon Raf., Amer. Monthly Mag. : 268 (1818), nom. nud. (based on *Erigeron divaricatum* Michx.)

Erigeron L. sect. *Caenotus* Nutt., Gen. Pl. 2: 148 (1818). Type: not cited.

Edemias Raf., Fl. Tellur. 2: 49 (1836). Type: not cited. Lectotype (designated by Nesom, 1990: 232): *Conyza aegyptica* (L.) Ait.

Astradelphus Remy, Ann. Sci. Nat. Bot., ser. 3, 12: 185 (1849). Type: not stated. Note: the combination *Astradelphus chilensis* Remy is ascribed to this place but no such description or combination was made, and certainly no such epithet was combined with the generic name. Although the binomial appears in *Index Kewensis* 1(1): 226 (1893) it was in italics and therefore not accepted there.

Erigeron L. sect. *Conyza* (L.) Baillon, Hist. Pl. 8: 143 (1882), nom. inval.

Conyza Less. sect. *Caenotus* (Nutt.) Cronquist ex Cuatrec., Webbia 24: 211 (1969).

Type: *Conyza chilensis* Spreng. = **Conyza primulifolia** (Lam.) Cuatrec. & Lourteig

References

Burt, B. L. (1948). On *Erigeron bonariensis* Linn. Kew Bull. 3(3): 369–372.

Cronquist, A. (1943). The separation of *Erigeron* from *Conyza*. Bull. Torrey Bot. Club 70: 629–632.

Nesom, G. L. (1990). Further definition of *Conyza* (Asteraceae: Astereae). Phytologia 68(3): 228–232.

Pruski, J. F. (1998). Compositae of the Guayana Highland – XIII. New combinations in *Conyza* (Astereae), *Praxelis* (Eupatorieae), and *Riencourtia* (Heliantheae) based on names proposed by L.C.M. Richard. Brittonia 50(4): 473–482.

Zardini, E. M. (1976). Contribuciones para una monografía del genero *Conyza* Less. I. Bol. Soc. Argent. Bot. 17(1–2): 31–46.

Note: Foster (1958: 207) recorded *E. floribundus*, as well as *E. bonariensis*. Some authors would consider that *Conyza floribunda* is a synonym of *C. bonariensis*. The synonymy may well be augmented if Cabrera (1978) is followed. There was obviously some disagreement between Cuatrecasas (1969) and Cabrera (1978) over the

limits of *C. bonariensis* and *C. floribunda*, the former author placing the former species within his concept of *C. bonariensis*.

Key to species (originally modified from Cabrera, 1978, and Cuatrecasas, 1969)

1. Perennial herbs (or rarely biennials); lower leaves rosulate, sometimes loosely so, and cauline leaves reduced; capitula few in terminal corymbiform cymes 2
Annual herbs; cauline leaves numerous and similar to basal; capitula numerous 4
2. Low-growing herbs, 8–30 (–50) cm tall; basal leaves oblanceolate, entire; involucre 6–8 mm diam. *C. deserticola*
Robust herbs, 30–100 cm tall; basal leaves oblanceolate-spathulate, margins crenate or pinnatifid; involucre 7–12 mm diam. 3
3. (2) Margins of basal leaves crenate, rarely entire; basal leaves considerably larger than upper leaves; flowering stems simple and usually leafless beneath inflorescence; capitula 6–8 × 10–12 mm (c. 15–18 mm when pressed) *C. primulifolia*
Margins of basal leaves pinnatifid; basal leaves barely larger than upper leaves; flowering stem usually branched and leafy to apex; capitula 7 × 7 mm (c. 7–10 mm when pressed) *C. coronopifolia*
4. (2) Flexuous or erect herbs; leaves oblong-ovate or spatulate; stems simple or few-branched; inflorescence paniculate *C. laevigata* (= *apurensis*)
Erect robust herbs; leaves lanceolate or linear; branches ascending; inflorescences thyrsoid, many-headed 5
5. (4) Capitula 3–5 mm tall × 7–8 mm diam. (when pressed); female florets 40–50; achenes glabrous *C. canadensis*
Capitula 5–7 mm tall × 10–15 mm diam. (when pressed); female florets 60–120; achenes moderately setuliferous 6
6. (5) Lateral branches of inflorescence often overtopping main axis; phyllaries whitish inside; capitula c. 10 mm diam. when pressed; pappus white or pinkish *C. bonariensis*
Lateral branches of inflorescence not overtopping main axis; phyllaries chestnut brown inside; capitula < 10 mm diam when pressed; pappus straw-coloured *C. floribunda*

Note: *C. lignescens* is probably conspecific with larger plants of *C. deserticola*. *Conyza suffruticosa* will need to be added if present in Bolivia!

Conyza albida Willd. ex Spreng., Syst. Veg., ed. 16, 3: 514 (1826) = **Conyza bonariensis** (L.) Cronquist

Conyza alopecuroides Lam., Encycl. 2: 93 (1786) = **Pterocaulon alopecuroides** (Lam.) DC.

Conyza andicola* Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 38 (1891) = **Laennecia artemisiifolia (Meyen & Walp.) G. L. Nesom

Conyza apurensis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 57 (1818) = **Conyza laevigata** (Rich.) Pruski

Conyza artemisiifolia* (as *artemisioides*) Meyen & Walp., Nov. Actorum. Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 262 (1843) [non *C. artemisioides* Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 63 (1882) = *Baccharis linearifolia* (Lam.) Pers. s.l., sensu Müller, 2006] = **Laennecia artemisiifolia (Meyen & Walp.) G. L. Nesom

Conyza articulata Lam., Encycl. 2: 94 (1786) = **Baccharis articulata** (Lam.) Pers.

Conyza aurita L.f., Suppl. Pl. : 367 (1781) = **Pseudoconyza viscosa** (Mill.) D'Arcy

Conyza berteriana Phil., Linnaea 28: 737 (1836) = **Symphotrichum squamatum** (Spreng.) G. L. Nesom

Conyza bilbaoana Remy in Gay, Fl. Chilena 4: 75 (1849) = **Conyza floribunda** Kunth

Conyza bonariensis (L.) Cronquist, Bull. Torrey Bot. Club 70: 632 (1943).

**Erigeron bonariensis* L., Sp. Pl. : 863 (1753). Type: 'Habitat in America australi ♀'. Lectotype (selected by D'Arcy, 1975:1021): Herb. Linn. No. 994.11 (LINN).

Erigeron linifolium Willd., Sp. Pl., ed. 4, 3(3): 1955 (1804). Types: 'Habitat -- -- -- ♀ (v. v.)' Holotype: B-W (15685). Note: there are six sheets of this number in B-W, the sixth is marked '(Balbis ... Erigeron n. 20)' at the bottom of the sheet.

Conyza hispida Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 55 (1818). Type: 'Crescit et floret cum praecedente. ■' ['Crescit in alta planitie Mexicana ad litus lacus Tezcucensis, alt. 1170 hex. ■ Floret Majo.'] – [Humboldt & Bonpland 4154]. Holotype: P-Bonpl.; isotype: B-W ['4154 Mexique'].

Conyza albida Willd. ex Spreng., Syst. Veg., ed. 16, 3: 514 (1826). Type: 'Brasil. Hofmannsegg.' Holotype: P.
Conyza linearis DC., Prodr. 5: 378 (1836). Types: '■? in pratis et arvis sabulosis ad Quintero Chilensium legit
cl. Bertero [s.n.] januar. flor.; etiam video sine loci design. in h. Dombey [Dombey 55]. ... (v.s.)'. Syntypes: G-
DC.

Erigeron albidum (Willd. ex Spreng.) A. Gray, Proc. Amer. Acad. Arts 5: 319 (1861-62).

Conyza plebeja Phil., Anales Univ. Chile 87: 685 (1894). Type: 'Habitat in provinciae Santiago rudertatis, imo in
plateis et viis urbis.' ['Se halla en terrenos abandonados de la provincia Santiago como en las calles y
caminos de la ciudad.' 60846, 44231. - Pizarro, 1960: 139.]

Erigeron bonariensis L. var. *angustifolius* Cabrera, Revista Mus. La Plata, Secc. Bot. 4: 88 (1941). Type:
'ARGENTINA. -Chaco: Colonia Benítez, leg. A. G. Schulz, n° 217, II-1932'. Holotype: 'Cabr.' = LP.

Erigeron bonariensis L. var. *microcephala* Cabrera, Revista Mus. La Plata, Secc. Bot. 4: 88 (1941). Type:
ARGENTINA.-Buenos Aires: Sierra de la Ventana, vertiente, leg. A. L. Cabrera, n° 5160, 22-IV-1939'. Syntypes:
'LP, LPD, Cabr.' ≡ LP (× 2), LPD.

Conyza bonariensis (L.) Cronquist var. *angustifolia* (Cabrera) Cabrera, Man. Fl. Buenos Aires : 481 (1953).

Conyza bonariensis (L.) Cronquist var. *microcephala* (Cabrera) Cabrera, Man. Fl. Buenos Aires : 481 (1953).

*?*Erigeron tunariensis* Kuntze, Revis. Gen. Pl. 3(3): 146 (1898). Type: 'Boliva: 2400 m Tunarigebirge.' ['BOLIVIA.
Tunarigebirge, 2400 m, May 1892, Kuntze s.n.' - according to Wetter & Zanoni, 1985: 330] Holotype: NY
(00168667); isotype: US (00701898). Note: According to Zardini (1976: 45) an isotype existed in B (photo in
F).

?*Conyza tunariensis* (Kuntze) Zardini, Bol. Soc. Argent. Bot. 17: 45 (1976).

Bolivia (Cochabamba, Santa Cruz, Tarija). A widespread weed in the tropics, subtropics and temperate
region.

Vernacular names: CARNICERA, HIERBA CARNICERA, MATA NEGRA, SANGUINARIA (Freire et al., 2006).

Conyza bonariensis (L.) Cronquist var. *angustifolia* (Cabrera) Cabrera, Man. Fl. Buenos Aires : 481 (1953) =

Conyza bonariensis (L.) Cronquist

Conyza bonariensis (L.) Cronquist var. *leiotheca* (S. F. Blake) Cuatrec., Phytologia 9(1): 5 (1963) = **Conyza
floribunda** Kunth

Conyza bonariensis (L.) Cronquist var. *microcephala* (Cabrera) Cabrera, Man. Fl. Buenos Aires : 481 (1953) =
Conyza bonariensis (L.) Cronquist

Conyza canadensis (L.) Cronquist, Bull. Torrey Bot. Club 70(6): 632 (1943).

**Erigeron canadensis* L., Sp. Pl. : 863 (1753). Type: 'Habitat in Canada, Virginia, nunc in Europa australi. ■'
Lectotype (selected by D'Arcy in Woodson & Schery, 1975: 1022): Herb. Linn. No. 994.10 (LINN).

Leptilon canadense (L.) Britton & Brown, Ill. Fl. N. Amer. 3: 391 (1898).

Marsea canadensis (L.) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 256 (1946).

Native of North America south to Mexico and parts of Central America. Widespread and naturalized in
South America, e.g. Argentina, Bolivia, Brazil, etc., as well as Europe, Asia and throughout Africa.

Conyza carolinensis Jacq., Collect. 2: 271 (1789) = **Pluchea carolinensis** (Jacq.) D. Don

Conyza chilensis* Spreng., Novi Provent. :14 (1819) = **Conyza primulifolia (Lam.) Cuatrec. & Lourteig

Conyza chilensis Spreng. var. *auriculata* Griseb., Symb. Fl. Argent. 176 (1879) = **Conyza primulifolia** (Lam.)
Cuatrec. & Lourteig

Conyza clethrifolia [as *clethraefolia*] Willd. ex Baker in Mart., Fl. Bras. 6(2): 100 (1873), nom. nud. pro syn. =
Vernonia brasiliana (L.) Druce

Conyza coronopifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 55 (1818). Type:
'Crescit in alta planitie Mexicana ad litus lacus Tezcucensis, alt. 1170 hex. ■Floret Majo.' [Humboldt &
Bonpland 'n. 4155. Mexico']. Holotype: P-Bonpl.

**Conyza obtusa* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 56 (1818). Type: 'Crescit inter
urbem Mexici et Toluca, alt. 1350 hex. ■Floret Septembri.' Holotype: P-Bonpl.

?Bolivia (?), Ecuador, Mexico, Peru. Note: Foster (1958) recorded *C. obtusa* for Bolivia, yet Cuatrecasas (1969:
211) suggests a more northerly distribution for *C. coronopifolia*.

Conyza coulteri A. Gray var. *tenuisecta* A. Gray, Synop. Fl. N. Amer. 1(2): 221 (1884) = **Laennecia sophiifolia**
(Kunth) G. L. Nesom

- Conyza deserticola*** Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 38 (1891). Type: [Chile:] 'Prope Socaire et Paroma lecta c. 3800 m. s. m.' Holotype: SGO.
- Erigeron cinerascens* Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud.
- **Erigeron cinerascens* Sch.Bip. ex Wedd., Chloris Andina 1: 196 (1857). Type: 'E. (Alpina) cinerascens Schultz Bip., in Bonplandia, ann. 1856, p. 54. ... Hab. PÉROU: montagnes des environs d'Azangaro! (Lechler, exsicc., n. 1752). – BOLIVIE: sur les rochers autour de Potosi! (d'Orbigny).' Syntypes: P. NB. Two unnamed varieties 'α' and 'β' were mentioned under the species protologue.
- Conyza punensis* Cabrera, Revista Invest. Agric. 11(4): 403 (April 1958), as nom. nov. pro *E. cinerascens* Sch.Bip. ex Wedd.
- Argentina, Bolivia (Potosí), Chile, Peru.
- Conyza elata* Kunth & Bouché, Ind. Sem. Hort. Berol. : 14 (1848) = ***Conyza floribunda*** Kunth
- **Conyza evacioides* Rusby, Bull. New York Bot. Gar. 4: 385 (1907) = ***Laenneccia gnaphalioides*** (Kunth) G. L. Nesom
- Conyza floribunda*** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): (1818). Type: 'Crescit frequentissime locis frigidis et temperatis juxta urbem Quitu et pagum Guancabambæ Peruvianorum, alt. 1330 – 1500 hex. ■ Floret Julio – Augusto. [Humboldt & Bonpland 3100]' Holotype: P-Bonpl.
- Conyza elata* Kunth & Bouché, Ind. Sem. Hort. Berol. : 14 (1848). Type: 'Caracas. †. Moritz misit semina. Floret Septembri.' Holotype: ?B†.
- Conyza bilboana* Remy in Gay, Fl. Chilena 4: 75 (1849). Type/s: 'Se cria en la veciudad de Valdivia y la dedicamos al jóven Bilbao, Chileno de grande provecho y de mucho talento.' Type material presumably in P.
- Conyza myriocephala* Remy in Gay, Fl. Chil. 4: 76 (1849). Type: 'Se cria en las provincias centrales de la República.' Type material presumably in P.
- **Erigeron floribundus* (Kunth) Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865).
- Erigeron bonariensis* L. f. *glabrata* Speg., Anal. Soc. Ci. Argent. 48: 191 (1899). Type: 'Hab. vulgatus in dumetis secus flumen Rio Negro, Febr. 1898 (CS.)'. Note: Katinas et al. (2001: 62) noted that material of this taxon was not found in LP. Spegazzini's private herbarium, LPS, was transferred to LP in 1966. It is possible that material exists in either BAF, BAB or CORD.
- Erigeron bonariensis* L. var. *leiotheucus* S. F. Blake, Contr. Gray Herb. 52: 28 (1917). Type: GUATEMALA: San Rafael, Dept. Guatemala, 2135 m., 8 Jan. 1915, E. W. D. Holway 39'. Holotype: GH (6806).
- Erigeron bonariensis* L. var. *floribundus* (Kunth) Cuatrec., Trab. Mus. Nac. Ci.. Nat. Jard. Bot. Madrid, Ser. Bot. 33: 132 (1936).
- Erigeron bilboanus* (Remy) Cabrera, Revista Mus. La Plata, Secc. Bot. 2: 254 (1939).
- Marsea bonariensis* (L.) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 256 (1946).
- Marsea bonariensis* (L.) V. M. Badillo var. *leiotheuca* (S. F. Blake) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 256 (1946).
- Conyza bonariensis* (L.) Cronquist var. *leiotheuca* (S. F. Blake) Cuatrec., Phytologia 9(1): 5 (1963).
- A widespread weed in temperate and tropical South America and Central America and widely introduced elsewhere. Bolivia (?).
- Conyza genistelloides* Lam., Encycl. 2: 93 (1786) = ***Baccharis genistelloides*** (Lam.) Pers.
- **Conyza gnaphalioides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 57 (1818) = ***Laenneccia gnaphalioides*** (Kunth) G. L. Nesom
- Conyza hispida* Kunth in Humb., Bonpl. & Kunth, nov. Gen. Sp. Pl. 4 (ed. folio): 55 (1818) = ***Conyza bonariensis*** (L.) Cronquist
- Conyza kunthiana* DC., Prodr. 5: 379 (1836) = ***Belloa kunthiana*** (DC.) Anderb. & S. E. Freire
- Conyza laevigata*** (Rich.) Pruski, Brittonia 50(4): 475 (1998).
- Erigeron laevigatum* Rich., Actes Soc. Hist. Nat. Paris 1: 112 (1792). Type: not cited.
- Erigeron spathulatum* Vahl in West, Bidr. Beskr. Ste. Croix : 303 (1793). Type: not cited.
- Erigeron chinensis* Jacq., Pl. Hort. Schoenbr. 3: 30 (1798). Type: 'Ex Promontorio bonae Spei semina transmissa fuerunt sine titulo & solo cum monitu, esse ex China. ... Ex China. Floret sub dio aestate. ...' Holotype: ?
- Conyza apurensis* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 57 (1818). Type: 'Crescit in humidis Provinciae Varinensis juxta pagum Sancti Ferdinandi in ripa fluvii Apures, alt. 34 hex. ■ Floret

Majo.' [Humboldt & Bonpland 'Rio Apure, in humidis'; B-W: 'Rio Apure']. Pruski (1998: 475) cited the holotype as P-Bonpl. and the isotypes: B-W 15665, F (972184), P.
Conyza subspathulata Cronquist, Bull. Torrey Bot. Club 70(6): 632 (1943), as nom. nov. pro. *E. spathulatus* Vahl Argentina, Bolivia (Bení), 'Central America', Colombia, Mexico, Peru, Venezuela, West Indies. Note: Cuatrecasas (1969: 222) erroneously indicated that this species (as *C. apurensis*) was of Asian origin.

****Conyza lignescens*** Rusby, Bull. New York Bot. Gard. 4(14): 385 (1907). Type: [Bolivia:] '([Bang] No. 2873)'. Holotype: NY (00167654); isotypes: K, NY (00167655), US (00326028). Bolivia (?).

Conyza linearifolia Lam., Encycl. 2: 92 (1786) = ***Baccharis linearifolia*** (Lam.) Pers.

Conyza linearis DC., Prodr. 5: 378 (1836) = ***Conyza bonariensis*** (L.) Cronquist

Conyza lobata L., Sp. Pl. : 862 (1753) = ***Neurolaena lobata*** (L.) R.Br. ex Cass.

Conyza lyrata* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 55 (1818) = *Pseudoconyza viscosa*** (Mill.) D'Arcy

Conyza lyrata Kunth var. *pilosa* Fernald, Proc. Amer. Acad. Arts 36: 506 (1901) = ***Pseudoconyza viscosa*** (Mill.) D'Arcy

Conyza myosotifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 54 (1818) = ***Conyza primulifolia*** (Lam.) Cuatrec. & Lourteig

Conyza myriocephala Remy in Gay, Fl. Chil. : 76 (1849) = ***Conyza floribunda*** Kunth

Conyza notobellidiastrum Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 177 (1879) = ***Podocoma notobellidiastrum*** (Griseb.) G. L. Nesom

Conyza notobellidiastrum Griseb. var. *oblongifolia* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 178 (March-April 1879); Symb. Fl. Argent. : 178 (1879) = ***Podocoma notobellidiastrum*** (Griseb.) G. L. Nesom

Conyza obtusa* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 56 (1818) = *Conyza coronopifolia*** Kunth

Conyza pedunculata Mill., Gard. Dict. ed. 8: n. 15 (1768) = ***Baccharis pedunculata*** (Mill.) Cabrera

Conyza plebeja Phil., Anales Univ. Chile 87: 685 (1894) = ***Conyza bonariensis*** (L.) Cronquist

Conyza primulifolia (Lam.) Cuatrec. & Lourteig, Phytologia 58(7): 475 (1985).

Inula primulifolia (as *primulaefolia*) Lam., Encycl. 3: 261 (1789). Type: 'Plumier a trouvé cette plante à ST.

Domingue, dans les prés montueux, au quartier de Léogane, vers le lieu nommé le Fond de Baudin.' [Plum. Cat. Mss. Vol. 4, t. 68] Holotype: TRF.

Conyza myosotifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 54 (1818). [Colombia:] 'Crescit locis temperatis juxta La Sequia Novo-Granatensium, ad ripam Smitæ, alt. 730 hex. ■ Floret Novembri.' [Humboldt & Bonpland 2044]. Holotype: P-Bonpl.

**Conyza chilensis* Spreng., Novi Proventus : 14 (1819). Type: 'Habitat in Chili. ♀. Chamissous misit.' Holotype: ?B† or ?HAL, although doubtless a duplicate exists in LE.

Erigeron chilensis (Spreng.) D. Don ex Loudon, Hort. Brit. : 343 (1830).

(*Astradelphus chilensis* Remy, Ann. Sci. Nat. Bot., ser. 3, 12: 185 (1849). Note: no such name or combination appeared at this place although it is ascribed as such in *Index Kewensis* (1(1): 226, 1893), certainly no epithet was linked with the generic name.)

Conyza scabiosifolia Remy in Gay, Fl. Chilena 4: 74 (1849). Type: 'Se cria en las provincias centrales.' Type material probably in P.

Conyza chilensis Spreng. var. *auriculata* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 176 (1879); Symb. Fl. Argent. 176 (1879). Type/s: 'T.' Syntypes: Lorentz & Hieronymus 82, 1052, GOET.

**Conyza yungasensis* Rusby, Mem. Torrey Bot. Club 3(3): 55 (1893). Type: 'Yungas, 1890 ([Bang] 202).'

Holotype: NY (00167658); isotypes: F (77323), LD, NY (00167659), US (01417593), Z (000003257).

Argentina, Bolivia (La Paz, Santa Cruz), Brazil, Chile, Colombia, Mexico, Paraguay, Uruguay.

Steep hillsides, roadsides, dry banks.

0–2400 m.

February–April.

La Paz: Wood 11810 (K).

Santa Cruz: Wood 14364 (K), Wood et al. 22972 (K, USZ), Wood et al. 24324 (K, USZ).

Vernacular name: ESPANTA MOSQUITOS (FREIRE ET AL., 2006).

Conyza pulchella Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 56 (1818) = **Laennecia sophiifolia** (Kunth) G. L. Nesom

Conyza pulcherrima M. E. Jones, Contr. W. Bot. 12: 47 (1908) = **Laennecia gnaphalioides** (Kunth) Cass.

Conyza punensis Cabrera, Revista Invest. Agric. 11(4): 403 (1958) = **Conyza deserticola** Phil.

Conyza pusilla Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 54 (1818), nom. illegit., non Hoult. (1773?-1783) = **Belloa kunthiana** (DC.) Anderb. & S. E. Freire

Conyza sagittalis Lam., Encycl. 2: 94 (1786) = **Pluchea sagittalis** (Lam.) Cabrera

Conyza scabiosifolia Remy, Fl. Chilena 4: 74 (1849) = **Conyza primulifolia** (Lam.) Cuatrec. & Lourteg.

Conyza scorpioides Lam., Encycl. 2: 88 (1786) = **Vernonia scorpioides** (Lam.) Pers.

Conyza senecioides (Wedd.) Cabrera, Revista Invest. Agric. 11(4): 403 (1958) = **Laennecia artemisiifolia** (Meyen & Walp.) G. L. Nesom

Conyza serpentaria Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 176 (1879) = **Laennecia sophiifolia** (Kunth) G. L. Nesom

Conyza sophiifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 56 (1818) = **Laennecia sophiifolia** (Kunth) G. L. Nesom

Conyza squamata Spreng., Syst. Veg., ed. 16, 3: 515 (1826) = **Symphotrichum squamatum** (Spreng.) G. L. Nesom

Conyza straminea Chodat, Bull. Herb. Boissier, Ser. 2, 2(4): 383 (1902) = **Pluchea dodoneifolia** (Hook. & Arn.) H. Rob. & Cuatrec. [INULEAE]

Conyza subspathulata Cronquist, Bull. Torrey Bot. Club 70(6): 632 (1943), as nom. nov. pro. *E. spathulatus* Vahl = **Conyza laevigata** (Rich.) Pruski

***Conyza suffruticosa** Phil., Linnaea 28(6): 735 (1858). Type: 'In Andibus provinciae Santiago interioribus crescit.'

Bolivia (?), Chile.

Conyza symphitifolia Mill., Gard. Dict., ed. 8, *Conyza* no. 10 (1768) = **Neurolaena lobata** (L.) R.Br. ex Cass.

Conyza thujoides Lam., Encycl. 2: 90 (1786) = **Loricaria thujoides** (Lam.) Sch.Bip.

Conyza trinervis Lam., Encycl. 2: 85 (1786), non *Conyza trinervia* Mill. (1768) = **Baccharis trinervis** Pers.

Conyza tunariensis (Kuntze) Zardini, Bol. Soc. Argent. Bot. 17: 45 (1976) = ?**C. bonariensis** (L.) Cronquist

Conyza virgata (L.) L., Sp. Pl. ed. 2, 2: 1206 (1763) = **Pterocaulon virgatum** (L.) DC.

Conyza viscosa Mill., Gard. Dict., ed. 8, *Conyza* no. 8 (1768) = **Pseudoconyza viscosa** (Mill.) D'Arcy

Conyza yungasensis* Rusby, Mem. Torrey Bot. Club 3(3): 55 (1893) = **Conyza primulifolia (Lam.) Cuatrec. & Lourteig

Conyzanthus Tamasch., Fl. U.R.S.S. 24: 583 (1959) = **Symphotrichum** Nees

Conyzanthus graminifolius (Spreng.) Tamamsch., Fl. URSS 25: 186 (1959) = **Symphotrichum graminifolium** (Spreng.) G. L. Nesom

Conyzanthus squamatus (Spreng.) Tamamsch., Fl. U. R. S. S. 25: 186 (1959) = **Symphotrichum squamatum** (Spreng.) G. L. Nesom

Conyzella Fabric., Enum.: 86 (1759) = **Conyza** Less.

Coreopsis L., Sp. Pl. : 907 (1753).

Acispermum Necker, Elem. Bot. 1: 34 (1790), nom. rej.

Coreopsoides Moench, Meth. : 594 (1794). Type: not designated.

Anacis Schrank, Denkschr. Königl. Akad. Wiss. München 5: 5 (1817). Type: not designated.

Leachia Cass., Dict. Sci. Nat. 25: 388 (1822), nom. superfl., incl. type of *Coreopsis* L.

Calliopsis Rchb., Icon. Descr. Pl. Cult. (Mag. Aesth. Bot.) 1: t. 70 (1823). Type: *Calliopsis bicolor* Rchb. = *Coreopsis tinctoria* Nutt.

Diplosastera Tausch, Hortus Canal. 1 (Decas Prima): [unpaginated] t. 4 (1823). Type: *Diplosastera tinctoria* (Nutt.) Tausch = *Coreopsis tinctoria* Nutt.

Chrysomelea Tausch, Hortus Canal. 1 (Decas Prima): [unpaginated] sub t. 4 (1823), nom. illegit., based on *Coreopsoides* Moench.

'*Dolichotheca* Cass., Dict. Sci. Nat. 51: 476 (1827)', 'nom. provis. non *Dolichotheca* Lindb.' (according to Robinson 2006: 114), although no such name can be attributable to Cassini.
Chrysostemma Less., Syn. Gen. Comp. : 227 (1832). Type: *Chrysostemma tripteris* (L.) Less. = *Coreopsis tripteris* L.
Conopsis Nutt. ex Less., Syn. Gen. Comp. : 228 (1832), orth. err. pro *Coreopsis* L.
Leptosyne DC., Prodr. 5: 531 (1836). Type: *Leptosyne douglasii* DC. = *Coreopsis douglasii* (DC.) H. M. Hall
Electra DC., Prodr. 5: 630 (1836). Type: *Electra mexicana* DC. = *Coreopsis mexicana* (DC.) Hemsl.
Epilepis Benth., Pl. Hartweg. : 17 (1839). Type: *Epilepis rudis* Benth. = *Coreopsis rudis* (Benth.) Hemsl. [cited by Robinson as Benth. & Hook.f. ex Hemsl.]
Coreopsis L. sect. *Gyrophyllum* Nutt., Trans. Amer. Philos. Soc., ser. 2, 7: 358 (1841). Type: not stated.
Coreopsis L. sect. *Eublepharis* Nutt., Trans. Amer. Philos. Soc., ser. 2, 7: 359 (1841). Type: *Coreopsis gladiata* Walter
Coreopsis L. sect. *Calliopsis* (Rchb.) Nutt., Trans. Amer. Philos. Soc., ser. 2, 7: 360 (1841).
Tuckermannia Nutt., Trans. Amer. Philos. Soc., ser. 2, 7: 363 (1841). Type: *Tuckermannia maritima* Nutt. = *Coreopsis maritima* (Nutt.) Hook. f.
Pugiopappus A. Gray, Explor. Railroad Pacific 4: 104 (1857). Type: *Pugiopappus bigelovii* A. Gray = *Coreopsis bigelovii* (A. Gray) Voss
Coreopsis L. sect. *Leptosyne* (DC.) O. Hoffm., Nat. Pflanzenfam. 54 (4, 5): 243 (1891).
Coreopsis L. sect. *Tuckermannia* (Nutt.) S. F. Blake, Proc. Amer. Acad. Arts 49: 340 (1913).
Coreopsis L. sect. *Pugiopappus* (A. Gray) S. F. Blake, Proc. Amer. Acad. Arts 49: 340 (1913).
Selleophytum Urb., Repert. Spec. Nov. Regni Veg. 13: 483 (1915). Type: *Selleophytum buchii* Urb. = *Coreopsis buchii* (Urb.) S. F. Blake
Type: *Coreopsis lanceolata* L.

References

- Mesfin Tadesse, Crawford, D. J. & E. B. Smith. (1995). New synonyms in *Coreopsis* L. and notes on *C.* sect. *Pseudoagarista* (Compositae-Heliantheae). *Compositae Newslett.* 27: 11–30.
- Sherff, E. E. (1936). Revision of the genus *Coreopsis*. *Field Mus. Publ. Bot.* 11(6): 279–475.
- Coreopsis acmella* (L.) E. H. L. Krause, Beih. Bot. Centralbl. 32: 340 (1914) = ***Blainvillea acmella*** (L.) Philipson
Coreopsis acmella (L.) E. H. L. Krause var. *uliginosa* (Sw.) K. Krause, Beih. Bot. Centralbl. 32: 340 (1914) = ***Acmella uliginosa*** (Sw.) Cass.
Coreopsis artemisiifolia Jacq., Ic. Rar. 3: pl. 595 (1793) = ***Cosmos sulphureus*** Cav.
Coreopsis baccata L.f., Pl. Surinam.: 14 (1775) = ***Tilesia baccata*** (L.) Pruski
Coreopsis boliviana* S. F. Blake, Contrib. U.S. Natl. Herb. 22: 644 (1924). = *Coreopsis pickeringii*** A. Gray
Coreopsis brasiliensis Colla, Herb. Pedem. 3: 479 (1834)[1835?] ***Bidens segetum*** Mart. ex Colla
Coreopsis caracasana Willd. ex O. E. Schulz in Urb., Symb. Antill. 7: 140 (1911), nom. nud. = ***Bidens reptans*** (L.) G. Don
- ****Coreopsis fasciculata*** Wedd., *Chloris Andina* 1: 71 (1856). Type: 'Hab. PÉROU! Cordillères du département de Cuzco? (Gay).' Holotype: P.
Coreopsis matthewsii A. Gray, Proc. Amer. Acad. Arts 5: 124 (1861), nom. nud. pro syn. Note: Robinson (2006: 119) still cited a holotype for this name.
Coreopsis suaveolens Sherff, Bot. Gaz. 89: 369 (1930). Type: 'Dr. E. Werdermann 1114, alt. about 3800 m., Cordillera de Lallinca, Province of Tarapacá, Department of Tarapacá, Chile, March, 1926.' Holotype: GH (6210); isotypes: BM, CAS, F (598247), HBG, LP, M, NY (1163556), OS, S, UC (314654), US (1474269) 'etc.'. There is a footnote by Sherff stating that the UC duplicate indicates 'Cord. Co. Columfusca, Apacheta, Prov. Tarapacá'
Coreopsis fasciculata Wedd. var. *β laevigata* Sherff, Amer. J. Bot. 22(8): 707 (1935). Type: 'F. L. Herrera III, alt. 3400–3600 m., Cuzco, Peru'. Holotype: B†.
Coreopsis suaveolens Sherff var. *ecuadoriensis* Sherff, Sida 1: 371 (1964). Type: 'Harriet G. Barclay and Pedro Juajibioy 8563, shrub to 2 m. tall, growing up through other shrubs. Leaves finely divided into linear segments. Involucral bracts green with darker veins in center. Ligulate florets few, broad, deep yellow. Below true páramo on south side of high, flat páramos; north of Río León. Shrubs similar south side of Río

León above Oña. Alt. ca. 3000 m., Nudo de Cordillera Occidental y Cordillera Oriental, Páramos de Silván, Prov. Azuay, Ecuador, July 30, Aug. 3, 1959'. Holotype: US (2372899).

Bolivia (La Paz), Chile, Ecuador, Peru.

Montane forest, open areas, páramo.

2400–4200 m.

December–July.

'*Coreopsis fastigiata*' was listed by Navarro (2002: 433) in recording a new class of vegetation, *Lippio boliviana*-*Dodonaeetea viscosae*. However, this species is not listed in *Index Kewensis* and it is uncertain as to what taxon it refers to and, critically, whether it is indeed a species of *Coreopsis*.

Coreopsis ferulifolia Jacq. var. *odoratissima* (Cav. ex Pers.) Pers., Syn. Pl. 2: 477 (1807) = **Bidens odorata** Cav.

Coreopsis leucanthema L., Cent. I Pl.: 29 (1755) = **Bidens pilosa** L.

Coreopsis leucantha L., Sp. Pl., ed. 2, 2: 1282 (1763), orth var. of *C. leucanthema* L. = **Bidens pilosa** L.

Coreopsis matthewsii A. Gray, Proc. Amer. Acad. Arts 5: 124 (1861), nom. nud. pro syn. = **Coreopsis fasciculata** Wedd.

Coreopsis multifida DC., Prodr. 5: 573 (1836) = **Bidens odorata** Cav.

Coreopsis multifida DC. var. β *mutica* DC., Prodr. 5: 573 (1836) = **Bidens odorata** Cav.

Coreopsis odoratissima Cav. ex Pers., Syn. Pl. 2: 477 (1807), nom. illegit. based on **Bidens odorata** Cav. = **Bidens odorata** Cav.

***Coreopsis pickeringii** A. Gray, Proc. Amer. Acad. Arts 5: 124 (1861). Type: 'High Andes of Peru above Obrajillo.' [Cited by Sherff, 1936: 337 as 'Collected by the United States Exploring Expedition under Captain Wilkes, high in the Andes above Obrajillo, Department of Lima, Peru. (U.S.).' Holotype: US (00042648).

**Coreopsis boliviana* S. F. Blake, Contrib. U.S. Natl. Herb. 22: 644 (1924). Type: 'Type in the U.S. National Herbarium, no. 42950, collected near La Paz, Bolivia, altitude 3,050 meters, October, 1885, by H. H. Rusby (no. 1685). Duplicate in the Gray Herbarium.' Holotype: US (00042950); isotypes: F (164291), GH, NY (00163557, 00167722, 00167723).

Bolivia (La Paz), Peru.

Dry, rocky slopes.

2400–3750 m.

March–June (–October).

Coreopsis reptans L., Syst. Nat. ed. 10, 2: 1228 (1759) = **Bidens reptans** (L.) G. Don

Coreopsis scandens Sm., Spic. Bot., fasc. 2: 20 (1791–92), nom. nud. = **Bidens reptans** (L.) G. Don

Coreopsis scandens Sessé & Moc., Fl. Mex., ed. 2: 194 (1894), pro parte = **Bidens reptans** (L.) G. Don

***Coreopsis spectabilis** A. Gray, Proc. Amer. Acad. Arts 5: 125 (1861). Type: 'Andes of Peru, McLean.'

Holotype: K.

Bolivia (?), Peru.

Coreopsis suaveolens Sherff, Bot. Gaz. 89: 369 (1930) = **Coreopsis fasciculata** Wedd.

Coreopsis suaveolens Sherff var. *ecuadoriensis* Sherff, Sida 1: 371 (1964) = **Coreopsis fasciculata** Wedd.

***Coreopsis townsendii** S. F. Blake, Contrib. U.S. Natl. Herb. 22: 643 (1924). Type: 'Type in the herbarium of the Field Columbian Museum, no. 298496, collected at Huascaray, Peru, altitude 1,980 to 2,285 meters, September 10, 1911, by C. H. T. Townsend (no. A 192).' Holotype: F (298496); isotype: US (01010047 – photo and fragments of holotype).

Bolivia (?), Peru.

Sherff (1936: 339) cited the following: 'K. Fiebrig 3476, alt. 3,200 meters, Jaipa, Bolivia, February 20, 1904 (Berl., 2 sheets)'.

Coreopsis trifoliata Bertol., Fl. Guat. : 36 (1840) = **Bidens reptans** (L.) G. Don

Coreopsis variifolia Salisb., Prodr. Stirp. Chap. Allert. : 206 (1796), nom. illeg. = **Bidens reptans** (L.) G. Don

Coreopsis viminea P. Browne ex Sm., Spic. Bot., fasc. 2: 20, pl. 22 (1791–92), nom. nud. = **Bidens reptans** (L.) G. Don

Coreopsoides Moench, Meth. : 594 (1794) = **Coreopsis** L.

Corynanthelium Kunze, Linnaea 20: 19 (1847) = **Mikania** Willd.

Cosmea Willd., Sp. Pl., ed. 5, 3(2): 2250 (1803), orth. var. pro *Cosmos* Cav. = **Cosmos** Cav.

Cosmea bipinnata (Cav.) Willd., Sp. Pl. 3: 2250 (1803) = **Cosmos bipinnatus** Cav.

Cosmea caudata (Kunth) Spreng., Syst. Veg., ed. 16, 3: 454 (1826) = **Cosmos caudatus** Kunth

Cosmea sulphurea (Cav.) Willd., Sp. Pl. 3: 2250 (1804) = **Cosmos sulphureus** Cav.

Cosmea tenuifolia (Lindl.) J. W. Loudon, Ladies' Flower-Gard.: 185 (Feb. 1840) = **Cosmos bipinnatus** Cav.

Cosmea tenifolia (Lindl.) Lindl. ex Heynhold, Nom. Bot. Hort.: 223 (Sept.-Oct. 1840), comb. superfl. = **Cosmos bipinnatus** Cav.

Cosmos Cav., Icon. 1: 9, t. 14, 79 (1791).

Cosmea Willd., Sp. Pl., ed. 5, 3(2): 2250 (1803), orth. var.

Cosmus Pers., Syn. Pl. 2: 477 (1807), orth. var.

Type: **Cosmos bipinnatus** Cav.

References

Hind, [D. J.] N. (2005). Plate 532. *Cosmos peucedanifolius*. Compositae. Curtis's Bot. Mag. 22(3): 161–168.

Robinson, H. (2006). *Cosmos*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 121–125.

Sherff, E. E. (1929). New or otherwise noteworthy Compositae. III. Contributions from the Hull Botanical Laboratory 397. Bot. Gaz. 88(3): 285–308, plates XVII–XXI.

Sherff, E. E. (1932). Revision of the genus *Cosmos*. Field Mus. Nat. Hist., Bot. ser. 8(6): 401–447.

Sherff, E. E. (1934). Some new or otherwise noteworthy members of the families Labiatae and Compositae. Bot. Gaz. 96(1): 136–153.

Key to species

1. Plants annual with fibrous roots 2
Plants perennial with tuberous rootstock 4
2. (1) Leaves pinnatisect, segments narrowly linear; paleae lanceolate, apices filiform or subulate; body and beak of achene not usually exerted from capitulum at maturity *C. bipinnatus*
Leaves pinnatisect, segments lanceolate to elliptic-ovate, rarely linear; paleae apices obtuse or attenuate, sometimes acuminate; body and beak of achene well exerted from capitulum at maturity 3
3. (2) Rays white or pink, never yellow; outer phyllaries equal to or a little shorter than inner *C. caudatus*
Rays golden yellow, sulphur-yellow, or orangeish; outer phyllaries about 1/2 to 1/3 length of inner *C. sulphureus*
4. (1) Rays pinks, violet or sometimes white *C. peucedanifolius*
Rays yellow [although Sherff had neither roots nor mature achenes!] *C. herzogii*

Cosmos aurantiacus Klatt, Leopoldina 25: 105 (1889) = **Cosmos sulphureus** Cav.

Cosmos bipinnatus Cav., Icon. 1: 10, pl. 14 (1791). Type: 'Habitat in Mexico. I. Floriuri in Regio horto Matritensi annis 1789 et 1790 mensibus Octob. Novemb. et Decemb.' Note: The original material in MA is represented by a few sheets. MA (475588 – Fiche 27/A4) is simply labelled *Cosmos bipinnatus* on a type written label; MA (475587 – Fiche 27/A5) bears three handwritten labels, the top 'Cosmos bipinnatus Cav./H. M. M. 1829', the middle 'Cosmos bipinnatus/H. B. M.', the bottom 'Cosmos bipinnatus Cav. ic. 7a. 14/Cosmea bipinnata Willd. Syng. pa 2250/ex Herb. Botani. Hispalens. anno 1797.', together with a typewritten label 'Cosmos bipinnatus Cav./M'ejic 1789-1790'; MA (475586 – Fiche 27/A6) bears just a

typewritten label with the same text as MA 475587; MA (475586 [sic!] – Fiche 27/A7) bears a handwritten label 'Cosmos bipinnatus Cav. Icon. tab. 14/ Mexico 1789-1790' and a typewritten label with the name and 'Horto B. Hispalensis.' Sherff (1932) noted that the description was based on several specimens but did not select a lectotype.

Cosmos formosa Bonato, Pisaura automorpha e Coreopsis formosa: 22 (1793). Type: '... è finalmente annua ed indigena del Perù, vive all' aria aperta, ...' Note: it is unclear if Bonato preserved material, nor where his herbarium might be located.

Cosmea bipinnata (Cav.) Willd., Sp. Pl. 3: 2250 (1803).

Georgia bipinnata (Cav.) Spreng., Syst. Veg., ed. 16, 3: 611 (1826).

Cosmos bipinnatus Cav. var. β *exaristatus* DC., Prodr. 5: 606 (1836). Types: '• in Mexico (Alam.!) ad Pezcuaro (H. et B.), Oaxaca (Andr.! pl. exs. n. 307). S. Angel. (Berl.! pl. exs. n. 938). Haec var. sola in hortis mihi notis nunc colitur et sola provenit in herb. Mexic. (v. s. sp. et v. c.)'. Syntypes: all, except the *Humboldt & Bonpland* collection are in G-DC; isosyntype (*Andrieux* 307): K \times 2.

Cosmos tenuifolius Lindl., Bot. Reg. 23: pl. 2007 (1837). Type: 'A beautiful annual Mexican plant, ... The drawing was made in the garden of the Horticultural Society, where it has been raised from seeds presented by George Frederick Dickson, Esq. F. H. S. ...' Holotype: ?CGE.

Cosmea tenuifolia (Lindl.) J. W. Loudon, Ladies' Flower-Gard.: 185 (Feb. 1840); cf. D.J. Mabberley in *Taxon*, 32(1): 87 (1983). Although Mabberley cited this as 1840, a date supported in TLII, the latter also notes a problem with dates, especially since the title page indicates 1842.

Cosmea tenifolia (Lindl.) Lindl. ex Heynhold, Nom. Bot. Hort.: 223 (Sept.-Oct. 1840), comb. superfl., but see note above.

Bidens formosa (Bonato) Sch.Bip in Seem., Bot. Voy. Herald : 307 (1856).

Bidens lindleyi Sch.Bip. in Seem., Bot. Voy. Herald : 307 (1856), nom. nov. pro *Cosmos tenuifolius* Lindl.

Bidens bipinnata Baill., Hist. Pl. 8: 50 (1886), nom. illegit. non L. (1753).

Cosmos hybridus Goldring, Gard. & Forest. 1: 474 (1888). Type: not cited, although Goldring mentioned only that 'Though a Mexican plant ...' Note: oddly, this name is attributed to 'Hort.', although it is quite clear that the article describing this plant was by William Goldring, as 'W.G.'. It is unclear if herbarium material was preserved.

Cosmos \times spectabilis Carrière, Rev. Hort. 64: 372 (1892). Note: although of hybrid origin the material upon which Carrière based his descriptions was cited as 'Disons d'abord que les plantes que nous avons étudiées provenaient de graines que avaient été semées en février dernier dans les cultures de M. Forgeot, à Vincennes, ...'

Cosmos \times spectabilis Carrière var. *alba* Carr., Rev. Hort. 64: 373 (1892). Note: see comment above.

Cosmos \times spectabilis Carrière var. *rosea* Carr., Rev. Hort. 64: 374 (1892). Note: see comment above.

Bidens lindleyi Sch.Bip. ex B. D. Jacks., Index Kewensis 1: 301 (1895), nom. nud. et superfl.

Widespread from Arizona (USA) to central Mexico. Widely cultivated and frequently an escape, now widely naturalized in many areas in the tropics. Bolivia (La Paz, Tarija) – naturalized, but probably widely cultivated.

Roadsides, cultivated areas, disturbed soil.

0–2000 m.

August–December.

****Cosmos caudatus*** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 188 (1818). Type: 'Crescit prope Havanam Insulae Cubae. ∞ Floret Martio.' Holotype: P.

Cosmea caudata (Kunth) Spreng., Syst. Veg., ed. 16, 3: 454 (1826).

Bidens caudata (Kunth) Sch.Bip. in Seem., Bot. Voy. Herald : 308 (1856).

Bidens berteriana Spreng., Syst. Veg., ed. 16, 3: 454 (1826). Type: 'Portorico. (*Coreopsis coronata* Bertero.)'

Cosmos caudatus Kunth var. *exaristatus* Sherff, Brittonia 16(1): 66 (1964). Type: 'McVaugh 18019, abundant on banks and disturbed ground; annual to 2 m tall, selected small specimens; rays deep pink, paler after opening, and often white toward base; disk yellow; ungrazed hillsides in *Bouteloua* grassland, alt. 450-500 m, summit of Canon El Marqués, 5 mi n of Nueva Italia, Michoacán, Mexico, 19 Sep 1958'. Holotype: MICH.

Native of Central America, Mexico. Widely cultivated and naturalized. Bolivia (Santa Cruz).

Roadsides, near cultivation, dry forest, secondary forest.

30–900 m.

Possibly flowering throughout the year.
Santa Cruz: Wood et al. 24208 (K, USZ).

Cosmos caudatus Kunth var. *exaristatus* Sherff, Brittonia 16(1): 66 (1964) = **Cosmos caudatus** Kunth

**Cosmos diversifolius* Otto, Fl. Cab. 2: 6, t. 47 (1838). Cited in Foster (1958: 207), this Mexican species has not been recorded for Bolivia and is most probably a misdetermination for *C. peucedanifolius*.

Cosmos formosa Bonato, Pisaura automorpha e Coreopsis formosa: 22 (1793) = **Cosmos bipinnatus** Cav.

***Cosmos herzogii** Sherff, Bot. Gaz. 96(1): 148 (1934). Type: 'Theodor Herzog 496, an abundant "half-shrub" ("Halbstrauch") on sandstone, alt. about 900 m., summit of Cerro San Miserate, Chiquitos, Department of Santa Cruz, Bolivia, May 1907'. Holotype: B – presumably destroyed; isotype: G (00077258).

Bolivia (Santa Cruz).

Rock cracks in level metamorphosed sandstone outcrops.

575–1200 m.

January–May.

Cosmos hybridus Goldring, Gard. & Forest. 1: 474 (1888) = **Cosmos bipinnatus** Cav.

Cosmos integrifolius* Wedd., Chloris Andina 1: 70 (June 1856) = **Cosmos peucedanifolius Wedd. var.

cochabambensis (Kuntze) Sherff

Cosmos marginatus Klatt, Abh. Naturf. Ges. Halle 15: 328 (1881)[Neue Compositen, in dem Herbar des Herrn Francaville, p. 8 in pre-print in K] = **Cosmos peucedanifolius** Wedd. var. **tiraquensis** (Kuntze) Sherff

***Cosmos peucedanifolius** Wedd., Chloris Andina 1: 70 (June 1856). Type: 'Hab. BOLIVIA (prov. Tomina): in graminosis excelsis montis Curi (Wedd[ell]. [3737]).' Holotype (q.v. Sherff, 1932: 441): P.

Bidens peucedanifolius (Wedd.) Kuntze, Revis. Gen. Pl. 3(3): 137 (1898).

Bidens peucedanifolius (Wedd.) Kuntze [var.] α *bipinnatisecta* Kuntze, Rev. Gen. Sp. 3(3): 137 (1898). Types: 'Bolivia: [1] 3400 m Tunari, [May 4 1892 Kuntze] [2] Cochabamba – Rio Juntas 3000 m. [April 1892, Kuntze]'. Syntypes: ?NY/B; isosyntype: [1] MO; [2] MO. Wetter & Zanoni (1985: 339) indicated that no material could be found in NY; it is possible that this material was in B, now destroyed, as with other infraspecific taxa cited as in B by Kuntze.

**Bidens peucedanifolius* (Wedd.) Kuntze [var.] γ *soratensis* Kuntze, Revis. Gen. Pl. 3(3): 137 (1898). Type: 'Bolivia: Sorata (No. 1302 Bang im Berl. bot. Museum).' Holotype: B†; isotypes (q.v. Sherff 1932: 440): ?GH, K, ?MO, ?NY, PH, ?US, WU. Note: Wetter & Zanoni (1985) did not list this taxon, and duplicates indicated by Sherff (1932: 440) do not appear to be present either suggesting they might not be recognized as type material.

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí, Santa Cruz, Tarija), Peru.

Open grassland, amongst rocks, around scrub.

2100–4000 m.

November–May.

Key to varieties of *C. peucedanifolius*, if recognition is required.

- | | | |
|--------|--|--------------------------------|
| 1. | Leaves entire or rarely pinnate | var. <i>cochabambensis</i> |
| | Leaves usually bipinnatisect | 2 |
| 2. (1) | Leaf segments (usually narrow) linear or linear-spathulate | <i>C. peucedanifolius</i> s.s. |
| | Leaf segments usually lanceolate or ovate | var. <i>tiraquensis</i> |

*var. **cochabambensis** (Kuntze) Sherff, Bot. Gaz. 88: 307 (1929).

Bidens peucedanifolius (Wedd.) Kuntze [var.] δ *cochabambensis* Kuntze, Revis. Gen. Pl. 3(3): 137 (1898). Type:

'Bolivia: Cochabamba (1021 Bang im Berlin, bot. Museum).' Holotype: B†; isotypes: GH, K, MO, NY, PH, US. Note: Sherff (1932) actually stated that the 'type' (= holotype) was in NY, and the 'cotypes' in 'Gray [=GH]; Mo.; Phila.; U.S.'. This is untrue since Kuntze specifically cited the specimen in B, which was extant at the time of Sherff's paper, but since destroyed in WWII. Hind (2005: 163) effectively lectotypified this name based on the material in NY, originally selected by Sherff.)

**Cosmos integrifolius* Wedd., Chloris Andina 1: 70 (June 1856). Type: 'Hab. BOLIVIA (Prov. Azero): in declivibus saxosis montis Aquio, alt. 1800 m. (Wedd.[ell]).' Holotype: P. Note: Sherff (1932) cited the *Weddell*

collection as 'H. A. Weddell 3663, Province of Acero, Department of Chuquisaca, Bolivia, November and December, 1845.'

Bolivia (Chuquisaca, Cochabamba).

*var. **tiraquensis** (Kuntze) Sherff, Bot. Gaz. 88: 307 (1929).

Cosmos subpubescens Wedd., Chloris Andina 1: 70 (June 1856). Type: 'Hab. PERUVIA: in montibus prov. Cuzco! [October 1839–February 1840] (Gay).' Holotype: P.

Cosmos (Bidens) pulcherrimus Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865), nom. nud. (based on Mandon 54)

Bidens (Cosmos) pulcherrima Sch.Bip., Linnaea 36: 528 (Feb. 1866), nom. nud. (based on Mandon 54).

Cosmos marginatus Klatt, Abh. Naturf. Ges. Halle 15: 328 (1881) [Neue Compositen, in dem Herbar des Herrn Francaville, on p. 8 of pre-print in K]. [Note: Stafleu & Cowan (1979) suggested that the correct citation, and the therefore date, is taken from the journal; I disagree, since the pre-print was effectively published in the preceding year.] Type: 'In Peruvia, provincia Chachapoyas, leg. Mathews, sine No.' Holotype: GH (2 sheets acc. to Sherff, 1932: 442); isotypes: K – there are two sheets at K that are most certainly types: the first, *Mathews* s.n., is simply labelled 'Chachapoyas. *Mathews*, 1835.' (ex Herb. Benthamianum); the second (ex Herb. Hookerianum) is labelled 'Prov. Chachapoyas Peru', but the sheet has '*Mathews* 1836 74 H' written in ink on it). Holotype: P (Herb. Francaville) - See note under *Antennaria linearifolia*.

Bidens peucedanifolius (Wedd.) Kuntze [var.] β *tiraquensis* Kuntze, Revis. Gen. Pl. 3(3): 137 (1898). Type: 'Bolivia: 4000 m Tiraqui [April 1–4, 1892 Kuntze].' Holotype: NY (00162593).

Bolivia (La Paz, Santa Cruz, Tarija), Peru.

Steep-sided valleys with *Podocarpus* forest remnants, bare rocky slopes.

2100–4000 m.

January–March.

Cosmos pilosus Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 189 (1818) = ***Bidens odorata*** Cav.

Cosmos pulcherrimus Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865), nom. nud. (based on Mandon 54, sub *Cosmos (Bidens) pulcherrimus*) = ***Cosmos peucedanifolius*** Wedd. var. ***tiraquensis*** (Kuntze) Sherff

Cosmos \times spectabilis Carrière, Rev. Hort. 64: 372 (1892) = ***Cosmos bipinnatus*** Cav.

Cosmos \times spectabilis Carrière var. *alba* Carr., Rev. Hort. 64: 373 (1892) = ***Cosmos bipinnatus*** Cav.

Cosmos \times spectabilis Carrière var. *rosea* Carr., Rev. Hort. 64: 374 (1892) = ***Cosmos bipinnatus*** Cav.

Cosmos subpubescens Wedd., Chloris Andina 1: 70 (June 1856) = ***Cosmos peucedanifolius*** Wedd. var. ***tiraquensis*** (Kuntze) Sherff

Cosmos sulphureus Cav., Icon. 1: 56, pl. 79 (1791). Type: 'Habitat in Mexico. \downarrow . Floruit in Regio horto Matritensi mense Novembri.' Holotype: MA. Note: There is one sheet in MA (475589 – Fiche 27/A8) which is taken as the holotype. There is one handwritten label on the sheet 'Cosmos sulphureus M./Icon. Tab. 79/Coreopsis artemisiefolia Jacq. Ic./tab. 525 Coll. 5. p. 155./Habitat in Mexico H. B. Mt.' and one typewritten label 'Cosmos sulphureus Cav./Méjico.'

Coreopsis artemisiefolia [as *artemisiefolia*] Jacq., Ic. Rar. 3: 16, pl. 595 (1793). Type: not cited.

Cosmea sulphurea (Cav.) Willd., Sp. Pl. 3: 2250 (1804).

Bidens sulphureus (Cav.) Sch.Bip. in Seem., Bot. Voy. Herald : 308 (1857).

Cosmos aurantiacus Klatt, Leopoldina 25: 105 (1889). Type: 'Crescit in campis Tacontenango pro Guatemala, flor. Dec., leg. Gust. Bernoulli 1865.' Holotype: B†. Note: Kaltt expressly described this taxon in material cited as 'Compositae Guatemalenses et Costaricenses ex Herb. Mus. Berol. determinatae et novae descriptae'.

Cosmos sulphureus Cav. var. *exaristatus* Sherff, Field Mus. Nat. Hist., Bot., ser. 8(6): 411 (1932). Type: 'Collected by C. A. Purpus, No. 6793, Sierra de Tonalá, State of Chiapas, Mexico, September, 1913 (Calif.)' Holotype: UC (172476); isotypes: F (415644), GH (53187), NY (00076721), US (567132).

Bolivia (Bení, La Paz, Santa Cruz), Brazil, Central America, Colombia, Ecuador, Mexico. Widespread and widely cultivated in the tropics.

Near cultivated areas, roadsides.

0–3600 m.

Probably flowering throughout the year.

La Paz: Wood 16244 (K).

Vernacular name: COSMOS (Freire et al., 2006).

Cosmos sulphureus Cav. var. *exaristatus* Sherff, Field Mus. Nat. Hist., Bot., ser. 8(6): 411 (1932) = **Cosmos sulphureus** Cav.

Cosmos tenellus Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 188 (1818) = **Bidens odorata** Cav.

Cosmos tenuifolius Lindl., Bot. Reg. 23: pl. 2007 (1837) = **Cosmos bipinnatus** Cav.

Cosmos Pers., Syn. Pl. 2: 477 (1807), orth. var. pro *Cosmos* Cav. = **Cosmos** Cav.

Cotula L. [unranked] I. *Eucoctula* K. Koch, Bot. Zeit. 1: 39 (1843) = **Cotula** L.

Cotula L. [unranked] II. *Cotulopsis* K. Koch, Bot. Zeit. 1: 39 (1843) = **Cotula** L.

Cotula L. [unranked] III. *Cotulodes* K. Koch, Bot. Zeit. 1: 39 (1843) = **Cotula** L.

Cotula L. [unranked] IV. *Pseudo-cotula* K. Koch, Bot. Zeit. 1: 39 (1843) = **Cotula** L.

Cotula L., Sp. Pl. : 891 (1753) & Gen. Pl., ed. 5 : 380 (1754).

Lancisia Fabric., Enum.: 87 (1759). Type: *Lancisia coronopifolia* (L.) Rydb. = *Cotula coronopifolia* L.

Cenia Comm. ex Juss., Gen. Pl.: 183 (1789). Type: *Cenia turbinata* (L.) Pers. = *Cotula turbinata* L.

Lancisia Lam., Tableau Encycl. t. 701, f. 1-3 (1797), nom. illegit., non Fabr. (1759). Based on *Lancisia turbinata* (L.) Poir. = *Cotula turbinata* L.

Strongylosperma Less., Syn. Gen. Compositae: 261 (1832). Type: *Strongylosperma australe* (Sieber ex Spreng.) Less. = **Cotula australis** (Sieber ex Spreng.) Hook. f.

Otochlamys DC., Prodr. 6: 77 (1838). Type: *Otochlamys eckloniana* DC. = *Cotula eckloniana* (DC.) Levyns

Cenia Comm. ex Juss. sect. *Actinocenia* DC., Prodr. 6: 82 (1838). Type not designated.

Cenia Comm. ex Juss. sect. *Discocenia* DC., Prodr. 6: 82 (1838). Type not designated.

Cotula L. [unranked] I. *Eucoctula* K. Koch, Bot. Zeit. 1: 39 (1843). Type not designated.

Cotula L. [unranked] II. *Cotulopsis* K. Koch, Bot. Zeit. 1: 39 (1843). Type not designated.

Cotula L. [unranked] III. *Cotulodes* K. Koch, Bot. Zeit. 1: 39 (1843). Type not designated.

Cotula L. [unranked] IV. *Pseudo-cotula* K. Koch, Bot. Zeit. 1: 39 (1843). Type not designated.

Pleiogyne K. Koch, Bot. Zeit. 1: 40 (1843), nom. illegit. superfl. (as gen. nov. including *Strongylosperma* Less.), non *Pleiogyne* Miers (1851) [MENISPERMACEAE].

Pleiogyne [unranked] I. *Strongylosperma* (Less.) K. Koch, Bot. Zeit. 1: 40 (1843), comb. illegit., based on *Strongylosperma* Less.

Pleiogyne [unranked] II. *Pleiogynodes* K. Koch, Bot. Zeit. 1: 40 (1843), nom. illegit.

Pleiogyne [unranked] III. *Eupleiogyne* K. Koch, Bot. Zeit. 1: 40 (1843), nom. illegit.

Sphaeroclinium Sch.Bip., Tanacet.: 20 (1844). Type: *Sphaeroclinium nigellifolium* (DC.) Sch.Bip. (based on *Matricaria nigellifolia* DC.) = *Cotula nigellifolia* (DC.) K. Bremer & Humphries

Gymnogyne Steetz in Lehm., Pl. Preiss. 1: 431 (1845), non Didr. (1850) (= *Boehmeria* Jacq. [URTICACEAE]). Type: *Gymnogyne cotuloides* Steetz = *Cotula cotuloides* (Steetz) Druce

Ctenosperma Hook. f., London J. Bot. 6: 115 (1847), non *Ctenosperma* Lehm. & Pfeiff. (1874), nom. nud. pro syn. = *Silphiosperma* Steetz = *Brachycome* Cass. sect. *Silphiosperma* (Steetz) Benth. Type: *Ctenosperma alpinum* Hook. f. = *Cotula alpina* (Hook. f.) Hook. f.

Cotyla O. Kuntze & Post, Lexicon Gen. Phan. : 145 (1903), orth. var.

Type: **Cotula coronopifolia** L.

References

Ariza Espinar, L. (1997). *Cotula*. In: Tribu VII. Anthemideae. 280. Asteraceae, parte 7. Flora Fanerogámica Argentina. Fasc. 46. Programa PROFLOTA (CONICET), Córdoba. pp. 1-35. [17-20]

Cabrera, A. L. (1949). Sinopsis del género *Soliva* (Compositae). Notas Mus. La Plata, Bot. 14(No. 70): 123-139.

Caro, J. A. (1961). Las especies de *Cotula* (Compositae) del centro de la Republica Argentina. Kurtziana 1: 289-298.

Freire, S. E. & L. Ariza Espinar. (1999). Tribe Anthemideae. Asteraceae. In: F. O. Zuloaga & O. Morrone (eds), Catálogo de las plantas vasculares de la República Argentina II, Acanthaceae-Euphorbiaceae (Dicotyledoneae). Monogr. Syst. Bot. vol. 74. Missouri Botanical Garden Press.

Key to species

1. Receptacle pilose; disc floret corollas 3-lobed; stamens 4; achenes isomorphic *C. mexicana*
- Receptacle glabrous; disc floret corollas 4-lobed; stamens 4; achenes dimorphic 2
2. (1) Plants glabrous, somewhat fleshy; marginal florets uniseriate; capitula medium, c. 8 mm diam. *C. coronopifolia*
- Plants pubescent, membranaceous; marginal florets 3-seriate; capitula small, 3–5 mm diam. *C. australis*

Cotula alba (L.) L., Syst. Nat. 2: 564 (1767) = ***Eclipta prostrata*** (L.) L.

Cotula australis (Sieber ex Spreng.) Hook. f., Fl. Nov.-Zel. : 128 (1853).

Anacyclus australis Sieber ex Spreng., Syst. Veg., ed. 16, 3: 497 (1826). Type: 'Nov. Holl.' Holotype ?P; isotypes K × 2. Note: There are two *Sieber* collections in K, one unnumbered, the other marked as 'Fl. Novae Holl. 331'. Dietrich (1881) provided a complete listing of the 645 collections *Sieber* made in Australia; 331 is the only collections given the name of *Cotula australis*.

Strongylosperma australe (Sieber ex Spreng.) Less., Syn. Gen. Compositae : 261 (1832).

Pleioogyne australis (Sieber ex Spreng.) K. Koch, Bot. Zeit. 1: 40 (1843), comb. illegit.

Cotula venosa Colenso, Trans. Proc. New Zealand Inst. 23: 388 (1890) [1891]. Type: [New Zealand] 'Hab. Forming small patches in open woods south of Dannevirke, County of Waipawa; 1890; W. C[olenso].'
Holotype: ?WELT.

Lancisia australis (Sieber ex Spreng.) Rydb., N. Amer. Fl. 34: 286 (1916).

Argentina, Australia, Bolivia (Cochabamba, La Paz, Santa Cruz, Tarija), Canada, Canary Islands, Chile, Colombia, Ecuador, Hawaiian Islands (East Maui), Malawi, New Zealand, Peru, Tanzania, Tristan da Cunha group (Nightingale Island), U.S.A., Zimbabwe. British Isles (alien).

Damp roadsides, damp disturbed ground, lomas, lawns, park grass, wet banks, transition zone between cloud forest and more open areas.

0–3000 m.

October–March.

Chuquisaca: Wood 9187

Cochabamba: Steinbach 5831; Wood 9237

La Paz: Fuentes et al. 8421

Santa Cruz: Steinbach 8446

Tarija: Wood 12604

Note: Following Cabrera (1949: 139) some authors (e.g. Caro, 1961; Ariza Espinar, 1997; Freire & Ariza Espinar, 1999) have placed *Soliva tenella* A. Cunn. into the synonymy of *C. australis*. This has clearly been done in the absence of examining the type material which is clearly of a species of *Leptinella*, q.v. *L. tenella* (A. Cunn.) D. G. Lloyd & C. J. Webb.

Cotula bracteolata E. Mey. ex DC., Prodr. 6: 78 (1838) = ***Cotula coronopifolia*** L.

Cotula cabreræ Caro, Kurtziana 1: 295 (1961), nom. nov. pro *Soliva pedicellata* Ruiz & Pav. et *Cotula pedicellata* (Ruiz & Pav.) Cabrera, non Compton (1941) = ***Cotula mexicana*** (DC.) Cabrera

Cotula coronopifolia L., Sp. Pl. : 892 (1753). 'Habitat in Aethiopia, nunc in Frisiae inundatis prope Eradon. Moehringio teste.' Lectotype (selected by Humphries in Jarvis et al., 1993: 38): Herb. Clifford: 417, *Cotula* No. 2. BM.

Cotula integrifolia Burch., Trav. Inter. S. Africa 1: 51 (1822). [Based on *Burchell* Cat. Geog. 515]

Cotula montevidensis Spreng., Syst. Veg., ed. 16, 3: 497 (1826). Type: 'Monte Video. Sello.'

Cotula bracteolata E. Mey. ex DC., Prodr. 6: 78 (1838). [Type: '... ad Cap. Bonae-Spei loco dicto Paarden Eyland legit cl. Drege. *C. integrifolia* Burch. cat. geog. 515 voy. 1. p. 61? sed descr. non suffic. (v.s.)'], nom. illegit. superfl. Burchell's name was perfectly well validated making de Candolle's superfluous.

Cotula integrifolia Hook. f., Fl. Tasm. 1: 192. t. 50 B (1856), nom. illegit. (later homonym) non Burch. (1822).

Cotula coronopifolia L. var. *minima* Phil., Anales Univ. Chile 43: 504 (1873). [Note: In a separately paginated reprint/preprint in K this appeared on p. 28]. Type: 'En los peñascos a orillas del mar de la bahía de Corral se hallan plantitas, ...'. Holotype: SGO 60582 (Pizarro, 1960: 139).

Cotula coronopifolia L. var. *integrifolia* Rodway, Tasman. Fl. : 80 (1903), based on *Cotula integrifolia* Hook. f. [Type: [Tasmania] 'Hab. Moist ground near Georgetown, growing intermixed with *Desvauxiae* and other

plants, [21/11/42] Gunn [1153]. – (Fl. Nov.)' Holotype: K – the sheet is accompanied by a series of detailed dissections on an attached piece of paper continued onto the sheet itself; these form the basis for the plate lithographed by Fitch for *Flora Tasmaniae*. Note: There is a second Gunn collection at K which has a similar field collecting label to that of the holotype bearing the same date; also present is a further field label 'Desvauxia sp./Cotula sp./not known/George Town/21/11/42/X/10/1/43' – suggesting the two taxa were collected together, hence Hooker's note. An additional note is attached to the sheet: 'Strongylospermae/The species of this genus are inhabitants of our marshes where they form large patches./404 – grows in the wet marshes of the Tamar where it is overflowed by spring tides in Summer, & is almost always under water in Winter.'

Lancisia coronopifolia (L.) Rydb., N. Amer. Fl. 34: 286 (1916).

Angola, Argentina, Australia, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz), Brazil, British Isles, Canada, Colombia, Denmark, Germany, Greece, Italy, Morocco, New Zealand, Norway, Peru, Portugal, South Africa, Spain, Tunisia, Uruguay, U.S.A.

Disturbed ground, wet ditches, streamsides.

0–4000 m.

October–March.

Chuquisaca: Wood 8734 (K)

Cochabamba: Steinbach 176 (K); Wood & Atahuachi 20914 (K).

Santa Cruz: Wood & Goyder 15779 (K).

Cotula coronopifolia L. var. *integrifolia* Rodway, Tasman. Fl. : 80 (1903), based on *Cotula integrifolia* Hook. f. =

***Cotula coronopifolia* L.**

Cotula coronopifolia L. var. *minima* Phil., Anales Univ. Chile 43: 504 (1873) = ***Cotula coronopifolia* L.**

Cotula integrifolia Burch., Trav. Inter. S. Africa 1: 51 (1822) = ***Cotula coronopifolia* L.**

Cotula integrifolia Hook. f., Fl. Tasm. 1: 192. t. 50 B (1856), nom. illegit., later homonym, non Burch. (1822) =

***Cotula coronopifolia* L.**

***Cotula mexicana* (DC.) Cabrera, Bol. Soc. Argent. Bot. 8: 207 (1960).**

Hippia minuta L.f., Suppl. : 389 (1781). Type: 'Habitat in America meridionali. Mutis. [136]' Holotype: LINN 1039.2.

Soliva pedicellata Ruiz & Pav., Fl. Peruv. Chil. Prodr. : 113 (1794). Type not cited. Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 215 (1798) cited 'Habitat in Muña humidis locis. Floret ab Augusto ad Novembrem.'

?Holotype: MA [There is one sheet, marked as C1 on sheet 287 of the microfiche of the Ruiz & Pavón herbarium. It has a full list of names provided by Domke, relating to the herbarium names appearing in Europe and the literature. At the top of this label is written 'Cotypus?'. The label, probably written by Pavón, merely says 'Soliva pedunculata/de Chile] – the material consisting of seven plants.

Soliva pygmaea Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 238 (1818). Type: 'Crescit locis temperatis Andium Quinduensium, alt. 1130 hex. ■ Floret Octobri.' [Humboldt & Bonpland 'in andibus Quinduensibus.'] Holotype: P-Bonpl.

Soliva minuta (L. f.) Sw., Hort. Brit. ed. 2 : 317 (1830).

Gymnostyles peruviana Spreng., Syst. Veg., ed. 16, 3: 500 (1826), nom. illegit. superfl., based on '*Soliva pedunculata*' Ruiz & Pav., the name written on the label of the sheet in the Ruiz & Pavón herbarium in MA)

Soliva mexicana DC., Prodr. 6: 143 (1838). Type: '– in Mexico. *Gymnostyles pedunculata* Moç. fl. mex. icon. ined. ... (v. ic.)'

Soliva pedunculata Ruiz & Pav. ex Steud., Nomen. Bot., ed. 2, 2: 609 (1841), nom. superfl. illegit. (based on '*Gymnostyles peruviana*').

Cotula valparadisea Phil., Anales Univ. Chile 43: 503 (1873). [Note: In a repaginated reprint/preprint in K this appears on p. 27.] Type: 'El señor don Tomás King ha hallado esta interesante especie cerca de Valparaíso, i ha obsequiado un ejemplar al museo.' Holotype: SGO.

**Cotula pygmaea* (Kunth) Benth. & Hook.f. ex Hemsl., Biol. Centr. Amer. Bot. 2: 230 (1881), comb. illegit., non Poir. (1810) (= *Nananthea perpusilla* (Lois.) DC.)

Cotula minuta (L.f.) Schinz, Mem. Soc. Neuchatel. Sci. Nat. 5: 429 (1913), non G. Forst. (1786) (= *Centipeda minima* (L.) A. Braun & Asch.)

Lancisia minuta (L.f.) Rydb., N. Amer. Fl. 34(3): 287 (1916).

Cotula pedicellata (Ruiz & Pav.) Cabrera, Notas Mus. La Plata, Bot. 14(No. 70): 139 (1949), comb. illegit., non Compton (1941).

Cotula cabreræ Caro, Kurtziana 1: 295 (1961), nom. nov. pro *Soliva pedicellata* Ruiz & Pav. et *Cotula pedicellata* (Ruiz & Pav.) Cabrera, non Compton (1941)

Argentina, Bolivia (Cochabamba, La Paz, Oruro, Santa Cruz), Colombia, Ecuador, Mexico, Peru.

Disturbed ground, lawns, wet soil, shallow water for short periods!

2050–4500 m

October–April.

Cochabamba: Wood et al. 20976 (K), Wood et al. 23212A (K).

La Paz: Wood et al. 18944 (K).

Santa Cruz: Wood et al. 24086 (K, USZ).

Cotula minuta (L.f.) Schinz, Mem. Soc. Neuchatel. Sci. Nat. 5: 429 (1913), non G. Forst. (1786) = **Cotula mexicana** (DC.) Cabrera

Cotula minuta (L.f.) Schinz, Mem. Soc. Neuchatel. Sci. Nat. 5: 429 (1913), non G. Forst. (1786) = **Cotula mexicana** (DC.) Cabrera

Cotula montevidensis Spreng., Syst. Veg., 3: 497 (1826) = **Cotula coronopifolia** L.

Cotula pedicellata (Ruiz & Pav.) Cabrera, Notas Mus. La Plata, Bot. 14(No. 70): 139 (1949), comb. illegit., non Compton (1941) = **Cotula mexicana** (DC.) Cabrera

Cotula pygmaea* (Kunth) Benth. & Hook. ex Hemsl., Biol. Centr. Amer. Bot. 2: 230 (1881), comb. illegit., non Poir. (1810) = **Cotula mexicana (DC.) Cabrera

Cotula valparadisea Phil., Anales Univ. Chile 43: 503 (1873) = **Cotula mexicana** (DC.) Cabrera

Cotula venosa Colenso, Trans. Proc. New Zealand Inst. 23: 388 (1890) [1891] = **Cotula australis** (Sieber ex Spreng.) Hook. f.

Cotula viscosa L., Sp. Pl. : 892 (1753) = **Egletes viscosa** (L.) Less.

Cotyla O. Kuntze & Post, Lexicon Gen. Phan. : 145 (1903), orth. var. = **Cotula** L.

Crantzia Vell., Fl. Flum. Icones 8: tab. 153 (1831) = **Centratherum** Cass.

Crantzia ovata Vell., Fl. Flum. Icones 8: tab. 153 (1831) = **Centratherum punctatum** Cass. ssp. **punctatum**

Crassina Scepin, De Acido Veg. : 42 (1759)[1758], nom. rej. = **Zinnia** L.

Crassina intermedia (Engelm.) Kuntze, Revis. Gen. Pl. 1: 331 (1891) = **Zinnia peruviana** (L.) L.

Crassina leptopoda (DC.) Kuntze, Revis. Gen. Pl. 1: 331 (1891) = **Zinnia peruviana** (L.) L.

Crassina multiflora (L.) Kuntze, Revis. Gen. Pl. 1: 331 (1891) = **Zinnia peruviana** (L.) L.

Crassina peruviana (L.) Kuntze, Revis. Gen. Pl. 1: 331 (1891) = **Zinnia peruviana** (L.) L.

Crassina peruviana (L.) Kuntze var. *flava* Kuntze, Revis. Gen. Pl. 3(3): 143 (1898) = **Zinnia peruviana** (L.) L.

Crassina tenuiflora (Jacq.) Kuntze, Revis. Gen. Pl. 1: 331 (1891) = **Zinnia peruviana** (L.) L.

Crassina verticillata (Andr.) Kuntze, Revis. Gen. Pl. 1: 331 (1891) = **Zinnia peruviana** (L.) L.

Crassocephalum valerianifolium (Link ex Spreng.) Less., Linnaea 5(1): 163 (1830) = **Erechtites valerianifolia** (Link ex Spreng.) Less. ex DC. var. **valerianifolia**

Crepis L., Sp. Pl.: (1753).

Crepis boliviensis Wedd., Chloris Andina 1: 226 (1857) = **Hieracium boliviense** (Wedd.) Sch.Bip.

**Crepis heterophylla* Klatt, Ann. Naturh. Hofmus. Wien 9: 368 (1894), nom. illegit. non Hemsl. (1888)[J. Linn. Soc. 23: 475]. Types: 'Hab.: Mexico, leg. Schmitz; Bolivia, leg. Mandon.' = *Hieracium* sp. ?

Critonia P. Browne, Civ. Nat. Hist. Jamaica : 490 (1756).

Dalea P. Browne, Civ. Nat. Hist. Jamaica : 314 (1756), non *Dalea* L. [LEGUMINOSAE]. Type: *Eupatorium dalea* L. = **Critonia dalea** (L.) DC.

Wikstroemia Spreng., Kongl. Vetensk. Akad. Handl. : 167 (1821), nec. *Wikstroemia* Schrader (1821), nom. rej. [THEACEAE], non *Wikstroemia* Endl. (1833), nom. cons. [THYMELEACEAE]. Type: *Wikstroemia glandulosa* Spreng. = *Eupatorium dalea* L. = **Critonia dalea** (L.) DC.

Type: *Eupatorium dalea* L. = **Critonia dalea** (L.) DC.

Critonia chrysocephalum (Klatt) R. M. King & H. Rob., *Phytologia* 22(1): 48 (1971) = ***Neurolaena lobata*** (L.) R.Br. ex Cass.

Critonia morifolia (Mill.) R. M. King & H. Rob., *Phytologia* 22(1): 49 (1971).

**Eupatorium morifolium* Mill., *Gard. Dict. Ed. 8, Eupatorium no. 10* (1768). 'Houst. MSS. ... The tenth sort was sent me by the late *Dr. Houstoun* from La Vera Cruz, where he found it growing naturally, ...' Holotype: BM.

Eupatorium populifolium Kunth in Humb., *Bonpl. & Kunth, Nova Gen. Sp. Pl. 4* (ed. folio): 87 (1818). Type: 'Crescit locis aridis, calidissimis juxta pagum Mazatlan Mexicanorum, alt. 650 hex. ■ Floret April.' [Humboldt & Bonpland 'n. 3931. Masatlan'] Holotype: P-Bonpl.

Eupatorium critonioides Steetz in Seem., *Bot. Voy. Herald* : 145 (1853). Type: [Panama:] 'Volcano of Chiriqui, Veraguas. [Seemann]' Holotype: BM.

Eupatorium sartorii Sch.Bip. ex Klatt, *Leopoldina* 20: 91 (1884), nom. nud. pro syn. Note: this name appeared on p. 4 in the preprint in K.

Bolivia (La Paz, Santa Cruz), Brazil, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Surinam, Venezuela.

Rivurine woodland, montane cloud forest.

0–1500 m.

Probably flowering throughout the year.

Critoniopsis Sch.Bip., *Jahresber. Pollichia* 20-21: 430 (1863) [30 March 1864].

Turpinia Lex. ex LaLlave & Lex., *Nov. Feg. Desc.*, fasc. 1: 22 (1824), non *Turpinia* Humb. & Bonpl. (1807), nom. rej., (= ***Barnadesia*** Mutis [Barnadesieae]), non *Turpinia* Vent. (1807), nom. cons. [STAPHYLACEAE].

Lectotype: *Turpinia tomentosa* Lex. = *Critoniopsis tomentosa* (LaLlave & Lex.) H. Rob.

Monosis DC. sect. *Eremosis* DC., *Prodr.* 5: 77 (1836). Lectotype (selected by Gleason, 1906: 227): *Monosis salicifolia* DC. = *Critoniopsis salicifolia* (DC.) H. Rob.

Tephrothamnus Sch.Bip., *Jahresber. Pollichia* 20-21: 431 (1863)[30 March 1864]. Lectotype (selected by Robinson, 1993: 608): *Tephrothamnus paradoxa* Sch.Bip. = *Critoniopsis paradoxa* (Sch.Bip.) V. M. Badillo

Vernonia Schreb. sect. *Critoniopsis* (Sch.Bip.) Benth. & Hook.f., *Gen. Pl.* 2: 230 (1873).

Vernonia Schreb. sect. *Vernonia* subsect. *Eremosis* (DC.) S. B. Jones, *Rhodora* 81(No. 828): 435 (1979).

Eremosis (DC.) Gleason, *Bull. New York Bot. Gard.* 4(13): 227 (1906).

Type: *Critoniopsis lindenii* Sch.Bip.

References

Cuatrecasas, J. (1956). Neue *Vernonia*-Arten und Synopsis der andinen Arten der Sektion *Critoniopsis*. *Bot. Jahrb. Syst.* 77(1): 52–84.

Robinson, H. (1980). Re-establishment of the genus *Critoniopsis* (Vernonieae: Asteraceae). *Phytologia* 46(7): 437–442.

Robinson, H. (1993). A review of the genus *Critoniopsis* in Central and South America (Vernonieae: Asteraceae). *Proc. Biol. Soc. Washington* 106(3): 606–627.

Critoniopsis boliviana (Britton) H. Rob., *Proc. Biol. Soc. Washington* 106(3): 609 (1993).

**Vernonia boliviana* Britton, *Bull. Torrey Bot. Club* 18: 332 (1891). Type: [Bolivia:] 'Yungas, 4,000 ft. ([Rusby] 1729).' Holotype: NY (00274596 – ex Columbia College Herbarium); isotypes: NY (00274595 – ex Princeton University Herbarium), US (01400473).

Vernonia paucisquamata Rusby, *Bull. New York Bot. Gard.* 4(14): 376 (1907). Types: [Bolivia:] ' "Climbing 8 to 15 ft. high, in wet forest-mould." Coroico, September 4, 1894. ([Bang] No. 2409). The same as *Rusby* 1729.' Isosyntypes (*Bang* 2409): F (163959), NY (00274612), US (01401328). NY considers their duplicate as the holotype, overlooking mention of *Rusby* 1729.

Bolivia (La Paz), Ecuador, Peru.

1500–2000 m.

September.

Critoniopsis cajamarcensis (H. Rob.) H. Rob., *Proc. Biol. Soc. Washington* 106(3): 610 (1993).

Vernonia cajamarcensis H. Rob., *Phytologia* 53(6): 393 (1983). Type: 'PERU: Cajamarca: Prov. Jaén. Quebrada San Agustín. ladera con monte bajo. Alt. 1100–1200 m. Flores purpúreas; arbusto. Julio 20, 1982. R. Ferreyra & S. Sánchez 19652'. Holotype: US (2933371).

Bolivia (?), Peru.

1100–1200 m.

July.

Critoniopsis choquetangensis H. Rob., *Phytologia* 78(5): 386 (1995). Type: 'BOLIVIA. La Paz. Inquisivi, comunidad Choquetanga – Aguas Calientes – Calachaca, cuenca del río Calahura, pequeño valle, 9 km de Choquetanga, 16°48'S, 67°19'W, 3400 m, 20 Julio 1994, N. Salinas 3187'. Holotype: US (03329173); isotype: LPB.

Bolivia (La Paz).

Scrub, pasture.

2900–3400 m.

June–July.

Critoniopsis jubifera (Rusby) H. Rob., *Proc. Biol. Soc. Washington* 106(3): 615 (1993).

**Vernonia jubifera* Rusby, *Mem. Torrey Bot. Club* 6(1): 53 (1896). Type: [Bolivia:] 'Between Mapiri and Tipuani, July–Aug., 1892 ([Bang] 1554)'. Holotype: NY (00274865); isotypes: F (77720), K, LD, NY × 2 (00274863, 00274864), US (00046785).

**Vernonia conwayi* Rusby, *Bull. New York Bot. Gard.* 8(No. 28): 125 (1912). Type: [Bolivia:] ' "Eight ft. high; near Inglis-Inglis, 5500 ft., Aug. 16, 1902" ([R.S. Williams] No. 1493)'. Holotype: NY (00274777); isotypes: K, NY (00274776), UC (946389). Note: Although synonymized by Robinson (1993: 615), the type material in NY suggest that at most the stems are tomentose and certainly not the markedly shaggy appearance of the types of *V. jubifera*.

Bolivia (La Paz).

1500 m.

July–August.

Critoniopsis lewisii H. Rob., *Proc. Biol. Soc. Washington* 106(3): 615 (1993). Type: 'BOLIVIA: La Paz: Prov. Inquisivi: Quebrada Jancha Kaihua, along a ravine joining Rio Ocsalla ca. 3 km down river from Laguna Huara Huarani, 10 km N of Choquetanga, along upper edge of ravine cloud forest, *Clethra*, *Hesperomeles*, *Weinmannia*, *Saracha*, *Berberis*, *Gynoxys*, *Myrica* are all common, 16°45'S, 67°17'W, 3400–3600 m, vine over small trees, inflorescence white, 3 Sep 1991, Marko Lewis 39696'. Holotype: US (03269385); isotypes: LPB, MO.

Bolivia (La Paz).

Cloud forest.

3400–3600 m.

September–April.

Critoniopsis pycnantha (Benth.) H. Rob., *Phytologia* 46(7): 441 (1980).

**Vernonia pycnantha* Benth., *Pl. Hartweg* : 134 (1844). Type: '[754] In montibus Paccha. [Hartweg]'.

Note: This species was originally recorded for Bolivia by Britton (1891: 331), and Gleason (1923: 299), based on Rusby 1728. However, Robinson (1993: 620), in transferring the species to *Critoniopsis*, noted that it was endemic to Ecuador, but noted that 'Specimens identified as the species from Colombia, central Ecuador, and Bolivia are considered here to belong to various other species, some of which may be unnamed.' It remains to be seen what Rusby 1728 actually is.

Critoniopsis steinbachii H. Rob., *Proc. Biol. Soc. Washington* 106(3): 622 (1993). Type: 'BOLIVIA: Santa Cruz: Prov. Ichilo: Parque Nacional Amboró, ca. 15 km (SE) up the Rio Surutú, moist tropical forest on lower montane slopes, sandstone, 17°44'S, 63°40'W, 700 m, arching shrub, 3 m, corollas lavender, 30 Aug 1985, J.C. Solomon & S. Urcullo 14171'. Holotype: US (03116536); isotypes: MO, NY (0039450).

Bolivia (Santa Cruz).

Cloud forest.

700 m.

August–September.

Critoniopsis yungasensis (Britton) H. Rob., Proc. Biol. Soc. Washington 106(3): 626 (1993).

**Vernonia yungasensis* Britton, Bull. Torrey Bot. Club 18: 332 (1891). Types: [Bolivia:] 'Yungas, 4,000 ft. ([Rusby] 1731; 1732).' Syntypes: NY. Lectotype (selected by Robinson, 1993: 626): *Rusby* 1732, NY (00277731 – ex Columbia College Herbarium); isolectotype: NY (00277730 – ex College of Pharmacy Herbarium). Syntypes: *Rusby* 1731 – NY (00277732 – ex Columbia College Herbarium), NY (00277729 – ex College of Pharmacy Herbarium).

Bolivia (La Paz).

1200 m.

Cryphiospermum, P. Beauv., Fl. Oware 2: 24, t. 74 (1810) = **Enydra** Lour.

Cryphiospermum repens P. Beauv., Fl. Oware 2: 24 (1810) = **Enydra fluctuans** Lour.

Cryptopetalum Cass., Bull. Sci. Soc. Philom. Paris 1817: 12 (1817) = **Pectis** L.

Cryptopetalum ciliare Cass., Dict. Sci. Nat. 12: 123 (1818) = **Pectis sessiliflora** (Less.) Sch.Bip. ex Rusby

Ctenosperma Hook. f., London J. Bot. 6: 115 (1847), non *Ctenosperma* Lehm. & Pfeiff. (1874), nom. nud. pro syn. = **Cotula** L.

Cuatrecasasiella H. Rob., Fl. Neotrop. 2, Suppl.: 14 (1985).

Type: *Luciliopsis isernii* Cuatrec. = *Cuatrecasasiella isernii* (Cuatrec.) H. Rob.

References

Dillon, M. O. & Sagástegui-Alva, A. (1991). *Cuatrecasasiella*. Family Asteraceae: Part V [Inuleae] In: J. F. Macbride et al., Flora of Peru. Fieldiana, Bot. n.s. 26: i–iv, 1–70. [22–24].

Robinson, H. (1985). In honor of the botanical career of José Cuatrecasas [incl. *Cuatrecasasiella* H. Robinson, gen. nov. Asteracearum (Inuleae)]. Fl. Neotrop. 2, Suppl.: 13–16.

Cuatrecasasiella argentina (Cabrera) H. Rob., Fl. Neotrop. 2, Suppl.: 15 (1985).

Luciliopsis argentina Cabrera, Darwiniana 9(1): 41 (1949). Types: 'Argentina. – Jujuy: El Aguilar, vegas a 4300 m s. m., leg. A. L. Cabrera, 9239, 14-I-1948. (Planta masculina: Cotypus: BAB). – Tucumán: Dep. Tafí, Peñas Azules, Casa de Piedra, San José, 3150 m s. m., leg. R. Schreiter, 6990, XII-1931 (Planta femenina: Cotypus: LIL).

Argentina, Bolivia (La Paz).

Bogs, within *Distichia* spp. moss carpets/mats, moist Puna, rock cracks with *Distichia* spp. 3100–4970 m.

Possibly flowering sporadically throughout the year.

La Paz: *Avila* 19 (LPB), *Feuerer* 4724A (LPB), *Fuentes* et al. 12721 (BOLV, LPB, MO), *Menhofer* 31 (MO), *Solomon* 12281 (K, MO), *Solomon* 12838 (MO).

Culcitium Humb. & Bonpl., Pl. Aequinoct. 2: 1 (1808).

Senecio sect. *Culcitium* (Humb. & Bonpl.) Cuatrec., Fieldiana, Bot. 27(1): 50 (1950).

Type: not stated. Lectotype (selected by Cuatrecasas, 1951: 73): *Senecio canescens* (Humb. & Bonpl.) Cuatrec. = **Culcitium canescens** Humb. & Bonpl. Note: *Culcitium rufescens* Humb. & Bonpl. is cited as the type in *Index Nominum Genericorum* which suggested lectotypification, although the source is not indicated. Cabrera (1985: 112) simply cited *C. rufescens* as the type of the series under *Senecio*. Cuatrecasas (1951: 73) in transferring all species of *Culcitium* to *Senecio* Sect. *Culcitium*, noted *Senecio canescens* (Humb. & Bonpl.) Cuatrec. as the type of the section, with *C. rufescens* as a synonym of *S. canescens*, which is reflected below; this is taken as the lectotypification of *Culcitium*.

Note: Rather than recognize *Culcitium* as a separate genus, merely as an altitudinal variant of more typical *Senecio*, *Culcitium*, *Aetheolaena* and *Lasiocephalus* have been considered by some authors best subsumed into *Senecio* sens. lat. (q.v. Pelsner et al., 2007: 1098). This ignores the admitted usefulness of distribution, habit, corolla pigment, involucre, etc. in maintaining their recognition as separate genera. The inclusion of **C. humile** DC. is still doubtful, especially with the rather variable leaves – see comments below. Species such

as *C. humile* might also key out to *Senecio* in the generic key to the Senecioneae, merely because of the less than woolly indumentum.

References

Cuatrecasas, J. (1950). The genus *Culcitium* H. et B. In: Studies on Andean Compositae – I. Fieldiana, Bot. 27(1): 40–51.

Cuatrecasas, J. (1951). Some Andean sections of the genus *Senecio*. In Studies on Andean Compositae – II. Fieldiana, Bot. 27(2): 70–74.

Note: *Senecio comosus* Sch.Bip. is excluded from *Culcitium* because it has radiate capitula. *Senecio culcitioides* Sch.Bip., later transferred by Cabrera (1985: 116) as *S. comosus* Sch.Bip. var. *culcitioides* (Sch.Bip.) Cabrera needs further investigation, especially to determine if it is conspecific with *S. comosus*, as suggested by Cabrera.

Key to species

1. Inflorescence of solitary capitula (rarely 2); plants usually somewhat delicate, 2–15 cm tall 2
Inflorescence or corymbiform or paniculate; plants robust herbs 30–40 cm tall 3
2. (1) Calycular bracts short, about half length of involucre; involucre 10–12 mm tall; leaves 2–8
cm × 0.5–2 cm; phyllary apices purplish *C. humile*
Calycular bracts long, more than half length of involucre; involucre 12–15 mm tall; leaves 6–
14 cm × 0.5–1.2 cm; phyllary apices green *C. neaei*
3. (1) Capitula large, involucre 20 mm tall × 40 mm diam.; leaves 20–30 cm × 2–3.5 cm; densely
lanose *C. canescens*
Capitula medium, involucre 10–12 mm tall × 15 mm diam.; leaves 12–19 cm × 1.2–1.6 cm,
densely tomentose *C. albifolium*

Culcitium albifolium Zoellner, Anales Mus. Hist. Nat. Valparaiso 3: 65 (1970). Type: 'Chile, Prov. de Tarapacá, Depto. Arica en Portezuelo de Chapiquiña, a 4.500 m. de altura s. n. m. Leg. Otto Zoellner Sch., 21 Enero 1969.' Holotype: L. Note: Cabrera (1985: 118) cited this collection as *Zöllner* 3030, with an isotype in LP. *Senecio zoellneri* Martic. & Quezada, Bol. Soc. Biol. Concepción 48: 102 (1974), nom. nov. pro ***Culcitium albiflorum*** Zoellneri
Bolivia (La Paz), Chile.
Amongst rocks.
4300–4800 m.
January.

Culcitium boyacense Cuatrec., Caldasia 1: 5 (1940) = ***Culcitium canescens*** Humb. & Bonpl.

Culcitium canescens Humb. & Bonpl., Pl. Aeqin. 2: 4, t. 67 (1808/9). Type: 'Habitat in montosis Peruviae frigidis, frequens praesertim in monte Gualgayaoc.' Holotype: P-Bonpl.

**Senecio canescens* (Humb. & Bonpl.) Cuatrec., Fieldiana, Bot. 27(1): (1950).

Culcitium canescens Humb. & Bonpl. var. β *monocephalum* Wedd., Chloris Andina 1: 138 (1856). Types: 'C. nivale Schultz Bip., in Bonplandia, ann. 1856, p. 55, non H.B.K. ... Andes de Carabaya, près de S. Antonio! h. 5000 mètr. (Lechler, exsicc., n. 1806); Cordillères de Guanaco (Haenke, d'après DC.)' Syntypes: P.

Culcitium boyacense Cuatrec., Caldasia 1(1): 5 (1940). Type: [Colombia:] 'Cordillera Oriental, Departamento de Boyacá; Sierra Nevada del Cocuy, o de Güicán, Quebrada de San Paulino, El Morrón, páramo 3800 m. alt., J. Cuatrecasas & H. García Barriga, 11 sept. 1938 legerunt (n° 1372).' Holotype: COL; isotype: US (1797218).

Senecio boyacensis (Cuatrec.) Cuatrec., Fieldiana, Bot. 27(1): 43 (1950).

Senecio canescens (Humb. & Bonpl.) Cuatrec. var. *boyacensis* (Cuatrec.) Cuatrec., Fieldiana, Bot. 27(2): 36 (1951).

Senecio canescens (Humb. & Bonpl.) Cuatrec. var. *macrocephalus* Cuatrec., Fieldiana, Bot. 27(2): 36 (1951). Type: 'Colombia, Dept. Caldas, Nevado de Santa Isabel arenales 4420 m. alt., collect. J. Cuatrecasas 23208'.

Holotype: F (1271367, 1271368). These 2 sheets in F are marked as 'TYPUS' but are not marked as sheet 1 and sheet 2.

Senecio canescens (Humb. & Bonpl.) Cuatrec. var. *elongatus* Cuatrec., Fieldiana, Bot. 27(2): 37 (1951). Type: 'Ecuador, Carchi: Páramo del Angel, 3300–3800 m. alt., collect. Acosta-Solis 10562'. Holotype: ?F.

Senecio canescens (Humb. & Bonpl.) Cuatrec. var. *elongatus* Cuatrec. f. *magnificus* Cuatrec., Fieldiana, Bot. 27(2): 37 (1951). Type: 'Ecuador, Carchi, Páramo del Angel 12,000 ft., collect. Edward Balls 7337'. Holotype: ?US.

Senecio canescens (Humb. & Bonpl.) Cuatrec. var. *ecuadoriensis* Cuatrec., Fieldiana, Bot. 27(2): 37 (1951). Types: 'Ecuador, Monte Pichincha near Quito 4100-4500 m., collect. Hitchcock 21059 (US, NY)'. Note: The material in NY (00259140) was clearly marked as 'isotype' by Cuatrecasas.

**Senecio canescens* (Humb. & Bonpl.) Cuatrec. var. *monocephalus* (Wedd.) Cuatrec., Fieldiana, Bot. 27(2): 37 (1951).

Bolivia (La Paz, Oruro), Colombia, Ecuador, Peru.

Páramo.

3300-5000 m.

September-April.

Note: Cuatrecasas (1951: 36-37) suggested that there were few differences separating *Culcitium canescens* and *C. rufescens* Humb. & Bonpl. combining their synonymy and adding several new 'geographical' varieties from Colombia and Ecuador. If *C. rufescens* is found to be the lectotype of *Culcitium* then appropriate changes will have to be made with the synonymy listed above.

Culcitium canescens Humb. & Bonpl. var. β *monocephalum* Wedd., Chloris Andina 1: 138 (1856) = **Culcitium canescens** Humb. & Bonpl.

Culcitium glaciale Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 278 (1843) = **Culcitium humile** DC.

Culcitium humile DC., Prodr. 6: 325 (1838). Type: '■inter Regiomontanas plantas herb. Haenkeani observ. ... (v.s. in h. Haenke à cl. de Sternberg miss.)' Holotype: PR; isotype: G-DC. Note: Cabrera (1985: 113) cited the holotype as in M, with an isotype in P!

Culcitium glaciale Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 278 (1843).

Type: 'Peruvia: in planitie circa Tacoram, alt. 14-17,000 ped. (v.s.)'. Holotype: B†.

**Senecio modestus* Wedd., Chloris Andina 1: 105 & Pl. 18B (1856). Types: 'Hab. PÉROU: Cordillères de Carabaya!, près de la limite inférieure des neiges, sur les rochers humides (Wedd.). - BOLIVIE: au sommet de la Cordillère de La Paz! (d'Orbigny, n°. 335)'. Syntypes: P. Lectotype (selected by Cabrera, 1985: 114): d'Orbigny 355, P. Note: Cabrera (1985) cited Weddell 4745, from Prov. de Carabaya, as a 'paratype' in P; it is likely that this is the other syntype.

Senecio candollii Wedd., Chloris Andina 1: 106 (1856). Type: 'Hab. PÉROU? (Haenke)'. Holotype: ?P; isotype: ?PR.

Senecio mandonianus Wedd., Chloris Andina 1: 228 (1857). Type: 'Hab. BOLIVIE!: Cordillères du département de La Paz (Mandon)'. [Cited as 'Bolivia. Prov. Larecaja, Vicin. Sorata, leg. Mandon 109, 1857' by Cabrera (1985: 113)]. Holotype: P; isotypes: G, K, LP, NY (00259289, 00259290), S, ?US. Note: The Kew sheet of Mandon 109 has two specimens of **Chersodoma antennaria** (Wedd.) Cabrera mixed in with the *Culcitium*.

Senecio anacephalus Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 208 (1879). Type: [Argentina] 'S.:

Nevado desl Castillo, alt. 10-15000!'. [Lorentz & Hieronymus 91] Holotype: GOET; isotypes: CORD, LP.

Senecio glacialis (Mey. & Walp.) Cuatrec., Fieldiana, Bot. 27: 46 (1950).

Senecio modestus Wedd. var. *candollii* (Wedd.) H. Beltrán & Galán de Mera, Bot. Complutensis 21: 104 (1996) Argentina, Bolivia (Cochabamba, La Paz, Oruro, Potosí), Peru.

Puna Peruana.

3500-5000 m.

Note: Usually treated as *Senecio candollii* Wedd. (e.g. Cabrera, 1985: 112), or with *S. modestus* Wedd. as a separate species, combined, under *Culcitium*, the earliest specific name is *Culcitium humile* DC. I very much doubt that this species should be kept in *Culcitium* since the leaves are at best pseudopetiolate with an elliptic lamina, and in some extreme cases, in Peruvian material (*Tupayachi* 6387), have very coarsely serrate, almost lobed, margins; the involucre has at best biseriolate phyllaries with many calycular bracts. In the key to series of *Senecio* below (modified from Cabrera, 1985), material would most likely key to Ser. *Crassicephali*, although the indumentum is clearly different.

Culcitium lechleri Sch.Bip., Bonplandia 4(4): 55 (1856), nom. nud. = **Chersodoma antennaria** (Wedd.) Cabrera

***Culcitium neaei** Sch.Bip. ex Wedd., *Chloris Andina* 1 :140 (1856). Type: '*Culcitium Neaei* Schultz Bip., mscr. in herb. propr. – *C. nivale*, Neaei DC., Prodr., VI, 325. ... Hab. Pérou: Cordillères de Guanoco (*Haenke*).'
Holotype: ?P – according to Cabrera (1985: 115).

Culcitium nivale Kunth [var.] ? *neaei* DC., Prodr. 6: 325 (1838). Type: '■ in itin, per Americ. legit cl. Née. ... (v.s.)' Holotype: G-DC.

Senecio neeanus Cuatrec., *Fieldiana*, Bot. 27(1): 44 (1950), as nom. nov. pro *Culcitium neaei* Sch.Bip. ex Wedd. Bolivia ('Cerro Jurackasa', 'altovalle de Viloco'), Peru.

Puna Peruana, Sajama high-andean bunch-grassland; 4800–5100 m; April.

*?*Culcitium nivale* Kunth in Humb., *Bonpl. & Kunth*, Nov. Gen. Sp. 4 (ed. folio): 134 (1818). Type: 'Crescit inter nives in monte ignivomo Antisanæ qua parte Chussulongum spectat, alt. 2340 hex. ■ Floret Martio.' [Humboldt & Bonpland 'mss. n. 2249'.] Holotype: P-Bonpl. Note: Foster (1958: 207) included this species for Bolivia, based on Cabrera's record (1952: 197) for *Herzog* 2230, now considered to be *Culcitium neaei*, cf. Cabrera (1985: 115). *Culcitium nivale* is only known from Ecuador.

Culcitium nivale Kunth var. *neaei* DC., Prodr. 6: 325 (1838) = **Culcitium neaei** (DC.) Sch.Bip. ex Wedd.

Culcitium pflanzii Perkins, Bot. Jahrb. Syst. 49: 229 (1913) = **Senecio pflanzii** (Perkins) Cuatrec.

Culcitium serratifolium Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 278 (1843) = **Senecio serratifolius** (Meyen & Walp.) Cuatrec.

Cyanopsis Blume ex DC., Prodr. 5: 69 (1836), nom. illegit. superfl. non Cass. (1817) = **Vernonia** Schreb.

Cyanthillium Blume, Bidjr.: 889 (1826) = **Vernonia** Schreb.

Cyclolepis D. Don, *Philos. Mag.* 11: 392 (1832)

Type: **Cyclolepis genistoides** D. Don

References

Cabrera, A. L. (1978). *Cyclolepis*. In: Cabrera, A. L. (ed.), *Flora de la Provincia de Jujuy, Republica Argentina. Parte X Compositae*. Coeccion Cientifica de INTA, Buenos Aires. pp. 590–592.

Cabrera, A. L. (1998). *Cyclolepis*. In: A. L. Cabrera & S. E. Freire, *Flora del Paraguay* (R. Spichiger & L. Ramella, eds), vol. 28. *Compositae V. Inuleae & Mutisieae*. Editions des Conservatoire et Jardin botaniques de la Ville de Genève & Missouri Botanical Garden. pp. 117–119.

Cyclolepis genistoides D. Don, *Philos. Mag.* 11: 392 (1832). Type: [Argentina:] 'Mendoza [& San Juan]'. Herb. *Gillies*. Holotype: K.

Gochnatia genistoides (D. Don) Hook. & Arn., *Companion Bot. Mag.* 1(No. 4): 109 (1835).

Argentina, Bolivia (?), Chile, Paraguay.

Salt flats, margins of brackish rivers, Chaco.

1000–2000 m.

March–August.

Vernacular names: JUPOTY, MATORRO NEGRO, ÑUATÍ HÚ (Cabrera, 1998).

Cynara lanceata (Hill) Stokes, *Bot. Mat. Med.* 4: 155 (1812) = **Cirsium vulgare** (Savi) Ten.

Cyrtozymura H. Rob., *Proc. Biol. Soc. Washington* 100(4): 849 (1987) = **Vernonia** Schreb.

Cyrtozymura cincta (Griseb.) H. Rob., *Proc. Biol. Soc. Washington* 100(4): 851 (1987) = **Vernonia cincta** Griseb.

Cyrtozymura scorpioides (Lam.) H. Rob., *Proc. Biol. Soc. Washington* 100(4): 852 (1987) = **Vernonia scorpioides** (Lam.) Pers.

D

Dalea P. Browne, Civ. Nat. Hist. Jamaica : 314 (1756), non *Dalea* L. [LEGUMINOSAE] = **Critonia** P. Browne

Dasycondylus R. M. King & H. Rob., *Phytologia* 24(3): 188 (1972).

Eupatorium L. sect. *Campuloclinium* (DC.) Benth., pp., sensu Cabrera, Fl. Ilust. Catarin. : 638 (1991).

Type: *Eupatorium lobbii* Klatt = **Dasycondylus lobbii** (Klatt) R. M. King & H. Rob.

Reference

King, R. M. & H. Robinson. (1972). Studies in the Eupatorieae (Asteraceae). XCVII. A new genus, *Dasycondylus*. *Phytologia* 24(3): 187-191.

Dasycondylus lobbii (Klatt) R. M. King & H. Rob., *Phytologia* 24(3): 190 (1972).

**Eupatorium lobbii* Klatt, Ann. K. K. Naturhist. Hofmus. 9: 356 (1894). Types: 'Hab.: Peru, leg. Lobb; in montibus secus flumen Mayo, prope Jarapoto, Peruviae orientalis, coll. R. Spruce, Juli-Aug. 1856, Nr. 4804.' Syntypes: W.

**Eupatorium sordescens* DC. var. *bolivianum* Rusby, Mem. Torrey Bot. Club 6(1): 56 (1896). Type: [Bolivia:] 'Between Guanai and Tipuani, Apr.-June, 1892 ([Bang] 1464).' Holotype: NY (00169199).

Bolivia (La Paz), Brazil, Peru.

750 m.

April-August.

Note: King & Robinson (1987: 530) listed *Eupatorium sordescens* DC. as a synonym of *Dasycondylus resinus* (Spreng.) R. M. King & H. Rob., a Brazilian endemic.

Dasyphyllum Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Plant. 4(ed. folio): 13 (1818).

Flotovia Spreng., Syst. Veg., ed. 16, 3: 359 (1826). Type: *Flotovia tomentosa* Spreng. = *Dasyphyllum sprengelianum* (Spreng.) Cabrera

Chuquiraga Juss. sect. *Erinesa* D. Don, Trans. Linn. Soc. London 16(2): 287 (1830). Type: *Chuquiraga hispida* D. Don = *Dasyphyllum synacanthum* (Baker) Cabrera

Piptocarpha Hook. & Arn., Companion Bot. Mag. 1(No. 4): 110 (1835), non *Piptocarpha* R.Br.

[VERNONIEAE]. Type: *Flotovia diacanthoides* Less. = *Dasyphyllum diacanthoides* (Less.) Cabrera

Type: *Dasyphyllum argenteum* Kunth

Reference

Cabrera, A. (1959). Revision del genero *Dasyphyllum*. *Revista Mus. La Plata, Secc. Bot.* 9: 21 - 100, pl. I - VIII.

Tovar, O. (1953). Las especies peruanas del genero *Flotovia*. *Publ. Mus. Hist. Nat. 'Javier Prado', Ser. B., Bot.* 7: 1-23.

Key to species

1. Capitula numerous (throughout flowering portions of stems), small or medium-sized, in racemes or corymbose cymes; involucre to 18 mm tall (sect. *Microcephala*) 2
Capitula few, large, solitary or few grouped together; involucre more than 20 mm tall (sect. *Macrocephala*) 8
2. (1) Corolla lobe apices glabrous 3
Corolla lobe apices pubescent 6
3. (2) Capitula with 6-10 florets 4
Capitula with 11-30 florets 5
4. (3) Capitula sessile, solitary, or sometimes groups of 2-3; leaves usually sparsely pubescent, at least on margins; florets 6 *D. leiocephalum*
Capitula short-pedicellate, usually few grouped together, rarely solitary; leaves glabrous; florets 6-10 *D. armatum*

5. (3) Achenes glabrous; leaves 1–2.5 cm long; spines usually as long as or much longer than leaves; c. 20 florets per capitulum *D. hystrix*
 Achenes setuliferous; leaves 4–8 (–10) cm long; spines short or absent; 11–20 florets per capitulum *D. brasiliense* [var. *varians*]
6. (2) Spines as long as or longer than leaves; phyllary apices with a short spine *D. ferox*
 Spines short or absent; phyllary apices mucronate 7
7. (6) Corollas pubescent outside throughout *D. inerme*
 Corollas glabrous except for lobe apices *D. brasiliense*
8. (1) Adult leaves glabrous, lamina 50–100 × 20–60 mm; capitula 30–40 mm tall *D. latifolium*
 Adult leaves with persistent pubescence beneath, lamina 25–70 × 10–35 mm; capitula 20–30 mm tall 9
9. (8) Florets 25–30; involucre 20–25 mm tall *D. candolleianum*
 Florets 40–50; involucre 25–30 mm tall *D. velutinum*

Dasyphyllum armatum (J. Koster) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 51 (1959).

**Chuquiraga armata* J. Koster, Blumea 5(3): 662 (1945). Type: [Bolivia:] ‘Hab.: Strauch an steinigen Abhängen bei Pojos, 2400 m alt., April 1911, [Herzog] n. 2023.’ Holotype: L(94437126); isotype: LP, S.

Flotovia armata (J. Koster) Tovar, Publ. Mus. Hist. Nat. ‘Javier Prado’, Ser. B., Bot. 7: 7 (1953).

Argentina, Bolivia (Cochabamba).

Dry scrubby slopes.

2000–3000 m.

March–April.

Cochabamba: Wood 16012 (K).

Dasyphyllum brasiliense (Spreng.) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 72 (1959).

Joannea brasiliensis Spreng., Neue Entdeck. 2: 132 (1821). Type: ‘E Brasilia’ [Sello]. (Lectotype, selected here, P; isolectotype K). Sprengel’s herbarium was divided and sold; the *Compositae* went to Schultz Bipontinus, then to Herb. Cosson and thence to Paris (P) (Stafleu & Cowan 1985).

Carthamus fluminensis Vell., Fl. Flum. : 342 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 78 (1831). Type: not cited.

Flotovia glabra Spreng., Syst. Veg., ed. 16, 3: 506 (1826), nom. illegit. superfl. pro *Joannea brasiliensis* Spreng.

Flotovia (Erinesia) quinquinervis Gardner, London J. Bot. 4: 127 (1845). Type: Brazil, Rio de Janeiro ‘Hab.

Woods, Organ Mountains, at an elevation of 3500 feet’. July. [Gardner] 863. Lectotype (selected here): K – ex Herb. Hookerianum; isotypes: BM, K – ex Herb. Benthamianum.

Chuquiraga glabra (Spreng.) Baker in Mart., Fl. Bras. 6(3): 363 (1884).

Chuquiraga racemosa Baker in Mart., Fl. Bras. 6(3): 363 (1884). Types: [Brazil:] ‘Habitat in prov. Minas Geraës in sylvis apertis: Riedel n. 365; ad Canta Gallo: Peckolt n. 370’. Lectotype (selected by Cabrera, 1959: 74): Riedel n. 365, K; isolectotypes: G, LE, P.

**Chuquiraga brasiliensis* (Spreng.) Kuntze, Revis. Gen. Pl. 3(3): 141 (1898).

Flotovia brasiliensis (Spreng.) Cabrera ex Tovar, Publ. Mus. Hist. Nat. “Javier Prado”, Ser. B., Bot. 7: 1 (1953).

Vernacular names: GUAÍAPÁ-PARREIRA, CIPÓ-AGULHA (Cabrera & Klein, 1973).

var. **barnadesioides** (Tovar) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 76 (1959).

Flotovia barnadesioides Tovar, Publ. Mus. Hist. Nat. “Javier Prado”, Ser. B., Bot. 7: 10 (1953). Type: [Peru:] ‘Junin: Prov. Tarma, Colonia del Perené, 800–900 m s.m., leg. A. Weberbauer, 9-IX-1920’. Holotype: USM; isotype: LP (fragment).

Bolivia (Chuquisaca, La Paz, Santa Cruz), Peru.

700–1800 m.

September–January.

Chuquisaca: Wood 8457 (K).

var. **divaricatum** (Griseb.) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 77 (1959).

Barnadesia divaricata Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 209 (March–April 1879), Symb. Fl. Arg. : 209 (1879). Types: ‘O.: Tarija, pr. Carapari, Cuesta de Buyuyu. (Paraguay: Bal[ansa] 822.)’ Syntypes: Balansa 822, Lorentz 627, Lorentz & Hieronymus 871, GOET. Lectotype (probably selected by Cabrera, 1959: 77, but as ‘Isotype’): ‘Salta: Orán, Carapari, leg. Hieronymus et Lorentz 627 (Isotypus: B; Fot. Field Mus.

15835: SI.)', not mentioning the duplicate in GOET. Note: Cabrera (1959: 79) placed *Balansa* 822 under *D. brasiliense* (Spreng.) Cabrera var. *varians* (Gardner) Cabrera, but without citing its syntype status under *D. brasiliense* var. *divaricatum*. There is also an isolectotype in G (00237601). Cabrera (1959: 77) cited 'Hieronymus & Lorentz 627', yet the material in GOET is quite clearly a collection of Lorentz only, and the label on the sheet heavily annotated by Grisebach. The original label information is '627/(?Hoher, halbschlingender Strauch) bei Carapari in Bolivien/19/VI 73 Dr P. G. Lorentz'. Grisebach's annotations are a description of the diagnostic characters and naming the material 'Barnadesia divaricata m.' having first annotated the sheet (in pencil) 'cf. Barnadesia'. The other syntype collection in GOET is marked '871/Cuesta de Buyuyu/15.VI.73 L et H.' and is also annotated in pencil 'cf. Barnadesia' and determined as 'Barnadesia divaricata Gr.' by Grisebach himself. The *Balansa* 822 syntype's printed label (from the isosyntype in K) reads 'B. BALANSA. 822. PL. PARAGUAY 1874-1877/Tiges grimpantes, épineuse./L' Assomption, dans les haies. 19 Août 1874.'

Flotovia divaricata (Griseb.) Hieron., Act. Acad. Nac. Cienc. Cordoba 2: 33 (1886).

**Chuquiraga brasiliensis* (Spreng.) Kuntze var. *divaricata* (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 141 (1898).

Argentina, Bolivia (Santa Cruz, Tarija), [Paraguay – see note above as to this syntype's placement under the following variety].

Shrub layer in Bosque montano de mirtáceas Boliviano-Tucumano (Boliviano-Tucumano montane myrtaceae forst), Bosque húmedos Boliviano-Tucumanos del subandino superior (Boliviano-Tucumano upper subandean humid forests), Bosque montano lauroide Boliviano-Tucumano (Boliviano-Tucumano montane laurel forest), Bosque semidecídido montano Boliviano-Tucumano (Boliviano-Tucumano montane semideciduous forest), Matorral serial subhúmedo montano Boliviano-Tucumano.

500–2500 m.

November–June.

var. **varians** (Gardner) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 78 (1959).

Flotovia varians Gardner, London J. Bot. 6: 454 (1847). Types: [Brazil, Minas Gerais:] 'Hab. Woods near Formigas'. July 1840. [Gardner] 4949, 4951. Lectotype (selected here): Gardner 4951, K – ex Herb. Hookerianum; isolectotypes: BM, FI, K – ex Herb. Benthamianum, P, R.

Chuquiraga glabra Spreng. var. *varians* (Gardner) Baker in Mart., Fl. Bras. 6(3): 363 (1884).

Chuquiraga hassleriana Chodat, Bull. Herb. Boissier, Ser. 2, 1(4): 418 (1901). Type: Paraguay, 'In dumeto pr. San Bernadino, Jul., [Hassler] 545b et 545a'. Lectotype (selected here): Hassler 545b, G(00175433); isolectotypes: G × 2 (00175432), K, P. Note: there is one other duplicate of Hassler 545b, consisting of two small flowering shoots, two separate leaves and a capsule full of debris from several disintegrated capitula – it does not have a separate barcode. There are also two duplicate syntypes, Hassler 545a, in G and one of fragments which is not barcoded.

Chuquiraga glabra Spreng. var. *hassleriana* (Chodat) Chodat, Bull. Herb. Boissier, Ser. 2, 3(9): 781 (1903).

Chuquiraga glabra Spreng. var. *rectispina* Chodat, Bull. Herb. Boissier, Ser. 2, 3(9): 781 (1903). Type: Paraguay, 'Sub. C. orthacantha Baker in Pl. Hasslerian. 1, p. 118, [Hassler] n. 545c' ['In dumeto pr. Cordillera de Altos, Juli, 545c']. Holotype: G(00175422); isotypes: G × 2 (00175421), K, P. Note: one duplicate in G, also bears a small handwritten label for this collection, and a type label, but appears not to have been separately barcoded.

**Chuquiraga varians* (Gardner) Rusby, Bull. New York Bot. Gard. 4(14): 399 (1907).

Bolivia (Santa Cruz, Tarija), Brazil (Mato Grosso, Minas Gerais), Paraguay.

Bosque húmedos Boliviano-Tucumanos del subandino superior (Boliviano-Tucumano upper subandean humid forests) Bosque montano lauroide Boliviano-Tucumano (Boliviano-Tucumano montane laurel forest) 2200 m.

April–July.

Dasyphyllum candolleianum (Gardner) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 54 (1959).

Flotovia candolleiana Gardner, London J. Bot. 6: 453 (1847). Type: [Brazil:] '[Gardner 2906] Hab. Serra da Batalha, District of the Rio Preto, Province of Pernambuco. Oct. 1839.' Isotype: G (00237620).

Chuquiraga canodlleana (Gardner) Baker in Mart., Fl. Bras. 6(3): 358 (1884).

Chuquiraga urceolata Mattf., Notzbl. Bot. Garten Mus. Berlin-Dahlem 9(85): 394 (1925). Type: 'Brasilien: Goyaz, Serra dos veados, Rio preto (PH. V. LUETZELBURG n. 1345, August 1912).' Holotype: M.

Bolivia (Santa Cruz), Brazil.

October–August.

Dasyphyllum ferox (Wedd.) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 54 (1959).

Flotovia ferox Wedd., Chloris Andina 1: 5 (1855). Types: 'Hab. BOLIVIE: environs de La Paz!, h. 3700 mètres, où il est très abondant. (D'Orbigny, n° 1533; Wedd.)'. Syntypes: P. NB. Cabrera did not lectotypify this name.

There is an isosynotype (D'Orbigny 1533) in G.

**Chuquiraga ferox* (Wedd.) Britton, Bull. Torrey Bot. Club 19: 266 (1892).

**Barnadesia seleriana* Muschl., Bot. Jahrb. Syst. 50(2/3), Beibl. 111: 99 (1913). Type: 'Bolivia: Ad rupes, Camino de los Obrajes prope La Paz. (SELER n. 98 - Florens 18 Junii 1910.)'. Holotype: B.

Bolivia (La Paz), Peru.

Amongst rocks, Puna Peruana.

3000–4000 m.

February–August.

Dasyphyllum hystrix (Wedd.) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 51 (1959).

Flotovia hystrix Wedd., Chloris Andina 1: 6 (1855). Types: 'Hab. BOLIVIE: sommet de la côte de Lagunillas, dans le département de Potosí! (d'Orbigny, n° 1381) département de Chuquisaca!, h. 3400 à 3600 mètres (Wedd.)'. Syntypes: P. Cabrera (1959: 52) cited only 'Dep. Chuquisaca, Prov. Cinti, leg. H. A. Weddell, 2980, I-1846 (Cotypus!: P.)'. under 'Material estudiado'.

Chuquiraga orbignyana Hieron. ex Muschl., Bot. Jahrb. Syst. 50, Beibl. 111: 93 (1914), as nom. nov. pro *Flotovia hystrix* Wedd., non *Chuquiraga hystrix* D. Don (1832)(= *Chuquiraga erinacea* D. Don ssp. *hystrix* (D. Don) Ezcurra).

var. **hystrix**

Bolivia (Chuquisaca, Potosí, Tarija).

Dry stony hillsides.

3000–3600 m.

December–June.

Chuquisaca: Wood & Serrano 14663 (K).

Potosí: Wood 9046 (K), Wood 18870 (K).

Dasyphyllum inerme (Rusby) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 64 (1959).

**Barnadesia inermis* Rusby, Bull. New York Bot. Gard. 4(14): 399 (1907). Type: [Bolivia:] ' "Climbing very high on trees in damp forest-mould. The flowers are yellow, with an agreeable odor, and very different from those of 2335, which are white." Near Coroico, Yungas, August 5, 1894. ([Bang] No. 2372.)' Holotype: NY (00162481); isotypes: F × 2 (78124, 163921), G × 3 (00237612, 00237613, and one without a barcode), K, NY (00162480), US (00032988).

Argentina, Bolivia (Bení, La Paz).

1000–1500 m.

May–August.

Dasyphyllum latifolium (Gardner) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 88 (1959).

Flotovia (?) *latifolia* Gardner, London J. Bot. 6: 454 (1847). Type: [Brazil:] '[Gardner] 3869. ... HAB. In a wood near Arrayas, Province of Goyaz. April, 1840.' Note: Cabrera (1959: 89) incorrectly cited the type collection as *Gardner* 3849. Duplicates are in BM, K,

Chuquiraga latifolia (Gardner) Baker in Mart., Fl. Bras. 6(3): 357 (1884), comb. illegit. non D. Don (1830) (= *Dasyphyllum brasiliense* (Spreng.) Cabrera var. *latifolium* (D. Don) Cabrera).

Chuquiraga chapadensis S. Moore, Trans. Linn. Soc., Bot. ser. 2, 4(3): 389 (1895). Type: [Brazil: Mato Grosso:] 'Hab. Crescit ad Serra da Chapada alt. 600 met. supra mare, mens. Aug. florens. ([Moore] N. 166.)' Holotype: BM.

Chuquiraga mattogrossensis Malme, Kongl. Svensk. Vetenskapsakad. Handl. 32(5): 77 (1899). Type: [Brazil:] 'Matto Grosso: Arecá pr. Cuyabá (In »cerrado« minus denso; loco arenoso, alte graminoso. 182/694. Malme 1646.)'. Holotype: S; isotype: S.

Chuquiraga sprengeliana (Gardner) Baker f. *paraguariensis* Hassler, Repert. Spec. Nov. Regni Veg. 12(22/24): 370 (1913). Type: 'Paraguay: Ad margines silvarum inter Cerro Corá et flumen Aquidaban, mens. Jan. flor. et fruct.; Hassler no. 10484a, leg. Rojas.' Holotype: G; isotypes: BAF, K, SI.

Chuquiraga sprengeliana (Gardner) Baker var. *mattogrossensis* (Malme) Hassler, Repert. Spec. Nov. Regni Veg. 12(22/24): 371 (1913).

Chuquiraga sprengeliana (Gardner) Baker f. *subinermis* Hassler, Repert. Spec. Nov. Regni Veg. 12(22/24): 371 (1913). Type: 'Paraguay: Ad margines silvarum pr. Esperanza, flor. et fruct. mens. Aug.; Hassler no. 10533, leg. Rojas.' Holotype: G; isotypes: BAF, K.

Chuquiraga sprengeliana (Gardner) Baker var. *chapadensis* (S. Moore) Hassler, Repert. Spec. Nov. Regni Veg. 12(22/24): 371 (1913).

Bolivia (Santa Cruz), Brazil, Paraguay.

Cerrado, grassland, serranias, woodland margins.

600 m.

January–August.

Santa Cruz: Wood 12528 (K, USZ).

Dasyphyllum leiocephalum (Wedd.) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 50 (1959).

Flotovia leiocephala Wedd., Chloris Andina 1: 6 (1855). Type: "Hab. PÉROU!, dépt. de Cuzco?. (Gay, n° 1220).'

Holotype: P.

Bolivia (Chuquisaca, Potosí, Santa Cruz), Peru.

Rocky soils, rocky slopes, limestone cliffs.

2550–2900 m.

November–March.

Chuquisaca: Wood 8219 (K).

Potosí: Wood et al. 19231 (K), Wood et al. 21960 (K), Wood et al. 22504 (K).

Santa Cruz: Mendoza & Acebo 936 (K, USZ).

Note: Recent collections by Wood, from Potosí, clearly fall within the range of *Dasyphyllum horridum* (Muschl.) Cabrera and *D. leiocephalum*. Distinctions provided by Cabrera (1959), largely based on leaf characters and floret number, and those of Tovar (1953) and Ferreyra (1995), in part based on involucre shape, break down on some of Wood's collections where there is wide variation of leaf shape and size, although the floret number is constant at 6. A few collections are clearly pubescent underneath the leaves, others with very distinct pubescent leaf margins.

Dasyphyllum velutinum (Baker) Cabrera, Revista Mus. La Plata, Secc. Bot. 9: 84 (1959).

Chuquiraga velutina Baker in Mart., Fl. Bras. 6(3): 358 (1884). Type: 'Habitat in campis apertis Brasiliae austro-orientalis, prope Chapada: Sello n. 1009!' Holotype: K; isotypes: B†, P.

Chuquiraga velutina Baker in Mart., Fl. Bras. 6(3): 358 (1884). Types: Habitat in campis Brasiliae centralis et orientalis, in prov. Minas Geraës ad Cachoeira do Campo: Claussen!, Mart. Herb. Flor. Brasil. n. 765!; in prov. Mato Grosso ad Cuyaba: Manso n. 163!; praeterea: Sello! Syntypes: Claussen, Herb. Fl. Bras. 765, Sello in K; Manso 163, BR.

Chuquiraga alpestris Barb.Rodr., Plantas Novas Cult Jard. Bot. Rio de Janeiro 4: 20, tab. 5 (1894). Type: [Brazil:] 'Hab. in Prov. Minas Geraes ad Serra do Lenheiro. Floreb. Mart. et April.' [Barbosa Rodriguez]. Holotype: ?RB – if herbarium material was prepared from the material.

Chuquiraga doniana (Gardner) Cabrera var. *velutina* (Baker) Toledo, Fl. Dist. Ibiti: 130 (1947).

Bolivia (Santa Cruz), Brazil.

Cerrado, campos rupestres, cerrado rupestres.

1300–1450 m.

March–August.

Delilia Spreng., Bull. Sci. Soc. Philom. Paris, ser. 3, 10: 54 (1823).

Meratia Cass., Dict. Sci. Nat. 30: 65 (1824), nom. illegit., non Loisel. (1818) [Calycanthaceae], nom. rej.

Elvira Cass., Dict. Sci. Nat. 30: 67 (1824), nom. illegit., nom. superfl. pro *Milleria biflora* L.

Desmocephalum Hook., Trans. Linn. Soc. London 20: 209 (1847). Type: *Desmocephalum inelegans* Hook. =

Delilia repens (Hook.) Kuntze

Microcoecia Hook., Trans. Linn. Soc. London 20: 209 (1847). Type: *Microcoecia repens* Hook. = *Delilia repens* (Hook.) Kuntze

Type: *Delilia berteri* Spreng. = ***Delilia biflora*** (L.) Kuntze

References

Delprete, P. G. (1994). Systematic study of the genus *Delilia* (Asteraceae, Heliantheae). *Pl. Syst. Evol.* 194(1-2): 111–122.

Robinson, H. (2006). *Delilia*. In: G. Harling & L. Andersson (eds), *Flora of Ecuador*, No. 77(1): 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 131–134.

Sprengel, C. (1823). Description de deux genre nouveaux. *Bull. Soc. Philom. Paris*, ser. 3, 10: 54–55.

Delilia berteri Spreng., *Bull. Sci. Soc. Philom. Paris* 3, 10: 54, pl. 2 (1823) = ***Delilia biflora*** (L.) Kuntze

Delilia biflora (L.) Kuntze, *Revis. Gen. Pl.* 3(3): (1898).

Milleria biflora L., *Sp. Pl.* : 919 (1753). Type: 'Habitat in Campechia'. Lectotype (Stearn, *Intr. Linnaeus' Sp. Pl.* (Ray Soc. ed.): 48 (1957): Icon in *Hort. Cliff.*: 425, t. 25 (1738). A different lectotype was apparently selected by Stuessy in Jarvis & Turland, 1998: 364): *Herb. Linn.* No. 1031.3 (LINN). Note sheet number cited by Robinson (2006: 132) was the sheet originally cited by Stuessy (1975) [1031.4 LINN], later corrected by Stuessy in Jarvis & Turland (1998: 364). Delprete (1995: 113) cited the 'holotype' as 1031.4 LINN.

Delilia berteri Spreng., *Bull. Sci. Soc. Philom. Paris*, ser. 3, 10: 54, pl. 2 (1823). Type: [Colombia:] '... à Bertero pedemontano, Balbisii discipulo, ad flumen S. Magdalenae in America australi inventa, cujus semina sine nomine misit praestantissimus juvenis.' [Bertero] Holotype: P.

Meratia sprengelii Cass., *Dict. Sci. Nat.* 30: 66 (1824), nom. illegit. superfl., based on *D. berteri* Spreng.

Elvira martyni Cass., *Dict. Sci. Nat.* 30: 68 (1824), nom. illegit. superfl., based on *Milleria biflora* L.

Elvira biflora (L.) DC., *Prodr.* 5: 503 (1836).

Argentina, Belize, Bolivia (La Paz, Santa Cruz), Brazil, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Venezuela, West Indies. Introduced and naturalized in the Cape Verde Islands.

Scrub, dry montane scrub, riverside thickets, cerrado, roadsides, cultivated areas.

0–1800 m.

Flowering throughout the year.

La Paz: Wood et al. 23121 (K).

Santa Cruz: Wood et al. 21790 (K), Wood et al. 24095 (K, USZ).

Delucia DC., *Prodr.* 5: 633 (1836) = ***Bidens*** L.

Dendrophorbium (Cuatrec.) C. Jeffrey, *Kew Bull.* 47(1): 75 (1992).

Senecio L. sect. *Pluricephali* Cabrera, *Lilloa* 5(1): 70 (1939). Type: not stated.

Senecio L. sect. *Myriocephalus* Cabrera, *Lilloa* 15(1): 56 (1949). Type: *Senecio myriocephalus* Baker, nom. illegit. = *Senecio pluricephalus* Cabrera = *Dendrophorbium pluricephalum* (Cabrera) C. Jeffrey

Senecio L. sect. *Macbrideus* Cuatrec., *Fieldiana, Bot.* 27(2): 72 (1951). Type: *Senecio macbridei* Greenm. = *Dendrophorbium reflexum* (Kunth) C. Jeffrey

Senecio L. sect. *Dendrophorbium* Cuatrec., *Fieldiana, Bot.* 27(2): 72 (1951). Type: *Senecio silvani* Cuatr. = *Dendrophorbium silvani* (Cuatrec.) C. Jeffrey

Type: *Dendrophorbium pluricephalum* (Cabrera) C. Jeffrey

References

Cabrera, A. L. (1985). El género *Senecio* (Compositae) en bolivia. *Darwiniana* 26(1–4): 79–217. [sub *Senecio* 'Serie 6. *Myriocephali* (Cabr.) Cabr.', pp. 126–147]

Vision, T. J. & M. O. Dillon. (1996). Sinopsis de *Senecio* L. (Senecioneae, Asteraceae) para el Perú. *Arnaldoa* 4(1): 23–46.

Key to species

- | | | |
|--------|---|---|
| 1. | Capitula discoid or subdiscoid with female marginal florets with tubular corollas or lacking marginal florets | 2 |
| | Capitula radiate; marginal florets distinctly rayed | 5 |
| 2. (1) | Phyllaries 8 | 3 |

| | | |
|----------|--|---------------------------|
| | Phyllaries 12–15 | 4 |
| 3. (2) | Marginal florets female, tubular; plants densely and shortly pubescent | <i>D. chaenocephalum</i> |
| | Marginal florets absent; plants glabrous or almost glabrous | <i>D. zongoense</i> |
| 4. (2) | Leaves petiolate; involucre 9–10 mm tall | <i>D. acuminatissimum</i> |
| | Leaves sessile; involucre 7 mm tall | <i>D. biserrifolium</i> |
| 5. (1) | Inflorescences in corymbose cymes | 6 |
| | Inflorescences in racemes or pyramidal or lax panicles | 10 |
| 6. (5) | Phyllaries 8 | 7 |
| | Phyllaries 12–13 | 8 |
| 7. (6) | Involucre 8–9 mm tall; leaves 5–8 cm long by 1–2 cm wide | <i>D. buchtienii</i> |
| | Involucre 6–7 mm tall; leaves 12–26 cm long by 1.5–6 cm wide | <i>D. longilinguae</i> |
| 8. (6) | Leaves (including lowermost) sessile and auriculate at base | <i>D. ayopayense</i> |
| | Leaves petiolate | 9 |
| 9. (8) | Leaves 5–20 cm long by 2.5–9 cm wide with 8–10 pairs of secondary veins and 10–20 teeth on each margin | <i>D. curvidens</i> |
| | Leaves to 35 cm by 8–12 cm wide with 30–40 pairs of secondary veins and numerous teeth on each margin | <i>D. multinerve</i> |
| 10. (5) | Involucre 9–10 mm tall; leaves tomentose beneath | <i>D. cabrerianum</i> |
| | Involucre 4–8 mm tall; leaves glabrous or lanuginose beneath | 11 |
| 11. (10) | Leaves oblong-lanceolate, gross-dentate in upper half, glabrous above and beneath [; phyllaries 8–13; involucre 6–8 mm tall] | <i>D. medulosum</i> |
| | Leaves lanceolate, elliptic or ovate, scarcely serrate [; phyllaries 8–14; involucre 4–8 mm tall] | 12 |
| 12. (11) | Involucre 7–8 mm tall; phyllaries 13; leaves coriaceous, glabrous | <i>D. biacuminatum</i> |
| | Involucre 4–6 (–7) mm tall; leaves not coriaceous | 13 |
| 13. (12) | Phyllaries 12–14 | 14 |
| | Phyllaries 8–9 | 16 |
| 14. (13) | Leaves sessile or short-petiolate, petiole 1–10 mm long | <i>D. yungasense</i> |
| | Leaves conspicuously petiolate, petiole 15–35 mm long | 15 |
| 15. (14) | Leaves tomentose beneath, 22 cm long by 7.5 cm wide | <i>D. krukoffii</i> |
| | Leaves glabrous (or slightly lanuginose beneath), 10–20 cm long by 2.5–5 cm wide | <i>D. coroicense</i> |
| 16. (13) | Leaves glabrous above and arachnoid or sometimes glabrous beneath | 17 |
| | Leaves asperous-pubescent or glandular pubescent above | 18 |
| 17. (16) | Pedicels and phyllaries crisped-puberulous; leaves arachnoid pubescent beneath; involucre 5–6 mm tall | <i>D. cabrarae</i> |
| | Pedicels and phyllaries glabrescent; leaves glabrous beneath; involucre 4–5 mm tall | <i>D. peregrinum</i> |
| 18. (16) | Involucre 4 mm tall; leaves lanceolate or oblanceolate | <i>D. tabacifolius</i> |
| | Involucre 5–7 mm tall; leaves broadly ovate | <i>D. bomanii</i> |

Dendrophorbium acuminatissimum (Cabrera) D. J. N. Hind, Kew Bull. 63(3): 515 (2008)[Jan 2009].

Senecio acuminatissimus Cabrera, Notas Mus. La Plata, Bot. 18(No. 89): 233 (1955). Type: 'BOLIVIA. –

Nordyungas, Undavi [sic!] 3150 m s.m., leg. O. Buchtien, 9119, X-1931'. Holotype: MO.

Bolivia (La Paz).

3000–3600 m.

October–December.

La Paz: Nordyungas, Undavi 3300 m s.m., leg. O. Buchtien, 4807, XI-1910 (US).

Dendrophorbium ayopayense (Cuatrec.) D. J. N. Hind, Kew Bull. 63(3): 515 (2008)[Jan 2009]

**Senecio ayopayensis* Cuatrec., Fieldiana, Bot. 27(2): 50 (1951). Type: 'Bolivia: Dep. Cochabamba, prov.

Ayopaya: Sailapata, 2700 m. alt. Shrub 2–3 met. in wet soil, collect. M. Cardenas 3272 [X-935]'. Holotype: US (01859368); isotype: MO.

Senecio multinervis Rusby, Bull. New York Bot. Gard. 4(14): 393 (1907), nom. illegit. non Sch.Bip. ex Klatt

(1886)(= **Dendrophorbium multinerve** (Sch.Bip. ex Klatt) C. Jeffrey). Type: ' "A shrub 6 to 8 ft. high, with

yellow flowers, scarce in forest-mould." Unduavi, September, 1894 ([*Bang*] No. 2495.)' Holotype: NY (00259305); isotypes: NY (00259306), US (2 × fragments of material in NY – 02990122, 02990123).

Bolivia (Cochabamba, La Paz).

2700–3300 m.

October.

Dendrophorbium biacuminatum (Rusby) C. Jeffrey, *Kew Bull.* 47(1): 65 (1992).

**Senecio biacuminatus* Rusby, *Bull. New York Bot. Gard.* 4(14): 394 (1907). Type(s?): [Bolivia:] '([*Bang*] No. 1879.). This may be the same as *Mandon* 147. Mr. Bang sends another specimen, without number, with larger, sinuately serrate, clasping leaves, narrower involucre, the scales longer and obtusish and the rays smuch smaller, which may be a variety of this.' ?Holotype (see following note): NY; isotypes: BM, K, ?NY, US (00326033). Note: There is an added note with the US isotype that suggests the collection number is incorrect and should have been 2879, and this number agrees with all three sheets in NY, suggesting a typographic error in the protologue. Cabrera (1985: 141), based on *Bang* 2879, noted 'Holotipo: NY; Isotipos: G, K, MO, US; fot. y fragm.: LP'. There are, however, three sheets in NY (00259121 – ex College of Pharmacy Herbarium and 00259119, ?00259120 – both from Columbia University Herbarium). Pruski (1983 in lit.) has annotated the sheet ex Columbia University Herbarium as 'holo- or iso-' (type). It is quite clear Rusby annotated all sheets now in NY – although the sheet barcoded 00259120 had previously been annotated 'Type!' in pencil. Duplicates to Columbia University Herbarium were distributed prior to 1893 (q.v. Rusby 1893: 2) so it is debatable upon which material Rusby based his description, if not all. Second stage lectotypification is certainly required, accepting Cabrera's statement as first stage lectotypification.

Bolivia (La Paz), Peru.

1700 m.

May–June.

Dendrophorbium biserrifolium (Kuntze) D. J. N. Hind, *Kew Bull.* 63(3): 515 (2008)[Jan 2009].

**Senecio biserrifolius* Kuntze, *Revis. Gen. Pl.* 3(3): 171 (1898). Type: 'Bolivia: 2600 m Ostseite der Cordillere nach Rio Juntas zu.' Holotype: NY (00077399). Note: Wetter & Zanoni (1985) were apparently unable to find any material of this in NY. Cabrera (1985: 131) noted a photograph of this material, ex B, in F, and cited its collection date – 'IV-1892'..

Bolivia (La Paz).

c. 2600 m.

April.

Dendrophorbium bomanii (R. E. Fr.) C. Jeffrey, *Kew Bull.* 47(1): 65 (1992)

Senecio bomanii R. E. Fr., *Arkiv Botanik* 5(13): 26 (1906). Type: 'Argentinae prov. Jujuy: Laguna de Sausal ad Sierra S:a Barbara, in ripa ad marginem silvae subtropicae, gregatim [²⁷/701; FR. 412].' Holotype: S.

Argentina, Bolivia (Chuquisaca).

700–1500 m.

July–September.

Dendrophorbium buchtienii (Greenm.) C. Jeffrey, *Kew Bull.* 47(1): 65 (1992).

**Senecio buchtienii* Greenm., *Ann. Missouri Bot. Gard.* 10: 78 (1923). Type: 'Bolivia: Unduavi, Noryungas, alt. 3300 m., November, 1910, *O. Buchtien* 3087'. Syntypes: MO ('fragment and photograph'), NY (00259126), US (00700127). Lectotype (selected by Cuatrecasas, 1981: 244): US (700127). Cabrera (1985: 131) noted a duplicate in GH (12092).

Pentacalia buchtienii (Greenm.) Cuatrec., *Phytologia* 49(3): 244 (1981).

Bolivia (La Paz).

c. 3300 m.

November.

Dendrophorbium cabreræ (Cuatrec.) C. Jeffrey, *Kew Bull.* 47(1): 66 (1992).

**Senecio cabreræ* Cuatrec., *Fieldiana, Bot.* 27(2): 61 (1951). Types: 'Bolivia: Unduavi, Nordyungas, 3300 m. alt., collect. *Otto Buchtien* 3084 & 3085'. Syntypes: US. Note: Cuatrecasas' determinavit slips on the sheets in US indicate that 3084 (US 01098275) was considered as the '[holo]type' and 3085 (the leafier material) (US

01098177) the 'isotype'. Cabrera (1985: 144) noted an 'isotipo' of *Buchtien* 3085 in NY; there are two isosyntypes of *Buchtien* 3085 in NY (00259132, 00259133).

**Senecio myrianthus* Klatt, *Leopoldina* 23: 10 [1886](1887). [as '(S. castaneaefolius Schultz Bip. nex De Cand.)'] Type: 'Bolivia, Vinciniis Sorata in silvulis, leg. G. Mandon Juli-november 1857, No. 141.' Holotype: GH (12167); isotypes: NY (00259307), S, US (02515488). Note: this would appear to be valid publication of this name in a separately paginated pre-print, although it is often cited as having published in the following volume, q.v.

Senecio myrianthus Klatt, *Leopoldina* 24: 127 (1888). See note above.

Bolivia (Cochabamba, La Paz).

2600-3300 m.

July-November.

Dendrophorbium cabrerianum (Greenm. & Cuatrec.) C. Jeffrey, *Kew Bull.* 47(1): 66 (1992).

**Senecio williamsii* Rusby, *Bull. New York Bot. Gard.* 8(No. 28): 134 (1934), nom. illegit. non Phil. (1894).

Types: [Bolivia:] ' "Six ft. high; Santa Cruz, 5000 ft., Aug. 24, 1902" ([R.S. Williams] No. 1460)./ The same collected by Pearce.' Syntypes: NY. Note: Jeffrey (1992: 68) also noted that the syntypes were in US (01131098) and an isosyntype in K, although not specifying which collection - the material in US is the Williams collection; that in K is the Pearce collection. Cabrera (1985: 140) effectively lectotypified the name based on Williams 1460 by citing the 'Holotipo: NY [(00259451)]; Isotipos: K, US' [, NY (00259449, 00259452, 00259453)].

**Senecio cabrerianus* Greenm. & Cuatrec., *Repert. Spec. Nov. Regni Veg.* 55: 134 (1953), nom. nov. pro *S. williamsii* Rusby, non *S. williamsii* Phil. (1894).

Bolivia (La Paz, Santa Cruz).

c. 1500 m.

August-September.

Dendrophorbium chaenocephalum (Cabrera) C. Jeffrey, *Kew Bull.* 47(1): 66 (1992)

**Senecio chaenocephalus* Cabrera, *Notas Mus. La Plata, Bot.* 9(No. 45): 192 (1944). Type: 'BOLIVIA. - Departamento de Santa Cruz, Provincia de Cercado, inmediaciones de Santa Cruz de la Sierra, 450 m. s. m., leg. J. Steinbach, n° 2705, 24-VIII-1916'. Holotype: 'Herb. Cabrera' - LP (64645); isotypes: BAF, SI.

Bolivia (Santa Cruz).

450-850 m.

August-September.

Dendrophorbium coroicense (Rusby) C. Jeffrey, *Kew Bull.* 47(1): 66 (1992).

**Senecio coroicensis* Rusby, *Bull. New York Bot. Gard.* 4(14): 395 (1907). Type: [Bolivia:] '[Bang No. 2435] "A shrub 10 ft. or more high, in rich forest-mould, the flowers light-blue." Cocoico, September, 1894.'

Holotype: NY(00259151) - ex Herbarium Columbia University; isotypes: BM, K, MO, NY (00259150) - ex College of Pharmacy Herbarium, US (00032784). Barcode numbers have been provided for the holotype and isotype in NY respectively as the 'holotype' material bears the original collectors ticket with the protologue detail, whereas the other sheet merely bears a printed Bang 'Plantae Boliviana' label to which the name has been added by Rusby. The isotype bears a det. slip by Pruski.

Bolivia (Cochabamba, La Paz).

c. 2500 m.

September.

Dendrophorbium curvidens (Sch.Bip.) C. Jeffrey, *Kew Bull.* 47(1): 66 (1992).

Senecio curvidens Sch.Bip., *Bonplandia* 4(4): 52 (1856). Type: not stated by Schultz Bipontinus but

Hohenacker's contemporary listing (Hohenacker, 1856: 55) indicated this is *Lechler* 2658. [Peru: Tatanara, Aug. m. 1854]. Holotype: P; isotypes G, GOET, NY (00233242), K, S. Cabrera (1985: 135) suggested that the holotype was in B, although for all other Schultz Bipontinus types they are cited as in P.

**Senecio liabifolius* Rusby, *Bull. New York Bot. Gard.* 4(14): 396 (1907). Type: [Bolivia:] '([Bang] No. 2033.)'

Holotype: NY(259285); isotype: US (01403246).

Bolivia (Cochabamba, La Paz), Peru.

2000-3300 m.

August-November.

Note: '*Senecio curvidens* Sch.Bip. ex Klatt, Leopoldina 24: 127 (1888)' is often applied to this name as the valid place of publication, based apparently on *Senecio curvidens* Sch.Bip. which was considered a nom. nud. Schultz Bipontinus clearly provided a short diagnosis. The citation, however is wrong and should be Leopoldina 23 [1886](1887), as the likely preprint in Kew also suggests that it was published on p. 9.

Dendrophorbium jungasense (Britton) C. Jeffrey, Kew Bull. 47(1): 69 (1992).

Senecio jungasensis Britton, Bull. Torrey Bot. Club 19(9): 264 (1892). Type: [Bolivia:] 'Yungas, 4,000 ft. ([Rusby] 1719)'. Holotype: NY (00259495); isotypes: K, MO, NY × 2 (00259496 & 00259497), P, US (1403405).

Pentacalia yungasensis (Britton) Cuatrec., Phytologia 69(5): 314 (1990).

Bolivia (La Paz).

1200–1700 m.

September–December.

Dendrophorbium krukoffii (Cuatrec.) C. Jeffrey, Kew Bull. 47(1): 67 (1992).

**Senecio krukoffii* Cuatrec., Fieldiana, Bot. 27(2): 51 (1951). Type: 'Bolivia: Dep. La Paz, Prov. of S. Yungas, vicinity of Tajma (near Chulumani) 1500–1600 m., collect. B. A. Krukoff 10715 [Aug. 26, 27, 1939]'. Syntypes: 'NY, F'. iso: L. There are also isoelectotypes in K, U (59746A) and US (02250176). Cabrera (1985: 142) effectively lectotypified the name by citing 'Holotipo: NY; Isotipos: K, LIL, LP, MO, US'; the NY material is barcoded 00259210.

Pentacalia krukoffii (Cuatrec.) Cuatrec., Phytologia 49(3): 255 (1981).

Bolivia (La Paz).

1500–1600 m.

August–September.

Dendrophorbium longilinguae (Cuatrec.) C. Jeffrey, Kew Bull. 47(1): 67 (1992).

**Senecio longilinguae* Cuatrec., Fieldiana, Bot. 27(2): 51 (1951). Type: 'Bolivia, collect. Miguel Bang 2495'.

Holotype: US (00032836); isotype: F (1368344 – fragments only).

Bolivia (Cochabamba, La Paz), Peru.

3000–3200 m.

September–December.

Dendrophorbium medullosum (Sch.Bip. ex Greenm.) C. Jeffrey, Kew Bull. 47(1): 67 (1992).

Senecio medullosus Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud. pro syn. (based on *Mandon* 147).

**Senecio medullosus* Sch.Bip. ex Greenm., Ann. Missouri Bot. Gard. 10(1): 85 (1923). Type: 'Bolivia: vicinity of Sorata, alt. 2900 m., October, 1858, *Mandon* 147'. Syntypes: GH, MO ('fragment and photograph'). Note: Jeffrey (1992: 67) cited 'holotype GH, isotypes BM!, NY!' which is a practical way of interpreting Greenman's citation. The NY material is NY (00259295 & 00259296). Cabrera (1985: 140) also noted duplicates in 'K, P, S, W'.

Senecio oblanceolatus Rusby, Bull. New York Bot. Gard. 4(14): 394 (1907), non Rydb. (1900). Type: [Bolivia:] '([Bang] No. 2632.)' Holotype: NY (00259313); isotype: US (01400135).

Pentacalia medullosa (Sch.Bip. ex Greenm.) Cuatrec., Phytologia 49(3): 256 (1981).

Bolivia (La Paz), Peru.

2000–3300 m.

August–October.

Dendrophorbium multinerve (Sch.Bip. ex Klatt) C. Jeffrey, Kew Bull. 47(1): 67 (1992).

Senecio multinervis Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud. (based on *Mandon* 142).

Senecio multinervis Sch.Bip. ex Klatt, Leopoldina 23: 10 (1887), non Rusby (1907)(= **Dendrophorbium**

ayopopayense (Cuatrec.) D. J. N. Hind). Type: 'Bolivia, Viciniis Sorata in silvulis. Sept. Nov. 1879, leg. G.

Mandon, No. 142.' Holotype: GH (12166); isotypes: BM, K, LP, NY (00259304), S, US (02990121 – fragment of NY). Note: the separately published pre-print in K indicates that the name was published in Leopoldina 23 and not in the next volume. Jeffrey (1992: 67) incorrectly assigned a lectotype (P) and isoelectotypes (BM, K) to this name although it is clear that the holotype is in GH – although their sheet is apparently marked isotype.

**Senecio multinervis* Sch.Bip. ex Klatt, Leopoldina 24: 127 (1888). See note above.

**Senecio unduavianus* Cuatrec., Fieldiana, Bot. 27(2): 49 (1951). Type: 'Bolivia: Unduavi, Nordyungas, 3300 m. alt. Strauch 2-3 met., Nov. 1910 collect. Otto Buchtien 3091.' Holotype: US (01098263); isotype: US (00700128).

Senecio submultinervis Cuatrec., Collect. Bot. (Barcelona) 3(3): 262 (1953). Type: 'Perú, Dep. Cuzco, prov. urubamba: Puyupatamarca, 3,600 m. alt. Shrub 3 met. alt. Collect. C. Vargas, 2880.' Holotype: NY (00259424); photo F – 40688.

Senecio sandemanii Cuatrec., Brittonia 8(3): 189 (1956). Type: 'Perú: Huacapistana (above.) Shrub growing in a moist locality in semi-shade; large panicles of bright buttercup-yellow strongly fragrant flowers sometimes over 18 in. across. C. Sandeman 4561.' Holotype: K.

Bolivia (Cochabamba, La Paz, Santa Cruz), Peru.

2800–3600 m.

September–November.

Note: Dillon & Hensold (1993) provided a different view with *Senecio sandemanii* as a distinct species in addition to *S. submultinervis*.

Dendrophorbium peregrinum (Griseb.) C. Jeffrey, Kew Bull. 47(1): 68 (1992).

Senecio peregrinus Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 205 (March–April 1879), Symb. Fl. Argent. : 205 (1879). Types: 'O.: Tarija, Cuesta de S. Luisina. (Paraguay: Bal[ansa] 931.)' [Bolivia. Cuesta Sa. Luisina zwischen Sn. Diego u. Sn. Luis. Lorentz et Hieronymus 645, 12-VI-1873' – Cabrera, 1985: 144]. Syntypes: GOET. Lectotype (cf. Cabrera, 1985: 144, only by specifying the isolectotype): Lorentz et Hieronymus 645, GOET; isolectotype: B†. Note: Jeffrey (1992: 68) indicated the holotype, based on Lorentz & Hieronymus 645, was in B. No mention was made by Cabrera (1985: 144) of the Paraguayan distribution based on the Balansa collection.

Argentina, Bolivia (Tarija), Paraguay.

June–October.

Dendrophorbium tabacifolium (Rusby) C. Jeffrey, Kew Bull. 47(1): 68 (1992).

**Senecio tabacifolius* Rusby, Bull. New York Bot. Gard. 4(14): 396 (1907). Type: [Bolivia:] ' "A shrub, 4 to 6 ft. high, in wet shaded forest-mould; the flowers beautiful, white [probably referring to the pappus – H.H.R.], the leaves beautiful velvety-green." [Note: the square brackets are Rusby's] ([Bang] No. 2385.) Sacramento, Yungas, August 4, 1894.' Holotype: NY (see note); isotypes: C, G, GH, K, LD, MO, NY (see note), US (00032980). Note: Much as with other Bang collections used by Rusby to described new taxa, the material in NY is represented by 3 sheets. However in this instance it is clear from the protologue that Rusby must have used most of the material to draw up his description, especially since one of the sheets, ex Columbia University Herbarium, has the largest (and fewest leaves) leaves. The 3 duplicates in NY are 00259428 (ex College Pharmacy Herbarium), 00259429 (ex Colombia University Herbarium) and 00259430 (ex Columbia University Herbarium). The latter bearing the original field notebook page. Lectotypification is probably desirable, and probably best based on the last sheet.

Bolivia (Cochabamba, La Paz).

1700–3200 m.

July–September.

Dendrophorbium yungasense (Britton) C. Jeffrey, Kew Bull. 47(1): 69 (1992).

**Senecio yungasensis* Britton, Bull. Torrey Bot. Club 19(9): 264 (1892). Type: 'Yungas, 4,000 ft. ([Rusby] 1719).' Holotype: NY (00259495); isotypes: K, MO, NY (00259496), P, US × 2 (00032547 & 01403405).

Pentacalia yungasensis (Britton) Cuatrec., Phytologia 69(5): 314 (1990).

Bolivia (La Paz), Peru.

1000–2000 m.

September–December.

Dendrophorbium zongoense (Cabrera) D. J. N. Hind, Kew Bull. 63(3): 515 (2008)[Jan 2009].

Senecio zongoensis Cabrera, Darwiniana 26(1–4): 128 (1985). Type: 'Bolivia. Depto. La Paz, Prov. Murillo: 32 km después de La Cumbre, bajando por el calle de Zongo 2000–2200 m. Desvío al pueblo de Zongo, bosque húmedo en ladera al lado del río. St .G. Beck 2180. 20-VIII-1979.' Holotype: LPB.

Bolivia (La Paz).

2000–2200 m.
August–September.

Desmocephalum Hook., Trans. Linn. Soc. London 20: 209 (1847) = **Delilia** Spreng.

Diacantha Less., Linnaea 5(2): 243 (1830) = **Barnadesia** Mutis

Diatonta Walp., Repert. 2: 614 (1843), orth. var. of *Diodonta* Nutt. = **Bidens** L.

Diazeuxis D. Don, Trans. Linn. Soc. London 16(2): 302 (1830) = **Lycoseris** Cass.

Diazeuxis herzogii Herzog, Die Vegetation die Erde : 121 (1923), nom. nud. = **Lycoseris retroflexa** J. Koster

Diazeuxis herzogiana Beauverd, Bull. Soc. Geneve, ser. 2, 13: 11 (1921), nom. nud. = **Lycoseris retroflexa** J. Koster

Diglossus Cass., Dict. Sci. Nat. 13: 241 (1819) = **Tagetes** L.

Diglossus variabilis Cass., Dict. Sci. Nat. 13: 241 & 443 (1819) = **Tagetes filifolia** Lag.

Dilepis Suess. & Merxm., Mitt. Bot. Staatssamml. Munchen, Heft 1: 14 (1950) = **Flaveria** Juss.

Dimerostemma Cass., Bull. Sci. Soc. Philom. Paris 1817: 11 (1817).

Serpaea Gardner, London J. Bot. 7: 296 (1848). Type: *Serpaea ovata* Gardner = **Dimerostemma brasilianum** Cass. Note: Robinson (1984) stated that 'The Gardner genus *Serpaea*, lectotypified by the same species as Cassini's genus, ...'. Gardner's genus was, at its recognition, monospecific and therefore did not require lectotypification.

Angelphytum G. M. Barroso, Bol. Soc. Argent. Bot. 19(1-2): 9 (1980). Type: *Angelphytum matogrossense* G. M. Barroso = *Dimerostemma matogrossense* (G. M. Barroso) M. D. Moraes

Type: **Dimerostemma brasilianum** Cass.

References

Moraes, M. D. de, Panero, J. L. & J. Semir. (2007). New combinations in *Dimerostemma* (Asteraceae: Heliantheae-Ecliptinae). *Phytologia* 89(1): 115–120.

Moraes, M. D. de & J. Semir. (2009). A revision of Brazilian *Dimerostemma* (Asteraceae, Helianthieae, Ecliptinae), with a new species and taxonomic adjustments. *Brittonia* 61(4): 341–365.

Pruski, J. F. (1999). Novelties in *Angelphytum* and *Oyedaea* (Compositae: Heliantheae: Ecliptinae) from South America. *Compositae Newslett.* 34: 1–8.

Robinson, H. (1984). Studies in the Heliantheae (Asteraceae). XXXI. Additions to the genus *Dimerostemma*. *Proc. Biol. Soc. Washington* 97(3): 618–626.

Robinson, H. (1984b). Studies in the Heliantheae (Asteraceae). XXXIV. Redelimitation of the genus *Angelphytum*. *Proc. Biol. Soc. Washington* 97(4): 961–969.

Note: Moraes et al. (2007) have submerged *Angelphytum* into *Dimerostemma* thus adding one species to the total of Bolivian taxa in *Dimerostemma*. It is also unlikely that there are any remaining species of *Zexmenia* to be recorded for Bolivia.

Key to species

1. Ray limbs absent (and capitula disciform) or ray limbs small or rudimentary (and capitula inconspicuously radiate) *D. brasilianum*
2. Ray limbs conspicuous (and capitula conspicuously radiate) 2
1. Achenes with very broad, uninterrupted, wings; lower leaf surface with numerous glandular punctations *D. aspilioides*
2. Achenes with wings reduced to a narrow margin or apparently lacking; 3

3. Leaves broadly ovate to orbicular, petioles c. 7 mm, leaf margins serrulate *D. asperatum*
Leaves triangular-lanceolate, petioles c. 2 mm, leaf margins serrate to dentate *D. herzogii*

***Dimerostemma asperatum** S. F. Blake, Contr. Gray Herb. 52: 12 (1917). Type: BOLIVIA: East Velasco, 200 m., July 1892, *Otto Kuntze* (TYPE no. 702220, U. S. Nat. Herb.). Holotype: US (00702220); isotype: NY (00168190). Bolivia (Santa Cruz). Note: Moraes & Semir (2009: 357) considered that *D. asperatum* was endemic to Bolivia and that the element treated by Robinson (1984) as *D. asperatum* from Brazil is referable to *D. lippioides* (Baker) S. F. Blake, a Brazilian endemic.
Cerrado, path margins, rocky areas.
300–510 m.
March–May.
Santa Cruz: *Pozo & Villarroel 579*, *Wood et al. 24560*, *Wood et al. 25642*.

Dimerostemma aspilioides (Griseb.) M. D. Moraes, Phytologia 89(1): 117 (2007).
Verbesina aspilioides Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 194 (1879); Symbol. Fl. Argent. : 194 (1879). Type/s: [Argentina:] 'C.: Cordoba, Sierra.' [Tan_i (____i) del Rosario. Sierra de Cordoba. 12.II.1876, G. Hieronymus 369.] [Holotype: GOET (6174); isotype: CORD. Note: Ariza Espinar (2000: 22) noted that the type collection was 'Hieronymus 369'.
Zexmenia aspilioides (Griseb.) Hassler, Repert. Spec. Nov. Regni Veg. 14(10/15): 158 (1915).
Angelphytum aspilioides (Griseb.) H. Rob., Proc. Biol. Soc. Washington 97(4): 965 (1984).
Argentina, Bolivia (Santa Cruz), Paraguay.
Chaco boreal, bosque chaqueño, bosque semiárido inferior interandino del Río Grande (Río Grande lower semiarid interandean woodland).
430–1170 m.
December–March.

Dimerostemma brasilianum Cass., Bull. Soc. Philom. Paris 1818: 58 (1818). Types: 'Je l'ai observée dans les herbiers de MM. de Jussieu et Desfontaines, sur des échantillons apportés de Lisbonne par M. Geoffroy, et originaires du Brésil.' Syntypes: P (P-JU, P-Desf).
Serpaea ovata Gardner, London J. Bot. 7: 296 (1848). Type: [Brazil:] 'HAB. Dry upland Campos near Arrayas, Province of Goyaz. April, 1840.' [Gardner] 3852. Types: BM, G, K, NY (00259591, 00259592). Note: Moraes & Semir (2009: 350) noted the holotype as in K, as well as an isotype, without specifying which of the collections was which.
Oyedaea ovata (Gardner) Benth. ex Baker in Mart., Fl. Bras. 6(3): 207 (1884).
Oyedaea rotundifolia Baker in Mart., Fl. Bras. 6(3): 208 (1884). Types: [Brazil:] 'Habitat in prov. Mato Grosso, in campis ad Cuyabá: *Manso* n. 211!; in prov. S. Paulo prope S. Carlos: *Riedel* n. 1852!' Lectotype (designated by Blake, 1917): 'Riedel 1852'
Dimerostemma rotundifolium (Baker) S. F. Blake, Contr. Gray Herb. 52: 13 (1917).
Note: Robinson (1984) cited *D. lippioides* in the synonymy of *D. brasilianum*, a view not held by Moraes & Semir (2009: 351). It remains to see if the distinctions provided by Moraes & Semir hold true in the Bolivian material.
Bolivia (Santa Cruz), Brazil.
Cerrado, grassland, campo rupestre.
900–1700 m.
January–April.

Dimerostemma herzogii (Hassl.) M. D. Moraes, Phytologia 89(1): 118 (2007).
**Zexmenia herzogii* Hassl., Repert. Spec. Nov. Regni Veg. 7: 357 (1909). Type: 'Bolivia: Halbstrauch im Bergwald von Samaipata (Ostkordillere), ca. 1700 m, Dec. 1907, leg. Herzog no. 704.' Holotype: ?Z. Pruski (1999) noted that there was a fragmentary isotype in G but not material in Z, suggesting that a 'full sheet (the holotype?) is elsewhere, perhaps in HBG or as a second sheet in G.'
Angelphytum herzogii (Hassl.) Pruski, Compositae Newslett. 34: 2 (1999).
Bolivia (Santa Cruz).
1700 m.
December.

Note: This species apparently grows in the same area of Samaipata as *Oyedaea neei*. Pruski (1999) noted that all material previously named as *Zexmenia apensis* (now transferred to *Dimerostemma*, as *D. apense* (Chodat) M. D. Moraes) from Bolivia were in fact *Angelphytum herzogii*.

Dimorphanthes Cass., Bull. Sci. Soc. Philom. Paris 1818: 30 (1818) = **Conyza** Less.

Dinoseris Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 214 (March-April 1879); Symb. Fl. Argent. : 214 (1879) = **Hyaloseris** Griseb.

Dinoseris salicifolia Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 214 (March-April 1879); Symb. Fl. Argent. : 214 (1879) = **Hyaloseris salicifolia** (Griseb.) Hieron.

Dinoseris salicifolia Griseb. [var.] β *araneosa* Kuntze, Revis. Gen. Pl. 3(3): 144 (1898) = **Hyaloseris salicifolia** (Griseb.) Hieron.

Dinoseris salicifolia Griseb. [var.] α *normalis* Kuntze, Revis. Gen. Pl. 3(3): 144 (1898) = **Hyaloseris salicifolia** (Griseb.) Hieron.

Diodonta Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 360 (1841) = **Bidens** L.

Diplemium Raf., Fl. Tellur. 2: 50 (1836) = **Erigeron** L.

Diplosastera Tausch, Hortus Canal. 1 (Decas Prima): [unpaginated] t. 4 (1823) = **Coreopsis** L.

Diplostephium Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 75 (1818).

Diplostephium Kunth sect. *Amphistephium* DC., Prodr. 5: 273 (1836), p.p. Type: not designated.

Simblocline DC., Prodr. 5: 297 (1836). Type: *Simblocline haenkei* DC. = **Diplostephium haenkei** (DC.) Wedd.

Linochilus Benth., Pl. Hartweg. : 197 (1845). Type: *Linochilus rosmarinifolius* Benth. = *Diplostephium rosmarinifolium* (Benth.) Wedd.

Piofontia Cuatrec., Caldasia 2(No. 6): 5 (1943). Type: *Piofontia colombiana* Cuatrec. = *Diplostephium colombianum* (Cuatrec.) Cuatrec.

Type: *Diplostephium lavandulifolium* Kunth = *Diplostephium ericoides* (Lam.) Cabrera

References

Blake, S. F. (1922). Key to the genus *Diplostephium*, with descriptions of new species. Contrib. U.S. Natl. Herb. 24(3): 65–86, plates 21–28..

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Cuatrecasas, J. (1993). Dos especies novas de *Diplostephium* del Perú. Miscelanea sobre Flora Neotropica VI. Revista Acad. Colom. Ci. Exact. Fis. Nat. 18(71): 475–477.

Cuatrecasas, J. (1994). Una nueva especie de *Diplostephium* (Compositae, Astereae) de Colombia. Revista Acad. Colom. Ci. Exact. Fis. Nat. 19(73): 243–245.

Key to species

- | | | |
|----|--|--------------------|
| 1. | Capitula solitary at branch apices | 2 |
| | Capitula in corymbose inflorescences | <i>D. haenkii</i> |
| 2. | Leaves 8–13 mm long; ray limbs 11–12 mm long | <i>D. cinereum</i> |
| | Leaves 20–30 mm long; ray limbs 5–6 mm long | <i>D. meyenii</i> |

Diplostephium atropurpureum* Rusby, Bull. New York Bot. Gard. 4(14): 384 (1907) = **Diplostephium haenkei (DC.) Wedd.

Diplostephium cinereum Cuatrec., *Caldasia* 2(No. 8): 228 (1943). Type: 'Perú; entre Coracora y Andahuaylas, en el lago de Tenococha, 3900-4000 m. alt. Colect. 1909-1914 *Weberbauer* 5833'. Holotype: F (628237); isotype: US (1473602).

Bolivia (Oruro), Peru.

3500-4000 m.

Diplostephium foliosum Rusby, Bull. New York Bot. Gard. 8(No. 28): 128 (1912) = **Gynoxys foliosa** (Rusby) S. F. Blake

***Diplostephium haenkei** (DC.) Wedd., *Chloris Andina* 1: 203 (1857).

Simblocline haenkei DC., *Prodr.* 5: 297 (1836). Type: '■in Peruvia legit cl. *Haenke* ex herb. reg. Acad. monac. ... (v.s. in h. supra cit.)'. Holotype: M; isotype: G-DC. Note: As cited by de Candolle the material in G-DC could be considered the holotype, although de Candolle undoubtedly based his description on material he had to hand from M.

Diplostephium mandonii Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); *Linnaea* 34(5): (Feb. 1866) 534, nom. nud. (based on *Mandon* 215)

Aster sejaensis Kuntze, *Revis. Gen. Pl.* 3(3): 131 (1898). Type: 'Bolivia: 3000 m bei La Seja zwischen Cochabamba und Santa Rosa in sehr feuchter Region.' [BOLIVIA . La Seja zwischen Cochabamba und Santa Rosa in sehr feuchter Region, 3000 m, 1-4 Apr 1892, *Kuntze* s.n. (2 sheets) - according to Wetter & Zanoni, 1985: 326] Holotype: B†; isotypes: NY (00162131, 00162132), US (00701768).]

**Diplostephium mandonii* Rusby, Bull. New York Bot. Gard. 4(14): 383 (1907). Types: [Bolivia:] '([*Bang*] No. 2895.) The same as *Mandon* 219 [sic!]' Isosynotype (*Mandon* 219 - although most certainly misread for 215!, q.v. Blake, 1922: 80): GOET, NY, US (01058661 - fragments including 4 leaves and several florets from a capitulum of the NY specimen). Pruski determined the NY material as 'presumed holotype'.

**Diplostephium liabioides* Rusby, Bull. New York Bot. Gard. 4(14): 384 (1907). Type: [Bolivia:] ' "A low shrub with blue flowers, in forest-mould." Unduavi, September, 1894. ([*Bang*] No. 2496.)' Holotype: NY (00168228).

**Diplostephium atropurpureum* Rusby, Bull. New York Bot. Gard. 4(14): 384 (1907). Type: [Bolivia:] '([*Bang*] No. 2030.)' Holotype: NY (00168209); isotypes: NY (00168208), US (01058658 - fragment of holotype - NY 00168209, as this is the black and white photograph mounted with the fragment capsule).

**Diplostephium sejaense* (Kuntze) S. F. Blake, *Contr. U.S. Natl. Herb.* 24: 80 (1922).

Bolivia (Cochabamba, La Paz, Santa Cruz), Peru.

Cloud forest, scrub, damp slopes beneath cliffs, amongst rocks.

3100-4000 m.

March-July.

Cochabamba: *Wood* 8580 (K), *Wood* 12500 (K), *Wood* et al. 23089 (K).

Santa Cruz: *Wood* et al. 19694 (K).

Note: The orthographic variant '*Simbecline haenkei* DC.' appeared in Cabrera's treatment of Herzog's collections (Cabrera, 1952: 194), along with '*Diplosephium mandenii* Rusby'.

Diplostephium liabioides Rusby, Bull. New York Bot. Gard. 4(14): 384 (1907) = **Diplostephium haenkei** (DC.) Wedd.

Diplostephium mandonii Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); *Linnaea*, 34: (Feb. 1866) 534, nom. nud. = **Diplostephium haenkei** (DC.) Wedd.

Diplostephium mandonii* Rusby, Bull. New York Bot. Gard. 4(14): 383 (1907) = **Diplostephium haenkei (DC.) Wedd.

Diplostephium meyenii Wedd., *Chloris Andina* 1: 201 (1857). Types: 'Hab. PÉROU: département de Tacna, dans la Cordillère de Tacora! h. 4000-45000 mètr. (*Meyen, Wedd.*)'. Syntypes: P.

Linochilus meyenii Sch.Bip. ex Wedd., *Chloris Andina* 1: 201 (1857), nom. nud. pro syn.

?*Aster(?) trachyticus* Phil. *Anales Mus. Nac. Chile, Secc. 2, Bot.* 8: 37 (1891). Type: [Chile:] 'Cuesta de Usmagama, inter Vilon et Machuca.' Note: Pizarro (1960: 131) listed two collections in SGO - 44353 & 65015.

Bolivia (?), Chile, Peru.

Altiplano.

3000–4500 m.

Note: Blake (1922: 72 & 1928: 54) included '*Aster* (?) *trachyticus* Phil.' as a synonym of *Diplostephium meyenii*, noting only that the species was only known from the type locality, which according to Weddell was in Peru, now northern Chile.

Diplostephium sejaense* (Kuntze) S. F. Blake, Contr. U.S. Natl. Herb. 24: 80 (1929) = **Diplostephium haenkei (DC.) Wedd.

Diplostephium tovari Cuatrec., Phytologia 31(4): 319 (1975) = **Parastrephia lucida** (Meyen) Cabrera

Diplothrix DC., Prodr. 5: 611 (1836) = **Zinnia** L.

Distoecha Phil., Anales Mus. Nac. Chile 1: 36 (1891) = **Hypochaeris** L.

Distreptus Cass., Bull. Sci. Soc. Philom. Paris 1817: 66 (1817) = **Elephantopus** L.

Distreptus crispus Cass., Dict. Sci. Nat. 60: 601 (1830), nom. illegit. pro *E. nudiflorus* Willd. = **Elephantopus angustifolius** Sw.

Distreptus spicatus (Juss. ex Aubl.) Cass., Dict. Sci. Nat. 13: 367 (1819) = **Elephantopus spicatus** Juss. ex Aubl.

Distreptus spiralis Less., Linnaea 6(4): 690 (1831) = **Elephantopus spiralis** (Less.) Clonts

Ditrichum Cass., Bull. Sci. Soc. Philom. Paris 1817: 33 (1817), nom. rej. = **Verbesina** L.

Ditrichum macrophyllum Cass., Bull. Sci. Soc. Philom. Paris 1818: 59 (1818) = **Verbesina macrophylla** (Cass.) S. F. Blake

Dolichogyne DC. sect. *Tola* Wedd., Chloris Andina 1: 182 (1856) = **Parastrephia** Nutt.

Dolichogyne acaulis Wedd. ex Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 534 (Feb. 1866), nom. nud. = **Novenia acaulis** (Wedd. ex Benth. & Hook. f.) S. E. Freire & F. Hellwig

Dolichogyne acaulis Wedd. ex Benth. & Hook.f., Gen. Pl. 2: 258 (1873) = **Novenia acaulis** (Wedd. ex Benth. & Hook. f.) S. E. Freire & F. Hellwig

Dolichogyne armata Wedd., Chloris Andina 1: 181 (1856) = **Ocyroe armata** (Wedd.) Bonif.

Dolichogyne glabra Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 39 (1891) = **Parastrephia lucida** (Meyen) Cabrera

Dolichogyne lepidophylla Wedd., Chloris Andina 1: 182, tab. 30 A (1856), nom. illegit. superfl. based on *Baccharis quadrangularis* Meyen = **Parastrephia quadrangularis** (Meyen) Cabrera

Dolichogyne rigida Wedd., Chloris Andina 1: 182 (1856) = **Parastrephia lucida** (Meyen) Cabrera

Dolichogyne rupestris Wedd., Chloris Andina 1: 183 (1857) = **Parastrephia lucida** (Meyen) Cabrera

Drozia Cass., Opusc. Phytol. 2: 170 (1826) = **Perezia** Lag.

Drozia dicephala Cass., Opusc. Phytol. 2: 171 (1826) = **Perezia pungens** (Humb. & Bonpl.) Less.

Dugaldia Cass., Dict. Sci. Nat. 55: 270 (1828) = **Hymenoxys** Cass.

Dumerilia Lag. ex DC., Ann. Mus. Nat. Paris 19: 71, t. 6 (15) & t. 7 (16) (1812) = **Jungia** L.f.

Dumerilia Less., Linnaea 5(1): 13 (1830), nom. illegit., non Lag. ex DC. (1812) (= **Jungia** L.f.) = **Perezia** Lag.

Dysodium Rich. in Pers., Syn. Pl. 2: 489 (1807), non **Dyssodia** Cav. (1802) = **Melampodium** L.

Dysodium divaricatum Rich. in Pers., Syn. Pl. 2: 489 (1807) = **Melampodium divaricatum** (Rich. in Pers.) DC.

Dysodium radiatum Hort. ex Desf., Cat. Hort. Paris. ed. 3: 182 (1829), nom. nud. pro syn. = **Melampodium divaricatum** (Rich. in Pers.) DC.

Dyssodia Cav., Descr. Pl. : 202 (1802).

Boebera Willd., Sp. Pl. : 2125 (1804). Type: *Boebera chrysanthemoides* Willd. = *Tagetes papposa* Vent. = **Dyssodia papposa** (Vent.) Hitchc.

Rosilla Less., Syn. Gen. Comp. : 245 (1832). Type: *Rosilla lutea* Less. = *Dyssodia pinnata* (Cav.) B. L. Rob.

Syncephalanthia Bartl., Ind. Sem. Hort. Goett. : 6 (1836). Type: *Syncephalanthia decipiens* Bartl. = *Dyssodia decipiens* (Bartl.) M. Johnston

Dyssodia Cav. sect. *Syncephalanthia* (Bartl.) Strother, Univ. Calif. Publ. Bot. 48: 24 (1969).

Type: *Tagetes papposa* Vent. = **Dyssodia papposa** (Vent.) Hitchc.

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Dyssodia chrysanthemifolia Steud., Nom. Bot., ed. 2, 2: 660 (1841), nom. superfl., based on *Tagetes papposa* Vent. = **Dyssodia papposa** (Vent.) Hitchc.

Dyssodia chrysanthemoides (Willd.) Lag., Gen. Sp. Nov. : 29 (1816) = **Dyssodia papposa** (Vent.) Hitchc.

Dyssodia ciliosa (Rydb.) Standl., Field Mus. Pub. Bot. 4: 299 (1929) = **Dyssodia papposa** (Vent.) Hitchc.

Dyssodia fastigiata* DC., Prodr. 5: 640 (1836) = **Dyssodia papposa (Vent.) Hitchc.

Dyssodia papposa (Vent.) Hitchc., Trans. Acad. Sci. St. Louis 5: 503 (1891).

Tagetes papposa Vent., Descr. Pl. Nouv. : tab. 36 (June-July 1801). Type: '... découverte par Michaux dans le pays des Illinois, introduite chez Cels en l'an 5, fleurissant sur la fin de l'été.' Holotype: ?P-MICH.

Boebera chrysanthemoides Willd., Sp. Pl. : 2125 (1804), nom. superfl., based on *Tagetes papposa* Vent.

Tagetes pumilla Willd., Sp. Pl. : 2126 (1804), nom. nud. pro syn.

'*Boebera glandulosa* (Cav.) Pers., Syn. Pl. 2: 459 (1807)'. Strother (1969: 27) noted this was based on 'a frequently listed but non-existent combination attributed by some authors to Cavanilles (1802), illegit.'

Dyssodia chrysanthemoides (Willd.) Lag., Gen. Sp. Nov. : 29 (1816).

**Dyssodia fastigiata* DC., Prodr. 5: 640 (1836). Types: '• in Mexici montanis (*Alam.*!) prope Ario Pazcuaro et lacum Cuiseo (*H. et B.*). *Dyssodia tagetiflora* Lag. elench. h. madr. p. 29? *Boebera tagetiflora* Spreng. l.c.? ... (v.s. comm. à cl. *Alaman et Berl.*)'. Note: Although there are several sheets bearing the *Prodromus* name only one has a collectors' label; this is apparently a *Mendez* collection, the name of *Alaman* being crossed out.

Dyssodia chrysanthemifolia Steud., Nom. Bot., ed. 2, 2: 660 (1841), nom. superfl., based on *Tagetes papposa* Vent.

Boebera papposa (Vent.) Rydb., Man. Fl. N. States & Canada : 1012 (1901).

Boebera ciliosa Rydb., N. Amer. Fl. 34(2): 167 (1915). Type: 'Type collected at Durango, in 1896, *Palmer* 920'. Holotype: NY (00162701).

Boebera roseata Rydb., N. Amer. Fl. 34: 168 (1915). Based on *Dyssodia fastigiata* DC, non Kunth.

Dyssodia ciliosa (Rydb.) Standl., Field Mus. Pub. Bot. 4: 299 (1929).

Dyssodia roseata (Rydb.) Gentry, Los Pastizales de Durango : 331 (1957).

Argentina, Bolivia (Chuquisaca, Cochabamba, Potosí, Sucre), Canada, Mexico, USA.

Cultivated areas, ditches, roadsides, rocky soils, dry thorn scrub.

1700-2950 m.

March-December, but probably flowering throughout the year.

Chuquisaca: *Wood* 11889 (K).

Cochabamba: *Wood & Huaylla* 23192 (K).

Potosí: *Wood et al.* 21981 (K).

Noted as an aggressive weed in open field and along roadsides in the northern part of its range - apparently also typical in Bolivia. 'Apparently recently introduced in South America. Flowering August to October.' (Strother, 1969 : 27).

Dyssodia roseata (Rydb.) Gentry, Los Pastizales de Durango : 331 (1957) = **Dyssodia papposa** (Vent.) Hitchc.

E

Echetrosis Phil., Anal. Univ. Chil. 43: 504 (1873). [Note: In a separately paginated reprint/preprint in K this appeared on p. 28.] = **Parthenium** L.

Echetrosis pentasperma Phil., Anales Univ. Chile 43: 504 (1873) = **Parthenum hysterophorus** L.

Echinocephalum Gardner, London J. Bot. 7: 294 (1848) = **Melanthera** Rohr

Echinocephalum angustifolium Gardner, London J. Bot. 7: 295 (1848) = **Melanthera latifolia** (Gardner) Cabrera

Echinocephalum lanceolatum Gardner, London J. Bot. 7: 295 (1848) = **Melanthera latifolia** (Gardner) Cabrera

Echinocephalum latifolium Gardner, London J. Bot. 7: 294 (1848) = **Melanthera latifolia** (Gardner) Cabrera

Echinocoryne H. Rob., Proc. Biol. Soc. Washington 100(3): 586 (1987) = **Vernonia** Schreb.

Echinodium Poit. ex Cass., Dict. Sci. Nat. 59: 235 (1829), nom. nud. pro syn. (sub *Centrospermum* Kunth), non Juratzka (1866) = **Acanthospermum** Schrank

Echinodium prostratum Poit. in Cass., Dict. Sci. Nat. 59: 245 (1829), nom. nud. = **Acanthospermum australe** (Leofl.) Kuntze

Echinops fruticosus L., Sp. Pl.: 815 (1753) = **Rolandra fruticosa** (L.) Kuntze

Echinops nodiflorus Lam., Encycl. 2: 337 (1786) = **Rolandra fruticosa** (L.) Kuntze

Eclipta L., Mant. Pl. 2: 157 (1771), nom. cons.

Ecliptica Kuntze, Revis. Gen. Pl. 1: 334 (1891), orth. var.

Eupatoriophalacrom Mill., Gard. Dict. Abr. ed. 4 (1754), nom. rej. Type: not designated.

Micrelidium Forssk., Fl. Aegypt.-Arab. : 152 (1775). Type: *Micrelidium tolak* Forssk. = **Eclipta prostrata** (L.) L.

?*Abasoloa* La Llave & Lex., Nov. Veg. Descr. 1: 11 (1824). Type: *Abasoloa taboada* Llave & Lex.

Paleista Raf., New Fl. 2: 43 (1837)[1836]. Type: *Paleista flexuosa* Raf. = **Eclipta prostrata** (L.) L.

Polygyne Phil., Linnaea 33: 170 (1864/65). Type: *Polygyne inconspicua* Phil. = **Eclipta prostrata** (L.) L.

Note: *Index Kewensis* suggested that *Polygyne* was equated with *Plagiocheilus*. However, the description of *P. inconspicua* suggests it is conspecific with *Eclipta*, albeit a small plant.

Type: *Eclipta erecta* L. = **Eclipta prostrata** (L.) L.

Reference

Robinson, H. (2006). *Eclipta*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 134–139.

Eclipta adpressa Moench, Meth. Suppl. : 245 (1802), nom. illegit., based on *Eclipta erecta* L.

Eclipta alba (L.) Hassk., Pl. Rar. Jav. : 528 (1848) = **Eclipta prostrata** (L.) L.

Eclipta alba (L.) Hassk. var. *zippeliana* (Bl.) Miq., Fl. Ind. Bat. 2: 66 (1856) = **Eclipta prostrata** (L.) L.

Eclipta angustifolia Presl, Bot. Bemerk. : 105 (1844), nom. nud. = **Eclipta prostrata** (L.) L.

Eclipta arabica Steud., Nomencl. Bot., ed. 2, 1: 542 (1840), nom. illegit. superfl. pro *E. erecta* L. = **Eclipta prostrata** (L.) L.

Eclipta brachypoda Michx., Fl. Bor. Amer. 2: 130 (1803), based on *Amellus? carolinianus* Walter = **Eclipta prostrata** (L.) L.

Eclipta dichotoma Raf., New Fl. Amer. 2: 42 (1836) = **Eclipta prostrata** (L.) L.

Eclipta dubia Raf., New Fl. Amer. 2: 40 (1836) = **Eclipta prostrata** (L.) L.

Eclipta erecta L., Mant. Pl. 2: 286 (1771), nom. illegit. based on *Verbesina alba* L. = **Eclipta prostrata** (L.) L.

Eclipta erecta L. [var.] *β diffusa* DC., Prodr. 5: 490 (1836) = **Eclipta prostrata** (L.) L.

Eclipta erecta L. var. *prostrata* (L.) Baker, Fl. Maurit. Seych. : 169 (1877) = **Eclipta prostrata** (L.) L.

Eclipta flexuosa Raf., New Fl. Amer. 2: 41 (1836) = **Eclipta prostrata** (L.) L.

Eclipta hirsuta Bartl., Linnaea 13: 95 (1839) = **Eclipta prostrata** (L.) L.

Eclipta latifolia L.f., Suppl. : 378 (1781) = **Blainvillea acmella** (L.) Philipson
Eclipta linearis Otto ex Sweet, Hort. Brit., ed. 2 : 308 (1830), nom. inval. = **Eclipta prostrata** (L.) L.
Eclipta longifolia Schrad. ex DC., Prodr. 5: 490 (1836) = **Eclipta prostrata** (L.) L.
Eclipta marginata Steud., Nomencl. Bot., ed. 2, 1: 542 (1840), nom. illegit. superfl. pro *E. erecta* L. = **Eclipta prostrata** (L.) L.
Eclipta nutans Raf., New Fl. Amer. 2: 42 (1836) = **Eclipta prostrata** (L.) L.
Eclipta palustris G. Forst. ex Spreng., Syst. Veg. 3: 603 (1826) = **Eclipta prostrata** (L.) L.
Eclipta palustris DC., Prodr. 5: 491 (1836), nom. nud. pro syn. = **Eclipta prostrata** (L.) L.
Eclipta parviflora Wall. ex DC., Prodr. 5: 490 (1836) = **Eclipta prostrata** (L.) L.
Eclipta patula Schrad. ex DC., Prodr. 5: 491 (1836), nom. nud. pro syn. = **Eclipta prostrata** (L.) L.
Eclipta phillippinensis Gand., Bull. Soc. Bot. France 65: 40 (1918) = **Eclipta prostrata** (L.) L.
Eclipta procumbens Michx., Fl. Bor. Amer. 2: 129 (1803) = **Eclipta prostrata** (L.) L.
Eclipta procumbens Michx. [var.] β *patula* DC., Prodr. 5: 491 (1836) = **Eclipta prostrata** (L.) L.

Eclipta prostrata (L.) L., Mant. Pl. : 286 (1771).

Verbesina alba L., Sp. Pl.: 902 (1753). Type: 'Habitat in Virginia, Surinamo. \blacksquare Lectotype (selected by Wijnands, Bot. Commelins: 74, 1983): [icon]

Verbesina prostrata L., Sp. Pl.: 902 (1753). Type: 'Habitat in India.' Lectotype (selected by Wijnands, Bot. Commelins: 74, 1983): [icon] 'Chrysanthemum Maderaspatanum, Menthae arvensis folio & facie, floribus bigemellis, ad foliorum alas, pediculis curtis' in Plukenet, Phytographia: t. 118, f. 5 (1691); Almag. Bot.: 100 (1696). Typotype: Herb. Sloane 94: 175 (BM-SL).

Eclipta erecta L., Mant. Pl. 2: 286 (1771), nom. illegit. based on *Verbesina alba* L.

Eclipta strumosa Salisb., Prodr. : 205 (1796), based on **Eclipta prostrata** (L.) L.

Bellis ramosa Jacq., Select. Stirp. Amer. Hist.: 216, t. 129 (1763). Type: 'Habitat in Domingo & Martinica, in pratensibus humidis & inundatis aequae maritimis atque aliis.' Holotype: ?

Verbesina conyzoides Trew, Pl. Rar. : 8 (1763). Type: 'Loco natalem ignoro, quum in horto reperi.' Holotype: ?
 Note: Trew's herbarium is in Erlangen University, ER.

Cotula alba (L.) L., Syst. Nat. 2: 564 (1767).

Micrelimum tolak Forssk., Fl. Aegypt. Arab. : 152 (1775), nom. inval. Type: 'Hadîe. Arab. Talak.[Forsskål 1470]'
 Holotype: C. Note: Herbarium Forsskålii is in C and plants covered in Forsskål's *Flora Aegyptiaco-Arabica* have been well documented by Hepper & Friis (1994). Robinson (2006a: 136) cited the holotype as in BM – an unnumbered collection, which is counted as an isotype.

Amellus? carolinianus Walter, Fl. Carol. : 213 (1788). Type: not stated.

Eclipta adpressa Moench, Meth. Suppl. : 245 (1802), nom. illegit., based on *Eclipta erecta* L.

Eclipta procumbens Michx., Fl. Bor. Amer. 2: 129 (1803). Type: 'Hab. in Carolina.' Holotype: ?P – if not lost.

Eclipta brachypoda Michx., Fl. Bor. Amer. 2: 130 (1803), based on *Amellus? carolinianus* Walter

Eclipta undulata Willd., Sp. Pl. 3: 2219 (1803). Type: 'Habitat in India orientalis. \blacktriangle . (v.s.)'. Holotype: B-W (16373). Note: this single sheet has '(Roxburgh)' written at the bottom of the sheet.

Eclipta palustris G. Forst. ex Spreng., Syst. Veg. 3: 603 (1826). Type: 'Ins. maris pacifici.' Lectotype (selected by Nicolson, 2003: 307): [Habitat in India, *Forster*], K. Note: This sheet in K has not been annotated by Nicolson, but is certainly housed amongst the Polynesian material.

Eclipta zippeliana Bl., Bijdr. 15: 914 (Dec. 1826). Type: 'Crescit: in graminosis paludosis Bataviae ab Hortulano Zippelio primo detecta.' Holotype: ?L.

Eclipta linearis Otto ex Sweet, Hort. Brit., ed. 2 : 308 (1830), nom. inval. [Note: The plant was introduced in 1825 but from an unknown locality.]

Wiborgia? oblongifolia Hook., Bot. Misc. 2: 226 (1831). Type: 'Hab. Lurin, near Lima. [A. Cruckshanks, s.n.]' Holotype: K.

Eclipta thermalis Bunge, Enum. Pl. Chin. Bor. : 39 (1833). Type: 'Hab. ad thermas prope Tan-schan. Floret Majo. \blacktriangle .' Holotype: ?LE.

Galinsoga? oblongifolia (Hook.) DC., Prodr. 5: 677 (1836).

Eclipta erecta L. [var.] β *diffusa* DC., Prodr. 5: 490 (1836). Type: '• in Senegaliae regione Walo cum var. erecta in argilosis inundatis legit cl. Perrottet. (v.s. comm. à cl. inv.)'. Types: there are two *Perrottet* collections in G-DC, one numbered 'No 6', the other 'No 7'.

Eclipta longifolia Schrad. ex DC., Prodr. 5: 490 (1836). Type: '• in insulis Caribaeis, Guadalupâ; fortè in Porto-Ricco, Domingo et Martinicâ si *Bellis ramosa* Jacq. amer. 216. t. 129 et ideò *E. punctata* Linn. mant. 2. p. 286

huc reitè referencdae? *E. erecta* Linn. mant. 286. (v.s.)'. There are a few specimens in G-DC – Schrader s.n., 1832, Bertero (or Balbis) 1820, s. coll. 151.

Eclipta prostrata (L.) L. [var.] β *undulata* (Willd.) DC., Prodr. 5: 490 (1836).

Eclipta parviflora Wall. ex DC., Prodr. 5: 490 (1836). Types: '(Wall.! cat. et herb. n. 323), ... • in Indiae orientalis humidis legerunt cl. Heyne et Wight. Hic etiam pertinere videtur *E. prostrata* D et E Wall.! cat. et herb. comp. n. 319 et *Ecl. prostrata* à Chamisso in Luzoniâ lecta. ... (v.s.)'. There appear to be two sheets bearing a numbered label 319 that may well correspond to the 'Wallich' Herbarium material cited by de Candolle, but they do not bear the typical cut-up labels (from the 'Numerical List') that duplicates normally have. However, the supplementary numbers were added by de Candolle to the Compositae from this collection. The corresponding number in the 'Numerical List ...' (= 'Wallich Catalogue') is 3209; there are supplementary entries in the catalogue, A-E, of which the last two correspond to Heyne (D) and Wight (E), E has two collecting labels at the top indicating differing dates of collection, neither are numbered. Material from the 'Numerical List' corresponding to '323' bears the catalogue number 3213, under which there are three sheets, A, B, and C. An examination of the material in K-W shows A is ex Herb. Heyn, B was collected in 'Martabania' in 1827 (according to the Catalogue) and, C collected in Ramporee and numbered '150/Found in Ramporee [and also illegibly dated]'. Specimens B and C are individually determined as '323' on separate determination slips which appear to originate from de Candolle. Syntypes: G-DC, K-W.

Eclipta procumbens Michx. [var.] β *patula* DC., Prodr. 5: 491 (1836). Type: '• Patr. ign. *Ecl. patula* Schrad.! in litt. 1832. *Buphthalmum diffusum* Vahl herb. ex Puer.! herb. (v.s.)'. The material from Schrader (s.n., 1832) in G-DC is not separated from the general material of *Eclipta procumbens*.

Eclipta patula Schrad. ex DC., Prodr. 5: 491 (1836), nom. nud. pro syn.

Buphthalmum diffusum Vahl ex DC., Prodr. 5: 491 (1836), nom. nud. pro syn.

Eclipta palustris DC., Prodr. 5: 491 (1836), nom. nud. pro syn.

Eclipta dubia Raf., New Fl. Amer. 2: 40 (1836). Type/s?: '-Virginia to Florida in gravelly soils, flowers estival: ...' Note: Location of extant material unknown.

Eclipta flexuosa Raf., New Fl. Amer. 2: 41 (1836). Type/s?: '- in Guyana and South America, biennial 2 or 3 feet high, thus totally unlike the two above.' Note: Location of extant material unknown.

Eclipta tinctoria Raf., New Fl. Amer. 2: 41 (1836). Type: '- in Asia and Egypt, used to die black, certainly different again from all the American sp. but requiring a better description.' Note: Location of extant material unknown.

Eclipta simplex Raf., New Fl. Amer. 2: 41 (1836). Type/s?: '- sent to me from Alabama and Tennessee as *E. procumbens* although quite erect.' Note: Location of extant material unknown.

Eclipta sulcata Raf., New Fl. Amer. 2: 41 (1836). Type: '- Louisiana, sent me by Riddell as the *E. procumbens*? ...' Note: Location of extant material unknown.

Eclipta dichotoma Raf., New Fl. Amer. 2: 42 (1836). Type: 'Arkansas, found by Nuttall, mistaken also for *E. erecta*, ...' Note: Location of extant material unknown.

Eclipta pumila Raf., New Fl. Amer. 2: 42 (1836). Type: '- Mts. Cumberland of East Kentucky, ...' Note: Location of extant material unknown.

Eclipta nutans Raf., New Fl. Amer. 2: 42 (1836). Type: '- in Kentucky also the banks of the Ohio and Potiowmak, ...' Note: Location of extant material unknown.

Eclipta hirsuta Bartl., Linnaea 13: 95 (1839). Type: [Under the heading 'Index Seminum horti academici Gottingensis 1838. 4 to.] 'Pro *Ecl. latifolia* miss. ex *H. Francof.* 1838.' Type material probably in GOET.

Eclipta arabica Steud., Nomencl. Bot., ed. 2, 1: 542 (1840), nom. illegit. superfl. pro *E. erecta* L.

Eclipta marginata Steud., Nomencl. Bot., ed. 2, 1: 542 (1840), nom. illegit. superfl. pro *E. erecta* L.

Eclipta angustifolia Presl, Bot. Bemerk. : 105 (1844), nom. nud.

**Eclipta alba* (L.) Hassk., Pl. Rar. Jav. : 528 (1848).

Eclipta alba (L.) Hassk. var. *zippeliana* (Bl.) Miq., Fl. Ind. Bat. 2: 66 (1856).

Polygyne inconspicua Phil., Linnaea 33: 171 (1864/65). Type: [Chile:] 'In litore lacus de Aculco dicti occurrit, autumno floret.'

Eleutheranthera prostrata (L.) Sch.Bip., Bot. Zeit. (Berlin) 24: 239 (1866).

Eclipta erecta L. var. *prostrata* (L.) Baker, Fl. Maurit. Seych. : 169 (1877).

Eclipta phillippinensis Gand., Bull. Soc. Bot. France 65: 40 (1918). Types: 'HAB.: Oceania, insulae Philippinae (Cuming n. 2436!); Nova Caledonia in planitie Dombea (Debeaux!).' Syntypes: ?P; isosyntype: Cuming 2436, K. Note: The Kew isosyntype has had 'Phillip. I.' crossed out and 'Singapore' has been written underneath in pencil, suggesting somebody was doubtful over the collecting locality.

A very widespread pantropic weed. Bolivia (Bení, Cochabamba, Chuquisaca, La Paz, Pando, Santa Cruz, Tarija).

Moist soil in both dry and humid forests, disturbed areas, pond margins, river banks, swamps, seepage areas, roadsides.

20–2100 m.

Flowering throughout the year.

Santa Cruz: Wood 15143 (K), Wood et al. 22891 (K, USZ).

Tarija: Wood 15947 (K).

Note: The name '*Eclipta prostrata* (L.) L. var. *zippeliana* (Bl.) J. Koster', appears in the literature but I haven't yet been able to trace it. It wasn't mentioned in Koster's papers till 1979, but unfortunately *Index Kewensis* did not treat infraspecific taxa until long after that date.

Eclipta prostrata (L.) L. [var.] β *undulata* (Willd.) DC., Prodr. 5: 490 (1836) = **Eclipta prostrata** (L.) L.

Eclipta pumila Raf., New Fl. Amer. 2: 42 (1836) = **Eclipta prostrata** (L.) L.

Eclipta simplex Raf., New Fl. Amer. 2: 41 (1836) = **Eclipta prostrata** (L.) L.

Eclipta strumosa Salisb., Prodr. : 205 (1796), nom. illegit, based on *Eclipta prostrata* (L.) L. = **Eclipta prostrata** (L.) L.

Eclipta sulcata Raf., New Fl. Amer. 2: 41 (1836) = **Eclipta prostrata** (L.) L.

Eclipta thermalis Bunge, Enum. Pl. Chin. Bor. : 39 (1833) = **Eclipta prostrata** (L.) L.

Eclipta tinctoria Raf., New Fl. Amer. 2: 41 (1836) = **Eclipta prostrata** (L.) L.

Eclipta undulata Willd., Sp. Pl. 3: 2219 (1803) = **Eclipta prostrata** (L.) L.

Eclipta zippeliana Bl., Bijdr. 15: 914 (Dec. 1826) = **Eclipta prostrata** (L.) L.

Ecliptica Kuntze, Revis. Gen. Pl. 1: 334 (1891), orth. var. of *Eclipta* L. = **Eclipta** L.

Edemias Raf., Fl. Tellur. 2: 49 (1836) = **Conyza** Less.

Eisenmannia Sch. Bip. ex Hochst., Flora : 24: I. Intell. 42 (1841), nom. nud. (as *Eisenmannia clandestina* Sch. Bip. ex Hochst.) = **Blainvillea** Cass.

Eisenmannia clandestina Sch. Bip. ex Hochst., Flora 24: I. Intell. 42 (1841), nom. nud. = **Blainvillea acmella** (L.) Philipson

Eizaguirrea J. Rémy in Gay, Flora de Chile 3: 401 (1849) = **Leucheria** Lag.

Egania J. Rémy in Gay, Flora de Chile 3: 324 (1849) = **Chaetanthera** Ruiz & Pav.

Egletes Cass., Bull. Sci. Soc. Philom. Paris 1817: 153 (1817).

Xerobius Cass., Dict. Sci. Nat. 59: 128 (1829). Type: *Xerobius lanatus* Cass. = *Egletes prostrata* (Sw.) Kuntze

Eyselia Reichb., Icon. Bot. Exot. 242, pl. 242 (1830). Type: *Eyselia bellidiflora* Reichb. = *Egletes prostrata* (Sw.) Kuntze

Platystephium Gardner, London J. Bot. 7: 80 (1848). Type: *Platystephium graveolens* Gardner = **Egletes viscosa** (L.) Less.

Type: *Egletes domingensis* Cass. = *Egletes prostrata* (Sw.) Kuntze

References

Shinners, L. H. (1949a). Revision of the genus *Egletes* Cassini north of South America. *Lloydia* 12(4): 239–247

Shinners, L. H. (1949b). Two additions to the genus *Egletes* Cassini from Northern South America. *Lloydia* 12(4): 248–250.

***Egletes viscosa** (L.) Less., Syn. Gen. Comp. : 252 (1832).

Cotula viscosa L., Sp. Pl. : 892 (1753). Type: 'Habitat in Vera Cruse [sic!]. Lectotype (selected by Nesom in Jarvis & Turland, 1998: 359); Herb. Clifford : 417, *Cotula* 4, BM-000647228.

Platystephium graveolens Gardner, London J. Bot. 7: 81 (1848). Types: [Brazil:] 'Hab. in the dried up sandy beds of streams near Icó, Province of Ceará ([Gardner]1739), and in shady sandy places near Paranagoa, Province of Piauhuy ([Gardner] 2651). Fl. July–Oct.' Syntypes: BM, K. Isosyntype (Gardner 2651): NY × 5.

Egletes viscosa (L.) Less. var. β *sprucei* Baker in Mart., Fl. Bras. 6(3): 20 (1883). Types: [Brazil:] 'prope Obidos: Spruce n. 469! Traill n. 468.' Syntypes: Traill, K × 2.

Grangea domingensis (Cass.) M. Gómez [de la Maza] var. *viscosa* (L.) M. Gómez [de la Maza], Dict. Bot. Nom. Vulg. Cubanos Puerto Riquenos : 115 (1889).

Egletes viscosa (L.) Less. f. *bipinnatifida* Shinnery, Lloydia 12(4): 244 (1949). Type: 'Vento, Havana Province, Cuba. A. H. Curtiss W. Ind. Pl. 697.' Holotype: ?GH; isotypes: ?F, K, ?US.

Egletes viscosa (L.) Less. var. *dissecta* Shinnery, Lloydia 12(4): 245 (1949). Type: 'El Zapate, Sind. El Quelite, Minuc. Mazatlan, Sinaloa, Mexico, Jesus Gonzalez Ortega 5156, Julio, 1923.' Holotype: GH (6505); isotypes: K, US (1165254).

Bolivia (Bení, Pando, Santa Cruz), Brazil, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Mexico, Nicaragua, Peru, USA.

Disturbed areas, damp roadsides, river and stream margins, seasonally flooded areas.

0–500 m.

Flowering throughout the year in suitable conditions.

Bení: Wood 15039 (K).

Santa Cruz: Wood et al. 25089 (K, USZ).

Egletes viscosa (L.) Less. f. *bipinnatifida* Shinnery, Lloydia 12(4): 244 (1949) = **Egletes viscosa** (L.) Less.

Egletes viscosa (L.) Less. var. *dissecta* Shinnery, Lloydia 12(4): 245 (1949) = **Egletes viscosa** (L.) Less.

Egletes viscosa (L.) Less. var. β *sprucei* Baker in Mart., Fl. Bras. 6(3): 20 (1883) = **Egletes viscosa** (L.) Less.

Eirmocephala H. Rob., Proc. Biol. Soc. Washington 100(4): 853 (1987) = **Vernonia** Schreb.

Eirmocephala megaphylla (Hieron.) H. Rob., Proc. Biol. Soc. Washington 100(4): 854 (1987) = **Vernonia megaphylla** Hieron.

Eizaguirrea Remy in Gay, Flora de Chile 3: 401 (1849) = **Leucheria** Lag.

Elachia DC., Prodr. 7: 256 (1838) = **Chaetanthera** Ruiz & Pav.

Elaphandra Strother, Syst. Bot. Monogr. 33: 17 (1991).

Type: *Elaphandra bicornis* Strother

References

Pruski, J. F. (1996). Compositae of the Guayana Highland – XI. *Tuberculocarpus* gen. nov. and some other Ecliptinae (Heliantheae). Novon 6(4): 404–418.

Robinson, H. (1992). New combinations in *Elaphandra* Strother (Ecliptinae-Heliantheae-Asteraceae). Phytologia 72(2): 144–151.

Robinson, H. & R. D. Brettell. (1975). Studies in the Heliantheae (Asteraceae). V. Two new species of *Aspilia* from South America. Phytologia 32(5): 419–425.

Strother, J. L. (1991). Taxonomy of *Complaya*, *Elaphandra*, *Iogeton*, *Jefea*, *Wamalchitama*, *Wedelia*, *Zexmenia*, and *Zyzzia* (Compositae-Heliantheae-Asteraceae). Syst. Bot. Monogr. 33: 1–111.

Elaphandra lucidula (S. F. Blake) H. Rob., Phytologia 72(2): 148 (1992) = **Elaphandra ulei** (Hieron.) H. Rob.

Elaphandra ulei (Hieron.) H. Rob., Phytologia 72(2): 148 (1992).

Aspilia ulei Hieron., Verh. Bot. Ver. Brand. 1906, 48: 205 (1907). Type: 'Brasil: bei Bomfin, Juruá im Staate Amazonas ([Ule] n. 5150 – Oktober 1900).' Holotype: ?B.

**Aspilia lucidula* S. F. Blake, Proc. Biol. Soc. Washington 36: 52 (1923). Type: 'Type in the U.S. National Herbarium, No. 1,120,940, collected at Rurrenabaque, on the Rio Beni, District of Caupolicán, Province of

Beni, Bolivia, altitude 305 meters, October 1, 1921, by *H. H. Rusby* (Mulford Biological Exploration of the Amazon Basin, No. 758). Holotype: US (01120940); isotype: F (520547), NY (00158636).
Aspilia steinbachii H. Rob. & R. D. Brettell, *Phytologia* 32(5): 420 (1975). Type: 'BOLIVIA: Depto. Cochabamba: Prov. Chapare, Todos Santos, elev. 300 mtrs, Herbacea 0,50 mtrs., flores anaranjado amarillento. Oct. 27, 1966. R.F.Steinbach 446'. Holotype: WIS; isotypes: U(487050B), US (fragment - 02726339).
Elaphandra lucidula (S. F. Blake) H. Rob., *Phytologia* 72(2): 148 (1992).
 Bolivia (Bení, Cochabamba, La Paz), Brazil.
 300-550 m.
 October-July.

Electra DC., *Prodr.* 5: 630 (1836) = **Coreopsis** L.

Elephantopus L., *Sp. Pl.* : 814 (1753)

Elephantosis Less., *Linnaea* 4(3): 322 (1829). Type: not stated. Lectotype (selected by Gleason, 1906: 238):

Elephantosis biflora Less. = *Elephantopus biflorus* (Less.) Sch.Bip.

Pseudelephantopus Rohr, *Skr. Naturhist.-Selsk, Kjobenhavn* 2: 213 (1792), nom. et orth. cons. Type:

Pseudelephantopus spicatus (Juss. ex Aubl.) Rohr = **Elephantopus spicatus** Juss. ex Aubl.

Distreptus Cass., *Bull. Sci. Soc. Philom. Paris* 1817: 66 (1817). Type: not stated.

Matamoria LaLlave & Lex., *Nov. Veg. Desc., fasc. 1: 8* (1824). Type: *Matamoria spicata* (Juss. ex Aubl.) La Llave = **Elephantopus spicatus** Juss. ex Aubl.

Spirochaeta Turcz., *Bull. Soc. Naturalistes Moscou* 24(1): 166 (1851). Type: *Spirochaeta funckii* Turcz. =

Elephantopus spiralis (Less.) Clonts

Orthopappus Gleason, *Bull. New York Bot. Gard.* 4(14): 237 (1906). Type: *Orthopappus angustifolius* (Sw.)

Gleason = **Elephantopus angustifolius** Sw.

Chaetospira S. F. Blake, *J. Wash. Acad. Sci.* 25: 311 (1935). Type: *Chaetospira funckii* (Turcz.) S. F. Blake =

Elephantopus spiralis (Less.) Clonts

Elephantopus L. subgen. *Pseudelephantopus* (Rohr) C. Jeffrey, *Kew Bull.* 43(2): 274 (1988).

Type: not stated. Lectotype (selected by Britton & Brown, 1913): *Elephantopus scaber* L.

Reference

Clonts, J. A. (1972). A revision of the genus *Elephantopus*, including *Orthopappus* and *Pseudelephantopus* (*Compositae*). Unpublished PhD thesis, Missouri State University.

Key to species

- | | | |
|--------|---|-------------------------|
| 1. | Glomerules few- (1-5) headed; pappus of setae of which 2 are spirally twisted or bent (subgen. <i>Pseudelephantopus</i>) | 2 |
| | Glomerules many-headed; pappus of straight setae or of short scales | 3 |
| 2. (1) | Pappus setae twisted throughout length | <i>E. spicatus</i> |
| | Pappus setae strongly bent | <i>E. spiralis</i> |
| 3. (1) | Pappus of short scales | <i>E. palustris</i> |
| | Pappus of straight setae | 4 |
| 4. (3) | Inflorescence paniculate, glomerules pedunculate; glomerule bracts 3, cordate to deltoid; pappus setae few (5-8), 3-4.5 mm long | <i>E. mollis</i> |
| | Inflorescence spicate or racemose-spicate, glomerules sessile; glomerule bracts 1 or 2, usually broadly lanceolate; pappus setae many (c. 20-30), 6-7 mm long | <i>E. angustifolius</i> |

***Elephantopus angustifolius** Sw., *Prodr.* : 115 (1788). Type: 'Sloan. h. I. 256. t. 148, f. 4. Jamaica. L.' Holotype: BM-SL; isotype: S.

Elephantopus nudiflorus Willd., *Sp. Pl.* 3: 2390 (1804). Type: 'Habitat in St. Domingo. ■Poiteau. (v. s.)'.

Holotype: B-W (16769).

Elephantosis quadriflora Less., *Linnaea* 4(3): 323 (1829). Types: '*Sellow* misit e Bras. trop; *Beyrich* legit ad latera montium pr. novo-Friburgo Jan. 1823; *Schiede* in collibus apricis pr. Hacienda de la Laguna Septbr. 1828. (v.sp.∞).' Syntypes: B†.

Distreptus crispus Cass., *Dict. Sci. Nat.* 60: 601 (1830), nom. illegit. pro *E. nudiflorus* Willd.

Elephantosis angustifolia (Sw.) DC., *Prodr.* 5: 87 (1836).

Elephantopus crispus (Cass.) D. Dietr., Syn. Pl. 4: 1372 (1847).

Elephantopus quadriflorus (Willd.) D. Dietr., Syn. Pl. 4: 1372 (1847).

Orthopappus angustifolius (Sw.) Gleason, Bull. New York Bot. Gard. 4(14): 238 (1906).

Pseudelephantopus crispus (Cass.) Cabrera, Darwiniana 6: 371 (1944).

Argentina, Bolivia (Bení, La Paz, Santa Cruz), Brazil, British Honduras, Chile, Colombia, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Surinam, Uruguay, Venezuela, West Indies (Cuba, Dominican Republic, Guadeloupe, Haiti, Jamaica, Martinique, Trinidad, St. Vincent).

Cerrado, grassland, sandy soils, pasture, cultivated areas.

0–2500 m.

November–April.

Bení: Rusby 1313 (F).

La Paz: Britton & Rusby 344 (L); O. Buchtien 785 (GH, K), O. Buchtien 5733 (GH).

Santa Cruz: Miss. W. M. A. Brooke 5808 (BM); Herzog 1307 (L); J. Steinbach 5109 (F).

Vernacular names: LÍNGUA-DE-VACA, SUÇAIÁ-AÇU (Cabrera & Klein, 1980); SUSÚA DEL CAMPO (Freire et al., 2006).

Elephantopus crispus (Cass.) D. Dietr., Syn. Pl. 4: 1372 (1847) = **Elephantopus angustifolius** Sw.

Elephantopus cuneifolius Fourn., Bull. Soc. Bot. France 30: 186 (1883) = **Melanthera nivea** (L.) Small

Elephantopus hypomalacus S. F. Blake, Contr. Gray Herb. 52: 20 (1917) = **Elephantopus mollis** Kunth

Elephantopus martii, Graham, Edinburgh New Phil. J. 8: 378 (1830) = **Elephantopus mollis** Kunth

Elephantopus mollis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 26 (1818). Type: 'Crescit in Provinciis Cumanæ et Caracas. ■ Floret Sept. – Jan.' [Humboldt & Bonpland 'no. 627. Caracas. Quebrada de Catoche'] Holotype: P-Bonpl.

Elephantopus martii, Graham, Edinburgh New Phil. J. 8: 378 (1830). Types: '*Elephantopus scaber* Herb. Martii. ...

Seeds of this plant were sent to me from Mr Harris at Rio Janeiro by Captain Graham late of his Majesty's Packet Services, in April 1829. It has been kept in the stove, and flowered in February and March last.

[presumably 1830] I am enabled to identify it as the plant of Martius, by a specimen communicated by Martius himself to Dr Hooker, who, with his usual kindness, permitted me to examine all the species in his herbarium. The specimen alluded to was collected by Martius on the Rio Belmonte, too common a name to be very precise, but probably in or not far from the province of Rio Janeiro.' Syntype: 'Communic. Martius 1827' – K [marked as '2' on the sheet against the two parts] (although this sheet appears to have a second collection mounted on it – 'Antigua. Dr Nicholson'). Note: it is unknown if Graham made any specimens from the cultivated material in E.

Elephantopus sericeus Graham, Edinburgh New Phil. J. 10: 373 (1831). Types: 'This species was raised from seed sent to the Botanic Garden by Dr Krous of Dominica in 1829. It has been added to Dr Hooker's herbarium from St. Vincent and Trinidad.' Note: It is unknown if a specimen was prepared in E of the cultivated material. Only one specimen in K, ex herb. Hookerianum, is marked as *Elephantopus martii*, that of Imray 370 (from Dominica), and this may well be one of the syntypes alluded to by Graham. See also *Elephantopus mollis* Kunth var. *capitulatus* Domin

Elephantopus serratus Blanco, Fl. Filip. : 635 (1837). Type: 'Es comun en Malinta.' Note: The location of Blanco's herbarium is unknown.

Elephantopus scaber L. var. *tomentosus* Sch.Bip., Linnaea 20: 516 (1847). Type: (or was this a combination of Linnaeus' *E. tomentosus*?)

Elephantopus hypomalacus S. F. Blake, Contr. Gray Herb. 52: 20 (1917). Type: 'COSTA RICA: Orotina, ca. 180 m., 29 Dec. 1915, Holway 314'. Holotype: GH (6525).

Elephantopus mollis Kunth var. *capitulatus* Domin, Acta Bot. Bohem. 9: 62 (1930). Types: 'I saw specimens from Isla de Pinos, Jamaica, Tortola, Dominica (IMRAY no. 370!), St. Vincent, Grenada, and Trinidad, but undoubtedly occurs also on several other islands.' Isosyntype: Imray 370, K.

Elephantopus mollis Kunth var. *bracteosus* Domin, Acta Bot. Bohem. 9: 62 (1930). Type: 'As type specimens of this variety I regard my plants from Dominica (thickets and clearings on the Macouchere ridge, DOMIN 1926!), but I have seen this distinct form also from Porto Rico, St. Thomas, Jamaica, Martinique and Trinidad.'

Elephantopus pilosus Philip., J. Bot. 77: 314 (1939). Type: 'I select as the type-specimen the sheet of *Hostmann* 875 in the British Museum Herbarium.' [Dutch Guiana.] Holotype: BM; isotype: K.

A widespread weed in the American tropics. Introduced into tropical Africa and throughout tropical Asia. Bolivia (La Paz, Santa Cruz), Brazil, Ecuador, Peru.

Cultivated areas, disturbed soil, very fertile soils, pasture, roadsides, ditches, forest margins, shaded grassland.

0–3000 m.

December–May, although potentially flowering throughout the year.

La Paz: *O. Buchtien* 786 (F, GH, K, NY); *O. Buchtien* 5732 (GH); *O. Buchtien*, s.n., August 1907 (L). Britton (1891) cited 'Mapiri, 5,000 ft. ([Rusby] 1105); Yungas, 6,000 ft. ([Rusby] 1106).'

Santa Cruz: *Mendoza & Ledezma* 466 (K, USZ), *J. Steinbach* 6115 (GH), *Wood et al.* 23021 (K, USZ), *Wood et al.* 23031 (K, USZ), *Wood et al.* 24110 (K, USZ), *Wood et al.* 26207 (K, USZ).

Vernacular names: ERVA-DE-COLÉGIO, ERVA-GROSSA, ERVA-DE-VEADO, FUMO-BRABO, FUMO-DA-MATA, PÉ-DE-ELEFANTE, SUÇAIÁ, SUÇAUAIÁ, SUÇAIA, SUAÇU-CAÁ, SAÇÓIA (Cabrera & Klein, 1980); BESTUCA, LENGUA DE VACA, SUSÚA, TRATANÉ LÁTÉE (Freire et al., 2006).

Elephantopus nudiflorus Willd., Sp. Pl. 3: 2390 (1804) = **Elephantopus angustifolius** Sw.

Elephantopus palustris Gardner, London J. Bot. 5: 237 (1846). Types: 'HAB. In marshes near the city of Oeiras, Province of Piauí, (n. 2643); and in moist places between the Rio Claro and San Romão, in the Province of Minas Geraes, (n. 4836).' Syntype (*Gardner* 4836): BM, GH (6529, 6530), K, NY (00168322), S.

Elephantopus vaginatus Gardner, London J. Bot. 6: 426 (1847). Type: [Brazil:] '[*Gardner*] 4200. ... HAB. Near San Domingos, Province of Goyaz. May, 1840.' Duplicates: BM, BR, K, NY (00169328).

Bolivia (Santa Cruz), Brazil, Paraguay.

Wet grassland, marshes.

300–500 m.

January–July.

Santa Cruz: *J. Steinbach* 1297, May 1915 (SMU); *J. Steinbach* 2162 (SMU); *J. Steinbach* 6968, 10 March 1925 (F, GH, K); *Wood* 12170 (K); *Wood & Goyder* 13073 (K), *Wood et al.* 24925 (K, USZ), *Wood et al.* 24938 (K, USZ).

Note: In his unpublished thesis Clonts (1972) 'lectotypified' *E. palustris* based on the material in BM.

Elephantopus pilosus Philip., London J. Bot. 77: 314 (1939) = **Elephantopus mollis** Kunth

Elephantopus quadriflorus (Willd.) D. Dietr., Syn. Pl. 4: 1372 (1847) = **Elephantopus angustifolius** Sw.

Elephantopus scaber sensu auct. = **Elephantopus mollis** Kunth. Foster (1958: 207) listed 'E. scaber L.' most probably through the constant misidentification of *E. mollis* as the former.

Elephantopus scaber L. var. *tomentosus* Sch.Bip., Linnaea 20: 516 (1847) = **Elephantopus mollis** Kunth

Elephantopus sericeus Graham, Edinburgh New Phil. J. 10: 373 (1831) = **Elephantopus mollis** Kunth

Elephantopus serratus Blanco, Fl. Filip. : 635 (1837) = **Elephantopus mollis** Kunth

***Elephantopus spicatus** Juss. ex Aubl., Hist. Pl. Guian. 2: 808 (1775). Type: 'SLOAN. Hist. 1. pag. 256. tab. 150. fig. 3. 4. Cat. 123.' Note: Aublet's herbarium was much divided with substantial amount going to BM and P.

Much material from Sloane's herbarium is now in BM-SL, as are the original for many drawings; it is here that material should be sought to lectotypify this name. There is apparently no herbarium material in BM-SL.

Pseudelephantopus spicatus (Juss. ex Aubl.) Rohr, Skr. Nat. Selsk. Kjobenhavn 2: 214 (1792).

Distreptus spicatus (Juss. ex Aubl.) Cass., Dict. Sci. Nat. 13: 367 (1819).

Matamoria spicata (Juss. ex Aubl.) La Llave & Lex., Nov. Veg. Descr. 1: 8 (1824).

Introduced into Africa (Liberia, Nigeria, Sierra Leone, Zanzibar), Asia (China, Malaya), Australia, Pacific Islands (Fiji, Hawaii, Guam, Philippines). Bolivia (La Paz), British Honduras, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Venezuela, West Indies (Barbados, Dominica, Dominican Republic, Grenada, Guadeloupe, Haiti, Jamaica, Martinique, Montserrat, Puerto Rico, St. Croix, St. Lucia, St. Vincent, Virgin Islands).

Wet grassland, pasture.

0–1000 m.

December–July.

Britton (1891) cited 'Mapiri, 5,000 ft. ([Rusby] 1109).'

Elephantopus spiralis (Less.) Clonts, N. Amer. Fl., ser. 2, 10: 198 (1978).

Distreptus spiralis Less., Linnaea 6(4): 690 (1831). Type: 'In Jamaica lectum vidi specimen in Herbario Thunbergiano.' Holotype: ?UPS.

Spirochaeta funckii Turcz., Bull. Soc. Imp. Naturalistes Moscou 24(1): 167 (1851). Types: 'Habitat in Columbia prope Laguayra. Funck coll. n. 358 et Galeotti herb. n. 380.' Syntypes: ?KW; isosyntype: (*Funck* 358), K.

Chaetospira funckii (Turcz.) S. F. Blake, J. Wash. Acad. Sci. 25: 311 (1935).
Pseudo-elephantopus funckii (Turcz.) Philipson, J. Bot., London 76: 301 (1938).
Chaetospira spiralis (Less.) Asplund & S. F. Blake, Svensk Bot. Tidskr. 52(1): 50 (1958).
Pseudelephantopus spiralis (Less.) Cronquist, Madroño 20: 255 (1970).
Argentina, Bolivia (La Paz, Santa Cruz), Brazil, Colombia, Costa Rica, Ecuador, Peru, Venezuela, West Indies (St. Lucia, St. Vincent, Tobago).
Cultivated areas, disturbed soils, marshes, streamsides, woodland clearings.
0–2500 m.
August–February.

Elephantopus tomentosus* L., Sp. Pl. : 814 (1753), sensu Foster (1958) Note: Although listed by Foster (1958), this species is restricted to North America – following Clonts (1972). Foster’s concept is undoubtedly based on Fries’ (1906: 6) record in which he cited *E. scaber* L. var. *tomentosus* (L.) Sch.Bip. in synonymy of *E. tomentosus*] = **Elephantopus mollis Kunth

Elephantopus vaginatus Gardner, London J. Bot. 6: 426 (1847) = **Elephantopus palustris** Gardner

Elephantosis Less., Linnaea 4(3): 322 (1829) = **Elephantopus** L.
Elephantosis angustifolia (Sw.) DC., Prodr. 5: 87 (1836) = **Elephantopus angustifolius** Sw.

Eleutheranthera Poit. ex Bosc, Bull. Sci. Soc. Philom. Paris 3: 137 (1802) [Cited on the *Index Nominum Genericorum* database, and by Panero, 2006. Widely cited as *Nouv. Dict. Hist. Nat.*, 7: 498 (1803)], e.g. Robinson (2006: 147)

Ogiera Cass., Bull. Sci. Soc. Philom. Paris 1818: 32 (1818). Type: *Ogiera triplinervis* Cass. = **Eleutheranthera ruderalis** (Sw.) Sch.Bip.

Gymnolomia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 170 (1818). Lectotype (selected by Blake, 1924): *Gymnolomia tenella* Kunth = **Eleutheranthera ruderalis** (Sw.) Sch.Bip.

Fingalia Schrank, Syll. Ratisb. 1: 87 (1824). Type: *Fingalia hexagona* Schrank = **Eleutheranthera ruderalis** (Sw.) Sch.Bip.

Gymnopsis DC., Prodr. 5: 561 (1836), nom. superfl.

Kegelia Sch.Bip., Linnaea 21: 245 (1848). Type: *Kegelia ruderalis* (Sw.) Sch.Bip. = **Eleutheranthera ruderalis** (Sw.) Sch.Bip.

Note: *Eleutherantheron* Steud., Nom. Bot., ed. 2, 1: 549 (1840) is sometimes cited. However, Steudel cited ‘*Eleutherantheron* Poit., and its sole species ‘*ovata*. Poit. *Ogiera Eleutheranthera.*’ suggesting this was no more than a typographic error.

Lectotype (selected by Robinson, 1992: 146): *Eleutheranthera ovata* Poit. ex Steud., nom. nud. = **Eleutheranthera ruderalis** (Sw.) Sch.Bip.

[Note: There is some confusion here. Greuter (TAXON 56: 607–608, 2007) proposed that *Melampodium ruderales* Sw. was conserved against *Eleutheranthera ovata* Poit., on the basis that as type of the genus, *E. ovata*, although having priority over *M. ruderales*, has never been adopted! In the Flora of Panama account (1975) it was noted that no type was designated, and Robinson (1992) later lectotypified the genus based on *E. ovata*, which if true means Greuter’s proposal was somewhat flawed! However, Greuter’s proposal indicates that both the genus and solitary species were validly published by Poiteau, in which case the synonymy adopted by many will have to be modified somewhat.]

Reference

Brummitt, R. K. (2009). Report of the nomenclature committee for vascular plants: 60. TAXON 58(1): 280–292. [q.v. p. 286 – with the committees voting recommendation on the proposal.]

D’Arcy, W. G. (1975). *Viguiera*. In: R. E. Woodson Jr. et. al., Flora of Panama. Part. IX.. Family 184. Compositae. Ann. Missouri Bot Gard. 62(4): 1156–1161.

Greuter, W. (2007). (1776) Proposal to conserve the name *Melampodium ruderales* against *Eleutheranthera ovata* (Compositae, Heliantheae). TAXON 56(2): 607–608.

Lawalée, A. (1943). Les genres *Hoffmanniella* Schlecht., *Eleutheranthera* Poit., et *Exomiocarpon* Lawalrée gen. nov. Bull. Jard. Bot. l'État Bruxelles 17(1): 55–64.

Robinson, H. (1992). New combinations in *Elaphandra* Strother (Ecliptinae-Heliantheae-Asteraceae). Phytologia 72(2): 144–151.

Robinson, H. (2006). *Eleutheranthera*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 147–150.

Eleutheranthera divaricata (Rich. in Pers.) Millsp., Field Colomb. Mus. Publ. Bot. 1: 53 (1895) = **Melampodium divaricatum** (Rich. in Pers.) DC.

Eleutheranthera ovata Poit. ex Steud., Nomencl. Bot., ed. 2, 1: 549 (1840), nom. nud. = **Eleuthernathera ruderalis** (Sw.) Sch.Bip.

Eleutheranthera prostrata (L.) Sch.Bip., Bot. Zeit. (Berlin) 24: 239 (1866) = **Eclipta prostrata** (L.) L.

***Eleuthernathera ruderalis** (Sw.) Sch.Bip., Bot. Zeit. 24: 165 (1866).

Melampodium ruderale Sw., Fl. Ind. Occ. 3: 1372 (1806). Type: 'Jamaicae australioris. ♀.' Holotype: S.

Ogiera triplinervis Cass., Bull. Sci. Soc. Philom. Paris 1818: 32 (1818). Type: not cited.

Fingalia hexagona Schrank, Sylloge Pl. Nov. 1: 87 (1824). Type: 'Patria: Habitat in Brasilia. Mart. Colui vivam in horto.' Holotype: M.

Verbesina foliacea Spreng., Syst. Veg., ed. 16, 3: 578 (1826). Types: 'Guadalupa. Bertero. Brasil. Sello.' Note:

Robinson (2006: 148) cited only the Bertero collection (Bertero 1019) as the holotype, in P, when clearly this name has two syntypes.

Wedelia discoidea Less., Linnaea 6(4): 728 (1831). Type: not cited. Note: Robinson (2006: 148) cited type material as 'Virgin Islands, St. Thomas, 1827–28, C. EHRENBURG s.n. (holotype B, destroyed; isotype HAL?).'

Siegesbeckia portoricensis Bertero ex DC., Prodr., 5: 546 (1836), nom. nud. pro syn.

Eleutheranthera ovata Poit. ex Steud., Nomencl. Bot., ed. 2, 1: 549 (1840), nom. nud.

Ogiera eleutheranthera Steud., Nomencl. Bot., ed. 2, 1: 549 (1840), nom. nud. pro syn. under *Eleutheranthera ovata*.

Kegelia ruderalis (Sw.) Sch.Bip., Linnaea 21: 245 (1848).

Kegelia ramosissima Sch.Bip., Linnaea 21: 246 (1848), nom. provis. illegit. pro *K. ruderalis* (Sw.) Sch.Bip.

Gymnopsis microcephala Gardner, London J. Bot. 7: 292 (1848). Type: [Brazil:] 'HAB. Road-sides and waste places, common near the Villa de Natividade, Province of Goyaz. Jan., 1840.' [Gardner] 3294. Note:

Robinson (2006: 150) noted the holotype in BM. There are two isotypes: NY × 2.

Ogiera ruderalis (Sw.) Griseb., Mem. Amer. Acad. Arts, ser. 2, 8(2): 513 (1863).

Pantropical weed, found in Australia, West Africa, and Central and South America, recently naturalized in Taiwan. Belize, Bolivia (?), Brazil, Costa Rica, Guatemala, Honduras.

Disturbed areas.

0–1800 m.

July–February, but probably flowering throughout the year.

Elvira Cass., Dict. Sci. Nat. 30: 67 (1824) = **Delilia** Spreng.

Elvira biflora (L.) DC., Prodr. 5: 503 (1836) = **Delilia biflora** (L.) Kuntze

Elvira martyni Cass., Dict. Sci. Nat. 30: 68 (1824), nom. illegit. superfl., based on *Milleria biflora* L. = **Delilia biflora** (L.) Kuntze

Emilia Cass., Bull. Sci. Soc. Philom. Paris 1817: 68 (1817). Note this is some times cited as '(Cass.) Cass., Dict. Sci. Nat. 34: 393 (1825)' but with no basionym citation..

Pithosillum Cass., Dict. Sci. Nat. 41: 164 (1826). Type: *Pithosillum lyratum* Cass. = *Emilia lyrata* (Cass.) C. Jeffrey

Senecio L. subgen. *Emilia* (Cass.) O. Hoffm., Pflanzenfam. 4, 5(54): 297 (1890).

Senecio L. sect. *Emilioidei* Muschl., Bot. Jahrb. Syst. 43: 40 (1909). Lectotype (selected by Jeffrey, 1986: 912): *S. emilioides* Sch.Bip. = *Emilia emilioides* (Sch.Bip.) C. Jeffrey

Pseudactis S. Moore, J. Bot. 57: 118 (1919). Type: *Pseudactis emilioides* S. Moore = *Emilia pseudactis* C. Jeffrey

Xyridopsis Welw. ex B. Nord., Opera Bot. 44: 75 (1978). Type: *Xyridopsis welwitschii* B. Nord. = *Emilia xyridopsis* (O. Hoffm.) C. Jeffrey

Emilia (Cass.) Cass. sect. *Spathulatae* (Muschl.) C. Jeffrey, Kew Bull. 41(4): 911 (1986).

Type: *Cacalia sagittata* Vahl = *Emilia sagittata* (Vahl) DC. although cited by Jeffrey (1986) as '*Emilia flammea* Cass., nom. superfl. illegit. pro *Cacalia sagittata* Willd. = *Emilia javanica* (Burm.f.) Merr.'

References

Guerra, M. S. & M. T. M. Nogueira. (1990). The cytotaxonomy of *Emilia* spp. (Asteraceae: Senecioneae) occurring in Brazil. Pl. Syst. & Evol. 170(1-4): 229-236

Nicolson, D. H. (1976). *Emilia fosbergii*, a new species. Phytologia 32(1): 33-34.

Nicolson, D. H. (1976). *Emilia*. In: Fl. Guatemala. Fieldiana Bot. 24(12): 393-395.

Nicolson, D. H. (1980). Summary of cytological information on *Emilia* and the taxonomy of four Pacific taxa of *Emilia* (Asteraceae: Senecioneae). Syst. Bot. 5(4): 391-407

Xifreda, C. C. (1987). *Emilia fosbergii* (Asteraceae), adventicia en Argentina. Darwiniana 28(1-4): 417-419.

Note: It remains to be seen if *Emilia sonchifolia* (L.) DC. is also present in Bolivia as it is widespread in much of Brazil.

Emilia fosbergii Nicolson, Phytologia 32(1): 34 (1975). Type: 'Bahamas, New Providence, near Nassau, 26 Dec. 1902, A. H. Curtiss 6'. Holotype: US (00428506); isotypes: F (143899), ?GH, MO, NY (00168334), US (00962186).

Emilia javanica sensu auct., non (Burm.f.) C.B. Rob.

Emilia coccinea sensu auct., non (Sims) D. Don

Emilia sagittata sensu auct., p.p. non DC.

Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz), Brazil, Guyana, Pacific Islands, USA (Florida), West Indies.

Cultivated areas, disturbed soil, pastures, cattle middens, open woodland, roadsides and path edges, roadside culverts.

0-1665 m.

Flowering throughout the year.

La Paz: Wood et al. 23151 (K).

Santa Cruz: Wood & Landivar 17532 (K), Wood et al. 24106 (K, USZ).

Enalcida Cass., Bull. Sci. Soc. Philom, Paris 1819: 31 (1819) = **Tagetes** L.

Enalcida foeniculifolia Cass., Dict. Sci. Nat. 14: 443 (1819), nom. inval. superfl. pro *E. pilifera* Cass. = **Tagetes filifolia** Lag.

Enalcida pilifera Cass., Bull. Sci. Soc. Philom. Paris 1819: 31 (1819) = **Tagetes filifolia** Lag.

Encelia Adans. sect. *Simsia* (Pers.) A. Gray, Proc. Amer. Acad. Arts 8: 656 (1873) = **Simsia** Pers.

Encelia Adans., Fam. Pl. 2: 128 (1763).

Type: ***Encelia canescens*** Lam.

Reference

Blake, S.F. (1913). A revision of *Encelia* and some related genera. Proc. Amer. Acad. Arts 49: 346-396.

Encelia (*Geraea*) *albescens* A. Gray, Proc. Amer. Acad. Arts 8: 658 (1873) = **Verbesina encelioides** (Cav.) A. Gray

Encelia canescens Lam., Encycl. 2: 356 (1786). Type: 'Cette plante croît dans l'Amérique méridionale, au Pérou, & est cultivée au Jardin du Roi. [h]. (v. v.). Elle fleurit à la fin de l'été.' Holotype: ?P-LA.

Encelia parvifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 162 (1818). Type: 'Crescit in maritimis ad litora Oceani Pacifici, inter Guanchaco et Truxillo Peruvianorum. ⑥ Floret Augusto.'
Holotype: P-Bonpl. 107/17; isotype: B-Willd (16506).

Encelia oblongifolia DC., Prodr. 5: 567 (1836). Type: '[h SYMBOL] in Chili (*Haenk!*), circa Coquimbo (*Gaudichaud! Macrae!*). ... (v.s.)' Syntypes: G-DC.

Encelia tomentosa Walp., Linnaea 14(4): 504 (1840). Type: 'E Chili misit *Filter*.' Holotype: Walpers provided an introductory paragraph to the first Compositarum Novarum Decades – Decas Prima in Linnaea 14(4): 305–314 (followed immediately by Decas Secunda) which read: 'In disquisitione ditissimi herbarii *Lucaeani* nonnulla nova genera et species Compositaerum mihi obviam facta sunt, quae describere publicique reddere juris clarissimus possessor pro sua erga me liberalitate insigni benevole concessit.' [Decas Tertia pp. 503–510].

Encelia canescens Lam. var. *parvifolia* (Kunth) Ball, J. Linn. Soc., Bot. 22: 151 (1886).

Encelia canescens Lam. var. *tomentosa* (Walp.) Ball, J. Linn. Soc. Bot. 22: 160 (1886).

Encelia pilocarpa Rusbys, Bull. New York Bot. Gard. 8(No. 28): 131 (1912). Type: '“Two feet high. Arequipa, Peru, 7500 ft. alt., Aug. 8, 1901” ([R.S. Williams] No. 2526).' Holotype: NY (00168357). Note - *Index Kewensis* and IPNI listed the species as from Bolivia, something not indicated in the protologue. Blake appears to have also determined the holotype in NY as *E. canescens* var. *parvifolia* which may be the basis of this synonymy. Wood 9156 is an extremely good match for Rusby's description and the *Williams* type collection.

Encelia canescens Lam. var. *oblongifolia* (DC.) S. F. Blake, Proc. Amer. Acad. Arts 49(6): 370 (1913).

Encelia canescens Lam. var. *lanuginosa* I. M. Johnst., Contr. Gray Herb. 85: 126 (1929). Type: 'CHILE: dry shrubby zone above the fertile belt, El Rincon near Paposo, Dept. Taltal, Dec. 7, 1925, *Johnston* 5529'.
Holotype: GH (6571).

Bolivia (La Paz), Peru.

0–3000 m.

January–August.

La Paz: Wood 9156 (K).

Encelia canescens Lam. var. *lanuginosa* I. M. Johnst., Contr. Gray Herb. 85: 126 (1929) = **Encelia canescens** Lam.

Encelia canescens Lam. var. *oblongifolia* (DC.) S. F. Blake, Proc. Amer. Acad. Arts 49(6): 370 (1913) = **Encelia canescens** Lam.

Encelia canescens Lam. var. *parvifolia* (Kunth) Ball, J. Linn. Soc., Bot. 22: 151 (1886) = **Encelia canescens** Lam.

Encelia canescens Lam. var. *tomentosa* (Walp.) Ball, J. Linn. Soc. Bot. 22: 160 (1886) = **Encelia canescens** Lam.

Encelia hirsuta* Kuntze, Revis. Gen. Pl. 3(3): 145 (1898) = **Simsia dombeyana DC.

Encelia hirsuta Kuntze f. *radiata* Kuntze, Revis. Gen. Pl. 3(3): 145 (1898) = **Simsia dombeyana** DC.

Encelia oblongifolia DC., Prodr. 5: 567 (1836) = **Encelia canescens** Lam.

Encelia parvifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 162 (1818) = **Encelia canescens** Lam.

Encelia pilocarpa Rusbys, Bull. New York Bot. Gard. 8(No. 28): 131 (1912) = **Encelia canescens** Lam.

Encelia soratensis* Rusby, Descr. New Sp. S. Amer. Pl. : 154 (1920) = **Viguiera pazensis Rusby

Encelia tomentosa Walp., Linnaea 14(4): 504 (1840) = **Encelia canescens** Lam.

Enhydra DC., Prodr. 5: 636 (1836), orth. var. = **Enydra** Lour.

Enydra Lour., Fl. Conchinch. : 510 (1790).

Enhydra DC., Prodr. 5: 636 (1836), orth. var.

Phyllimena Bl. ex DC., Prodr. 5: 636 (1836), nom. nud. pro syn.

Meyera Schreb., Gen. : 570 (1791), non Adans. (1763). Type: not designated.

Sobreyra Ruiz & Pav., Prodr. : 109 (1794). Type: not designated. Lectotype: *Sobreyra sessilifolia* Ruiz & Pav. = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera

Sobreyra Pers., Syn. 2: 473 (1807), orth. var.

Cryphiospermum, P. Beauv., Fl. Oware 2: 24, t. 74 (1810). Type: *Cryphiospermum repens* P. Beauv. = **Enydra fluctuans** Lour.

Tetraotis Reinw., Syll. Pl. Nov. 2: 8 (1825)[1826]. Type: *Tetraotis paludosa* Reinw. = **Enydra fluctuans** Lour.

Wahlenbergia Schumach., Beskr. Guin. Pl. : 387 (1827), non Schrad. ex Roth., nom. cons. (1827). Type:
Wahlenbergia globularis Schumach. = *Enydra radicans* (Willd.) Lack
Hingtsha Roxb., Fl. Indica, ed. 2, 3: 448 (1832). Type: *Hingtsha repens* Roxb. = ***Enydra fluctuans*** Lour.

Type: ***Enydra fluctuans*** Lour.

References

Lack, H. W. (1980). The genus *Enydra* (Asteraceae, Heliantheae) in West Tropical Africa. Willdenowia 10: 3–12.

Lima, L. F. P., Schneider, A. A. & N. I. Matzenbacher. (2006). Nota sobre a ocorrência de *Enydra sessilis* (Sw.) DC. (Asteraceae – Heliantheae) para o estado do Rio Grande do Sul, Brazil. Pesquisas 57: 153–155.

Robinson, H. (2006). *Enydra*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 51–154.

Note: Robinson (2006) included two species in his account for Ecuador. It is likely that the same two occur in Bolivia but presently *E. fluctuans* is the only one recorded but *E. sessilifolia* is added to this list to account for the two. The synonymy of both probably needs closer examination. It is clear that a third species is present in Central and South America, *E. sessilis* (Sw.) DC., presently recorded from the Caribbean and southern Brazil. How variable each of these is has not yet been ascertained. Many references to the genus containing c. 10 species appear to be somewhat erroneous. It is highly likely that there are fewer than five species! It is quite clear, even from Gardner's comments (Gardner 1848: 409–410), that *E. anagallis* Gardner belongs to the entity known as *E. fluctuans*, and essentially differs only in the hispid stems; similar plants can be found in Asia.

Key to species (modified from Lack, 1980)

Outer phyllaries longer than capitulum, deltoid; paleae apices with few short cilia; cauline leaves ovoid, margins usually serrate, very rarely revolute *E. fluctuans*
Outer phyllaries shorter than capitulum, broadly cordate to orbicular; paleae apices with many long cilia; cauline leaves linear-lanceolate, margins usually entire, revolute *E. sessilifolia*

Enydra anagallis Gardner, London J. Bot. 1: 409 (2848) = ***Enydra fluctuans*** Lour.

Enydra caesuloides Cass., Bull. Sci. Soc. Philom. Paris 1817: 196 (1817) = ***Enydra sessilifolia*** (Ruiz & Pav.) Cabrera

Enydra fluctuans Lour., Fl. Cochinch. : 511 (1790). Type: 'Habitat spontanea in paludibus Cochinchinae.' Holotype: BM.

Cryphiospermum repens P. Beauv., Fl. Oware 2: 24 (1810). Type: 'Cette plante croît sur les bords du fleuve Formose: c'est une de celles dont les naturels du pays font usage pour la guérison des plaies. ...' Holotype: ?G. Note: Robinson (2006: 152) indicated that the holotype was in BM where there may well be a duplicate.

Meyera fluctuans (Lour.) Spreng., Syst. Veg., ed. 16, 3: 602 (1826).

Meyera guineensis Spreng., Syst. Veg. 2: 602 (1826), nom. illegit. (citing both *Caesulia radicans* Willd. and *Cryphiospermum repens* P. Beauv.)

Tatraotis paludosa Reinw. in Bl., Bijdr. 15de Stuk. : 892 (1826). Type: 'Crescit: in paludosis prope Bataviam.' Type material may well be in L.

Tetraotis longifolia Reinw. in Bl., Bijdr. 15de Stuk. : 892 (1826). Type: 'Crescit: cum priori.', q.v. *T. paludosa*. Type material may well be in L.

Enydra [sub. *Enhydra*] *longifolia* (Reinw.) DC., Prodr. 5: 637 (1836).

Enydra [sub. *Enhydra*] *paludosa* (Reinw.) DC., Prodr. 5: 637 (1836).

Hingtsha repens Roxb., Fl. Indica, ed. 2, 3: 448 (1832). Type: 'Beng.[al] Hingtsha./ A native of Bengal, delighting in a moist soil, and often extending itself considerably over the surface of adjoining pools of water.' Location of type material unknown. Note: Robinson (2006: 152) queried whether there may well be type material in K. I have been unable to locate any amongst the appropriate regional material, although clearly that name appeared in Wallich's 'Numerical List' based on Roxburgh's mss name.

Enydra [sub. *Enhydra*] *heloncha* DC., Prodr. 5: 637 (1836). Types: '■ in aquis Indiae or. in prov. Silhet (Wall.[ich]), ad Dumdumma et Golpara (Ham.). Meyera Heloncha Wall.! cat. n. 3195. comp. 305. Hingcha

repens Roxb. cat. calc. 62. ... (v.s.)'. Syntypes: G-DC, K, K-W. Note: There are three specimens numbered 305 in G-DC and one other numbered 3195.

Enydra anagallis Gardner, London J. Bot. 1: 409 (2848). Type: [Brazil:] '[Gardner] 5522. ... Hab. In ditches at the Laranjeiras, near Rio de Janeiro. Jan. 1841.' Types: BM, GH (00006580), K (x 2), NY (00168363)

Enydra woollsii F. Muell., Fragm. 3: 139 (1863). Type: [Australia:] 'In paludibus prope Manly Beach portus Jacksonii. W. Wools.' Holotype: MEL; isotype: K.

Argentina, Bolivia (Bení), Brazil, Colombia, Ecuador, Mexico, Paraguay, Peru. Philippines, Indochina and tropical Africa.

Swampy grassland, ditch margins.

0–150 m.

September–February. Possibly flowering throughout the year.

Bení: Wood 15052 (K).

[Note The following determination appears on Morong 79 in NY - *Enydra fluctuans* Lour. var. *panduriformis* B. L. Snow, Holotype: NY (00168364), although this doesn't appear to be a published name.]

Enydra [sub *Enhydra*] *heloncha* DC., Prodr. 5: 637 (1836) = **Enydra fluctuans** Lour.

Enydra [sub *Enhydra*] *integrifolia* Gardner, London J. Bot. 7: 410 (1848) = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera

Enydra [sub *Enhydra*] *longifolia* (Reinw.) DC., Prodr. 5: 637 (1836) = **Enydra fluctuans** Lour.

Enydra maritima (Kunth) DC., Prodr. 5: 637 (1836) = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera

Enydra oblonga (Ruiz & Pav.) DC., Prodr. 5: 637 (1836) = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera

Enydra [sub *Enhydra*] *paludosa* (Reinw.) DC., Prodr. 5: 637 (1836) = **Enydra fluctuans** Lour.

Enydra radicans (Willd.) Lack, Willdenowia 10: 6 (1980) = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera

Enydra [sub *Enhydra*] *riovularis* Gardner, London J. Bot. 7: 410 (1848) = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera

Enydra sessilifolia (Ruiz & Pav.) Cabrera, Bol. Soc. Argent. Bot. 8(3–4): 206 (1960).

Sobryra sessilifolia Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 197 (1798). Type: 'HABITAT in *Peruviae* stagnatis, et copiosè crescit in circuitu *Limae*, *Lurigancho*, *Miraflores*, *Surco*, *Magdalena*, *Lurin*, *Arnedo*, *Laral* et *Huaura*.'

Sobryra oblonga Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 197 (1798). Type: 'HABITAT in *Peruvia* cum praecedenti.'

Caesulia radicans Willd., Sp. Pl. 3: 1797 (1803). Type: 'Habitat in Guinea. ■(v.s.)' Holotype: B-W (15275).

Enydra caesulioides Cass., Bull. Sci. Soc. Philom. Paris 1817: 196 (1817). Type: 'J'ai observé, dans les herbiers de MM. de Jussieu et Desfontaines, une plante de la famille des synanthérées, que j'ai cru pouvoir nommer *Enydra caesulioides*, et qui m'a offert les caractères suivans.' [Dict. Sci. Nat. 14: 554 - 'Cette plante habite la Guinée: elle a été recueillie sur les bords du fleuve Formose, par M. Palisot de Beauvois, qui rapporte que les habitants du pays l'emploient à la guérison des plaies. Nous avons étudié ses caractères dans les herbiers de MM. de Jussieu et Desfontaines, où elle étoit innommée, et dans celui de M. de Beauvois, où elle portoit le nom de *cryphiospermum repens*.'] Syntypes: P-JU, P-Desf.

Meyera maritima Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 211 (1818). Type: 'Crescit in litore Oceani Pacifici, prope El Callao de Lima. ■Floret Februario.' Holotype: P-Bonpl.; isotype: B-W ['in *Limae* maritim.'].]

Wahlenbergia globularis Schum. & Thonn. in Schum., Beskrivelse : 387 (1827), nom. illegit. superfl. (based on *Caesulia radicans* Willd.)

Wahlenbergia glomerata Schum. ex DC., 5: 497 (1836), sphalm., as nom. nud. pro syn. (sub. *Cryphiospermum repens* P. Beauv.)

Enydra sobryra DC., Prodr. 5: 637 (1836), nom. illegit. superfl. (based on *Sobryra sessilifolia* Ruiz & Pav.)

Enydra oblonga (Ruiz & Pav.) DC., Prodr. 5: 637 (1836).

Enydra maritima (Kunth) DC., Prodr. 5: 637 (1836).

Enydra [sub *Enhydra*] *subcuneata* DC., Prodr. 5: 637 (1836). Types: '■in fossis circa Rio-Janeiro speciatim ad viam Brocco leger. cl. Lund [147] et Gaudichaud [638?]. ... An fortè *E. maritima* Less. in *linnaea* 1831. p. 159 à cl. Chamisso ad fretum Santae-Catharinae lecta, hùc ex loco natali et foliis oblongo-obovatis referenda? (v.s.)'. Note: There are two collections of Lund 147 in G-DC, along with one of the Gaudichaud collection. The former is actually marked 'In fossa ad viam Brocca prope Rio Jan. in Junii 1833.', the latter simply 'Rio de Janeiro.'

Enydra [sub *Enhydra*] *rivularis* Gardner, London J. Bot. 7: 410 (1848). Type: '[Gardner] 1976. ... Hab. In slow running streams near Barra do Jardim, Province of Ceara. Dec. 1838.'

Enydra [sub *Enhydra*] *integrifolia* Gardner, London J. Bot. 7: 410 (1848). Type: '[Gardner] 1053. ... Hab. In saline marshes in the Island of Itamarica, Province of Pernambuco. Dec. 1837.'

Enydra radicans (Willd.) Lack, Willdenowia 10: 6 (1980).

Bolivia (?), Brazil, Ecuador (incl. Galapagos), Mexico, Peru, Venezuela. East and West Africa.

Waste ground, marshy lake margins.

0–800 m.

January–July.

Bení: Wood 15052 (K).

Enydra sobreyra DC., Prodr. 5: 637 (1836), nom. illegit. superfl. (based on *Sobreyra sessilifolia* Ruiz & Pav.) =

Enydra sessilifolia (Ruiz & Pav.) Cabrera

Enydra [sub *Enhydra*] *subcuneata* DC., Prodr. 5: 637 (1836) = ***Enydra sessilifolia*** (Ruiz & Pav.) Cabrera

Enydra woollsii F. Muell., Fragm. 3: 139 (1863) = ***Enydra fluctuans*** Lour.

Epilepis Benth., Pl. Hartweg. : 17 (1839) = ***Coreopsis*** L.

Erato DC., Prodr. 5: 317 (1836).

Munnozia Ruiz & Pav. subgen. *Erato* (DC.) H. Rob. & Brettell, Phytologia 28(1): 56 (1974).

Type: ***Erato polymnioides*** DC.

References

Robinson, H. (1976). Studies in the Liabeae (Asteraceae). VI. Notes on the genus *Erato*. Phytologia 34(4): 378–379.

Moran, E. & V. A. Funk. (2006). A revision of *Erato* (Compositae: Liabeae). Syst. Bot. 31(3): 597–609.

Erato polymnioides DC., Prodr. 5: 318 (1836). Type: 'in Peruviae montanis oronocensibus legit cl. Haenke. ... (v.s. in h. Haenk à cl. Sternberg miss.)'. Holotype: PR; isotype: G-DC. Note: the 'specimen' in G-DC bears no indication it is from Haenke, and is of one large mature leaf and associated node, together with a flowering shoot and its two associated leaves. Moran & Funk (2006: 604) note an apparent collecting number of the 'holotype' in G-DC, '8161', which is merely a number given to the sheet during the microfiling of the de Candolle *Prodromus* collection. This sheet clearly doesn't bear all of the information in the *Prodromus*, and clearly ignores the fact that de Candolle saw material in Haenke's herbarium.

Liabum pallatangense Hieron., Bot. Jahrb. Syst. 29(1): 60 (1900*). Type: [Ecuador] 'Crescit in valle Pallatanga et fluminis Pilotón (S.[odiro] n. 55/12)'. Holotype: B†. [*Note: See Reference section concerning problem with date of publication]

Munnozia polymnioides (DC.) H. Rob. & Brettell, Phytologia 28(1): 56 (1974).

Bolivia (Cochabamba), Colombia, Ecuador, Peru.

Primary, secondary or disturbed moist forest, pastures, chapparal, rocky slopes, along roadsides or riverbanks.

360–3050 m.

Flowering throughout the year.

Erechtites Raf., Fl. Ludovic.: 65 (1817).

Neoceis Cass., Bull. Sci. Soc. Philom. Paris 1820: 90 (1820). Type: *Neoceis hieraciifolia* (L.) Cass. = ***Erechtites***

hieraciifolia (L.) Raf. ex DC. var. ***hieraciifolia***

Ptileris Raf., Amer. Month. Mag. : 268 (1818), nom. nud.

Type: *Erechtites prealta* Raf. = ***Erechtites hieraciifolia*** (L.) Raf. ex DC. var. ***hieraciifolia***

References

Belcher, R. O. (1956). A revision of the genus *Erechtites* (Compositae) with inquiries into *Senecio* and *Arrhynchthites*. Ann. Missouri Bot. Gard. 43(1): 1–85.

Cabrera, A. L.† & S. E. Freire. (2009). Senecioneae. In: A. L. Cabrera†, M. Dematteis & S. E. Freire, Flora del Paraguay (L. Ramella & P. Perret, eds), vol. 39. Compositae VI. Senecioneae & Vernonieae. Editions des Conservatoire et Jardin botaniques de la Ville de Genève & Missouri Botanical Garden. pp. [1]–64 [[1]–298].

Hind, D. J. N. (1995). Compositae. In: B. L. Stannard (ed.), Flora of the Pico das Almas, Chapada Diamantina, Bahia, Brazil. pp. 175–278.

Veldkamp, J. F. & C. Lut. (2009). *Senecio valerianifolius* Wolf ex Link (Compositae), an enigma revealed [sic!]. Compositae Newslett. 47: 4–7.

Key to species

1. Corollas pink; leaves petiolate, margins deeply pinnately lobed; pappus setae usually conspicuously pink; diameter of capitulum usually $\frac{1}{3}$ length *E. valerianifolia*
Corollas greenish-yellow; leaves sessile or pseudopetiolate, sometimes petiolate (petiole occasionally winged), margins serrate, sometimes sparsely or inconspicuously so, or lobate-dentate but not appearing pinnate; pappus setae white; diameter of capitulum $\frac{1}{2}$ – $\frac{1}{3}$ length 2
2. Perennial, suffruticose; leaves linear, linear-lanceolate or narrow-lanceolate, margins conspicuously or inconspicuously serrate; plants glabrous; inflorescences of lax panicles; corolla lobes conspicuously long-lobed, lobes 1–1.5 mm long *E. goyazensis*
Annual, herbaceous; leaves ovate or obovate to broadly lanceolate; margins sinuate-dentate, coarsely lobed or irregularly serrate; inflorescences densely corymbose or laxly paniculate; disc floret corolla lobes c. 0.5 mm long 3
3. Leaves ovate to subovate, margins irregularly serrate; plants usually glabrous (rarely leaves minutely hairy beneath); inflorescences of cymose panicles, usually lax at flowering *E. missionum*
Leaves obovate or broadly-lanceolate, margins sinuate-dentate or coarsely lobed; plants usually pubescent, rarely glabrous; inflorescences of dense cymose-corymbs *E. hieraciifolia*

Erechtites cacalioides (Fisch. ex Spreng.) Less., Syn. Gen. Compos. : 395 (1832) = ***Erechtites hieraciifolia*** (L.) Raf. ex DC. var. ***cacalioides*** (Fisch. ex Spreng.) Griseb.

Erechtites carduiifolia (Cass.) DC., Prodr. 6: 294 (1838) = ***Erechtites hieraciifolia*** (L.) Raf. ex DC. var. ***cacalioides*** (Fisch. ex Spreng.) Griseb.

Erechtites carduiifolia (Cass.) DC. var. *latifolia* Klatt, Bull. Soc. Roy. Bot. Belgique 36: 291 (1896), nom. nud. = ***Erechtites hieraciifolia*** (L.) Raf. ex DC. var. ***cacalioides*** (Fisch. ex Spreng.) Griseb.

Erechtites gardneriana Cabrera, Brittonia 7(1): 54 (1950), nom. nov. pro *Senecio valerianifolius* Gardner = ***Erechtites valerianifolia*** (Link ex Spreng.) Less. ex DC. var. ***valerianifolia***

Erechtites goyazensis (Gardner) Cabrera, Brittonia 7(2): 54 (1950).

Senecio goyazensis Gardner, London J. Bot. 7: 421 (1848). Type: [Brazil:] '[Gardner] 3300. ... HAB. Bushy places near Villa de Natividade, Province of Goyaz. Jan., 1840.' Holotype (according to Belcher, 1956: 35): BM; isotypes: F (ex G, fragment; ex P), K × 2, NY (00259185), US (01066775, barcode 00123484).

Erechtites missionum Malme var. *lanceolata* Chodat, Bull. Herb. Bois. 2, 3(8): 732 (1903). Type: [Paraguay:] 'Herba 1-1,5, petala flava, in uliginosis pr. Bellavista (Apa), Jun., [Hassler] n. 8362.' Holotype: G; isotype: G. Bolivia (Santa Cruz), Brazil, Paraguay.

January–June.

Note: This would appear to be the first record for Bolivia, cf. Cabrera & Freire (2009: 14) who only reported the species for Paraguay and Brazil (Minas Gerais and São Paulo); Dubs (1998: 66) also reported the species for Mato Grosso. The three records for Bolivia (*Wood & Haigh* 21922 (K), *Wood & Huaylla* 20800 (K) and *Wood et al.* 24163 (K, USZ) all represent material with exceptionally long, narrow, linear leaves, 3–7 × 120–150 mm. However, the leaves are scarcely prominently serrate as seen in other material seen by Belcher. It is quite probable that this is rather a variable species, especially in leaf shape, although I doubt that the material in Bolivia is suffrutescent, rather annual or short-lived perennial.

Erechtites hieraciifolia Walp., Rep. Bot. Syst. 2: 651 (1843) = ***Erechtites hieraciifolia*** (L.) Raf. ex DC. var. ***cacalioides*** (Fisch. ex Spreng.) Griseb.

***Erechtites hieraciifolia** (L.) Raf. ex DC., Prodr. 6: 294 (1838).

var. **cacalioides** (Fisch. ex Spreng.) Griseb., Fl. Brit. W. I.: 381 (1861).

Senecio hieraciifolius L., Mant. Pl. : 469 (1771). Type: 'Habitat in America Septentrionali. ♀.' Lectotype (selected by Belcher, 1956: 14): Herb. Linn. No. 996.1 (LINN).

Sonchus agrestis Swartz, Prodr. : 110 (1788). Type: 'Sonchus laevis Sloan. cat. 122. h. 255. Jamaica'.

Senecio cacalioides Fisch. ex Spreng., Nov. Prov. : 37 (1819). Type: 'Habitat in Jamaica. Hort. hal. et berol.'

Neocsis carduiifolia Cass., Bull. Sci. Soc. Philom. Paris 1820: 91 (1820). Type: 'J'ai observé cette espèce au Jardin du Roi, où elle fleurissait en août 1819; j'ignore son origine, et je ne crois pas qu'elle ait été décrite; ...' Type material probably in P.

Sonchus occidentalis Spreng., Neue Entdeck. 2: 143 (1821). Types: 'Ex insulis Antigua, Dominica, Guadelupa.'

Senecio carduiifolius (Cass.) Desf., Cat. Hort. Paris. ed. 3: 177 (1829).

Erechtites cacalioides (Fisch. ex Spreng.) Less., Syn. Gen. Compos. : 395 (1832).

Erechtites carduiifolia (Cass.) DC., Prodr. 6: 294 (1838).

'*Erechtites hieraciifolia* Walp., Rep. Bot. Syst. 2: 651 (1843)' is cited in the literature but is merely a citation of the reference in de Candolle, and neither a new name nor a new combination.

Sonchus brasiliensis Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 293 (1843). Type: 'Brasilia: Rio de Janeiro. (v.s.)' Holotype: B†.

Senecio fischeri Sch.Bip., Flora 28: 498 (1845), nom. inval.

Erechtites (Neocsis) sulcata Gardner, London J. Bot. 7: 419 (1848). Types: 'Hab. Near Vill de Arrayas, Province of Goyaz. ([Gardner] 3868), and on the ascent of the Corcovado, near Rio de Janeiro ([Gardner] 5527).

Erechtites hieraciifolia (L.) DC. var. *cacalioides* Less. f. *pubescens* Kuntze, Revis. Gen. Pl. 1: 335 (1891), nom. nud.

Ptileris hieracifolia (L.) Raf. ex B. D. Jacks., Index Kewensis 2: 657 (1895), nom. nud.

Erechtites carduiifolia DC. var. *latifolia* Klatt, Bull. Soc. Roy. Bot. Belgique 36: 291 (1896), nom. nud.

Gynura zeylanica Trimen var. *malasica* Ridl., J. Straits Branch Roy. Asiat. Soc. 61: 24 (1912). Types: 'Singapore: Tanglin, Tanjong Katong; Johore: Tana Merah Road (Ridley 2741); Pulau Dayong (Kelsall); Muar: Bukit Kayara, Sungei Pauh (Fox); Pahang: Sungei Meiang; Penang: Tanjong Bunga (Curtis 3400); Tringanu: Bundi (Rostado).' Syntypes: [Singapore Gardens Herbarium]

Gynura malasica (Ridl.) Ridl., Fl. Malay Penins. 2: 190 (1923).

Gynura aspera Ridl., J. Malay Branch Roy. Asiat. Soc. 1: 74 (1923). Type: [Northern Sumatra:] 'In long grass on the [Karu] plateau.' [Singapore Gardens Herbarium]

Argentina, Belize, Bolivia (Bení, Cochabamba, La Paz, Pando, Santa Cruz), Brazil, Guyana, China, Colombia, Cuba, Dominican Republic, French Guiana, Grenada, Guatemala, Haiti, Jamaica, Java, Mexico, Paraguay, Peru, Puerto Rico, Sabah, Sarawak, Surinam, Sumatra, Tobago, Uruguay, Venezuela.

Brejos, campos rupestres amongst rocks, damp areas in cerrado, stream banks.

0–1500 m.

Possibly flowering throughout the year in the right conditions, but often October–April.

Vernacular name: ALMEIRÃOZINHO (Cabrera & Klein, 1975).

Erechtites hieraciifolia (L.) DC. var. *cacalioides* Less. f. *pubescens* Kuntze, Revis. Gen. Pl. 1: 335 (1891), nom. nud.

= **Erechtites hieraciifolia** (L.) Raf. ex DC. var. **cacalioides** (Fisch. ex Spreng.) Griseb.

Erechtites missionum Malme, Kongl. Svenska Vetenskapsakad. Handl. 32(5): (1899). Type: [Brazil:] ,Rio Grande do Sul: Colonia Ijuhy (In »roças«, agris combustis, nec non juxta vias in silva, solo ± denudato. 18¹/493. MALME 744.)'

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay, Peru, Venezuela.

Campos rupestres, amongst rocks.

200–1000 m.

Probably flowering throughout the year.

Santa Cruz: Wood et al. 18274 (K).

Erechtites missionum Malme var. *lanceolata* Chodat, Bull. Herb. Bois. 2, 3(8): 732 (1903) = **Erechtites goyazensis** (Gardner) Cabrera

Erechtites (Neocsis) organensis Gardner, London J. Bot. 7: 420 (1848) = **Erechtites valerianifolia** (Link ex Spreng.) Less. ex DC. [f. **organensis** (Gardner) Belcher]

Erechtites (Neoceis) sulcata Gardner, London J. Bot. 7: 419 (1848) = ***Erechtites hieraciifolia*** (L.) Raf. ex DC. var. ***cacalioides*** (Fisch. ex Spreng.) Griseb.

****Erechtites valerianifolia*** (Link ex Spreng.) Less. ex DC., Prodr. 6: 295 (1838).

Senecio palustris Vell., Fl. Flum. Icones 8: tab. 110 (1827)[1831]. Type: not cited. [In the full text published in Arch. Mus. Nac. Rio de Janeiro 5: 334 (1881) the following is provided: 'Habitat maritimis, mediterraneisque ad loca uliginosa. Floret Febr. (Vulgo dicitur Potinçoba).']

Senecio crassus Vell., Fl. Flum. Icones 8: pl. 111 (1831). Type: not cited. [In the full text published in Arch. Mus. Nac. Rio de Janeiro 5: 335 (1881), the following is provided: 'Habitat, et floret jisdem locis, ac temporibus, quibus praecedens.']

Senecio paludicola Steud., Nom. ed. 2, 2: 563 (1841), nom. superfl. illegit., as nom. nov. pro *Senecio palustris* Vell.

Note: Veldkamp & Lut (2009) have apparently provided evidence that the 'correct' author citation for this taxon should be '*Erechtites valerianifolia* (Link ex Spreng.) Less. ex DC.' as used here. They indicated that the basionym, '*Senecio valerianifolius* Wolf ex Link' was invalidly published, but have not listed a full and correct synonymy.

var. ***valerianifolia***

Senecio valerianifolius [as *valerianaefolius*] Wolf, Ind. Sem. Hort. Berol. (1825). Type: [Original seed list not yet located] – apparently a nom. nud. (cf. Veldkamp & Lut, 2009).

Senecio valerianifolius [as *valerinaefolius*] Link ex Spreng., Syst. Veg. 3: 565 (1826). Type: 'Patria?' Holotype: P – but remaining illusive (cf. Veldkam & Lut, 2009: 5).

Crassocephalum valerianifolium (Link ex Spreng.) Less., Linnaea 5(1): 163 (1830).

Sonchus erythropappus Meyen & Walp., Nov. Actorum Acad. Caes.-Leop. Nat. Cur. 19, Suppl. 1: 293 (1843). Type: 'Brasilia: Rio de Janeiro. (v.s.)'. Holotype: B†.

Senecio valerianifolius Gardner, London J. Bot. 4: 127 (1845), nom. illegit. Type: 'HAB. Open bushy places, Organ Mountains, at an elevation of about 3000 feet.' [Gardner] 252.

Erechtites (Neoceis) organensis Gardner, London J. Bot. 7: 420 (1848). Type: 'Hab. Open places on the Organ Mountains, at an elevation of about 3000 feet. March, 1841.' [Gardner] 5790. Holotype (q.v. Belcher): BM. Apparently material in F and K are of var. *valerianifolia*!

Erechtites valerianifolia (Link ex Spreng.) Less. ex DC. var. *organensis* (Gardner) Baker in Mart., Fl. Bras. 6(3): 300 (1884).

Gynura rosea Ridl., J. Straits Branch Roy. Asiat. Soc. 61: 25 (1912). Types: 'Singapore: Gardens, Pulau Ubin, Chan Chu Kang; Pahang: Telom; Selangor: Kwala Lumpur (Curtis 2349); Perak: Ipoh (Curtiss 2995); Penang: Government Hill (Curtiss 2995 [sic!]); Dindings: Lumut (Ridley); Java: Sindang Laya (Hullett).' Syntypes: SING

Erechtites gardneriana Cabrera, Brittonia 7(1): 54 (1950), nom. nov. pro *Senecio valerianifolius* Gardner

Erechtites valerianifolia (Link ex Spreng.) Less. ex DC. f. *organensis* (Gardner) Belcher, Ann. Missouri Bot. Gard. 43(1): 29 (1956).

Argentina, Australia, Bolivia (Cochabamba, La Paz, Santa Cruz), Brazil, Celebes, China, Colombia, Costa Rica, Ecuador, El Salvador, Fiji, Guatemala, Hawaiian Islands, Japan, Leeward Islands, Mexico, New Guinea, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Sabah, Samoan Islands, Sarawak, Solomon Islands, Sumatra, Venezuela, Windward Islands.

Often reported as an aggressive weed in some areas, found in damp grassland, open woodland in rides etc. 0–2410 m.

Potentially flowering throughout the year although often in October–February.

La Paz: Wood et al. 23122 (K).

Santa Cruz: Wood 22249 (K, USZ), Wood et al. 23050 (K, USZ).

Vernacular names: CARURU-AMARGOSO, CAPARIÇIBA-VERMELHA, CARAÇOVA, ERVA-GORDA (Cabrera & Klein, 1975).

Note: Belcher (1956) also reported forma *organensis* (Gardner) Belcher from Bolivia. This form was distinguished by having much more finely divided leaves with entire or minutely serrulate segments, and the plants 'usually of small stature.' Its associated synonymy is added to the typical variety above but can easily be extracted if considered worth separating as a distinct entity. However, it should be recognized that this, and indeed *E. hieraciifolia*, are extremely variable even in one locality.

Note: Nordenstam & Lut (2009) suggested that Desfontaines (1829) published what appeared to be an illegitimate later homonym (*Senecio valerianifolius*), appearing first in the catalogue's listing and then as a full description in the Annotations at the end of the volume. However, Desfontaines provided his descriptions for both new and poorly known plants ('... quis nous auront paru nouvelles ou peu connues.') and several are for plants previously described by him. I feel that Desfontaines was simply redescribing a plant that had probably only been in cultivation for up to five years. Any entry, e.g. '*Senecio valerianifolius* Desf., Cat. Hort. Paris ed. 3: 178 (1829), nom. nud.; 403 (descr.), nom. illegit.' would thus be superfluous and incorrect.

VERNACULAR NAME: CARURU-AMARGOSO (CABRERA & KLEIN, 1975).

Eremanthus Less. sect. *Chresta* (DC.) Baker in Mart., Fl. Bras. 6(2): 166 (1873) = **Chresta** DC.

Eremanthus Less., Linnaea 4(3): 317 (1829).

Albertinia Spreng. sect. *Isotricha* DC., Prodr. 5: 82 (1836). Type: not stated. Lectotype (selected by MacLeish, 1987: 277): *Eremanthus incanus* (Less.) Less.

Vanillosmopsis Sch.Bip., Jahresb. Pollichia 18-19: 166 (1861). Type: *Vanillosmopsis glomerata* Sch.Bip. = *Eremanthus erythropappus* (DC.) MacLeish

Vanillosmopsis Sch.Bip. subgen. *Isotricha* (DC.) Sch.Bip., Jahresber. Pollichia 18-19: 168 (1861).

Eremanthus Less. subgen. *Pseuderemanthus* Sch.Bip., Jahresber. Pollichia 20-21: 395 (1863) [30 March 1864]. Lectotype (selected by MacLeish, 1987: 278): *Eremanthus elaeagnus* (Mart. ex DC.) Sch.Bip.

Vanillosmopsis Sch.Bip. subgen. *Euvanillosmopsis* Sch.Bip., Jahresber. Pollichia 20-21: 398 (1863) [30 March 1864]. . Lectotype (selected by MacLeish, 1987: 283): *Vanillosmopsis erythropappa* (DC.) Sch.Bip. = *Eremanthus erythropappus* (DC.) MacLeish

Vanillosmopsis Sch.Bip. subgen. *Nectaridium* Sch.Bip., Jahresber. Pollichia 20-21: 400 (1863) [30 March 1864]. . Type: *Vanillosmopsis brasiliensis* (Gardner) Sch.Bip. = *Eremanthus brasiliensis* (Gardner) MacLeish

Eremanthus Less. subgen. *Eueremanthus* Sch.Bip., Jahresber. Pollichia 20-21: 393 (1863) [30 March 1864]. .

Eremanthus Less. sect. *Synglomerulus* MacLeish, Ann. Missouri Bot. Gard. 74(2): 275 (1987). Type: *Eremanthus argenteus* MacLeish & Schumach.

Eremanthus Less. subgen. *Vanillosmopsis* (Sch.Bip.) MacLeish, Ann. Missouri Bot. Gard. 74(2): 280 (1987).

Eremanthus Less. sect. *Nectaridium* (Sch.Bip.) MacLeish, Ann. Missouri Bot. Gard. 74(2): 281 (1987).

Eremanthus Less. sect. *Vanillosmopsis* (Sch.Bip.) MacLeish, Ann. Missouri Bot. Gard. 74(2): 283 (1987).

Type: *Eremanthus glomerulatus* Less.

References

MacLeish, N. F. F. & H. Schumacker. (1984). Six new species of *Eremanthus* (Vernonieae: Compositae) from Brazil. Syst. Bot. 9(1): 85-95.

MacLeish, N. F. F. (1987). Revision of *Eremanthus* (Compositae: Vernonieae). Ann. Missouri Bot. Gard. 74(2): 265-290.

Key to species (modified from MacLeish 1987)

- | | |
|--|---------------------------|
| Capitula coherent c. ½ length, 5-15 per glomerule; leaf lamina 6-16 cm x 2-10 cm; achenes setuliferous between ribs | <i>E. mattogrossensis</i> |
| Capitula coherent c. ¼ length, 10-45 per glomerule; leaf lamina 2-7 cm x 0.5-1.5 cm; achenes setuliferous at base only | <i>E. rondoniensis</i> |

Eremanthus angustifolius (Gardner) Baker in Mart., Fl. Bras. 6(2): 170 (1873) = **Pycnocephalum angustifolium** (Gardner) MacLeish

Eremanthus exsuccus (DC.) Baker in Mart., Fl. Bras. 6(2): 166 (1873) = **Chresta exsucca** DC.

Eremanthus imbricatus G. M. Barroso, Rodriguesia 23-24: 6 (1962) = **Chresta exsucca** DC.

Eremanthus labordeii Glaz., Bull. Soc. Bot. France Mém. 3d: 380 (1909), nom. nud. = **Chresta exsucca** DC.

Eremanthus mattogrossensis Kuntze, Revis. Gen. Pl. 3(3): 145 (1898). Type: 'Mattogrosso.' Holotype: NY (00168379). Wetter & Zanoni (1985: 330) noted 'Brazil. Mato Grosso, Jul 1892, Kuntze s.n.'

Bolivia (Santa Cruz), Brazil.
Cerrado.

500–1000 m.

April–August.

Santa Cruz: Wood et al. 18228 (K), Wood et al. 18260 (K), Wood et al. 26714 (K, USZ).

Vernacular names: VELUDO DO CERRADO, CASCA FRETA (MacLeish, 1987).

Eremanthus rivularis Taub., Bot. Jahrb. Syst. 21(4): 453 (1896) = **Pycnocephalum angustifolium** (Gardner) MacLeish

Eremanthus rondoniense MacLeish & Schumacher, Syst. Bot. 9(1): 89 (1984). Type: 'Brazil, Rondônia, Villhena, 13°16'S, 58°52'W, 18 Apr 1977, Bartel and Silva s.n.'. Holotype: RB. Note: MacLeish (1987: 275) suggested, through the latitude and longitude, that this species was in fact collected in Mato Grosso, not Rondônia as suggested on the collecting label.

Bolivia (Santa Cruz), Brazil.

Cerrado, sandy soils.

290 m.

April–July.

Note: An examination of Mostacedo et al. 1719 in USZ, determined by Robinson as '*Eremanthus rivularis* Taub.' in duplicate, has shown it is best referred to *E. rondoniense*. However, the determination of Mostacedo et al. 1719 in Killeen & Schulenberg (1998: 240) suggests a mixed collection, as it is determined as both *E. rondoniense* and *E. rivularis*. As a result, an entry for *Pycnocephalum angustifolium* (Gardner) MacLeish has been added to the present checklist as it is not unlikely that this species is also present in Bolivia.

Eremohylema A. Nelson, Univ. Wyoming Publ. Bot. 1: 54 (1924) = **Pluchea** Cass.

Ericentrodea S. F. Blake & Sherff, J. Wash. Acad. Sci. 13: 104 (1923).

Type: *Narvalina corazonensis* Hieron. = *Ericentrodea corazonensis* (Hieron.) S. F. Blake & Sherff

References

Blake, S. F. (1923). Two new genera related to *Narvalina*. J. Wash. Acad. Sci. 13: 102–105.

Robinson, H. (1993). New species of *Ericentrodea* from Bolivia and Colombia (Asteraceae, Coreopsidinae, Heliantheae). Novon 3(1): 75–78.

Robinson, H. (2006): *Ericentrodea*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6). Compositae-Heliantheae, Part 1: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 155–161.

Ericentrodea davidsmithii H. Rob., Novon 3(1): 75 (1993). Type: 'Bolivia. Santa Cruz: Provincia Manuel Maria Caballero, 50 km al norte de Mataral (por la carretera Santa Cruz – Comarapa) pasando por San Juan del Potrero y bajando a la cuenca del alto Río Ichilo, 2,000 – 2,100 m, 26 May 1989, Smith, Quintana & García 13419'. Holotype US (03232305); isotype: MO.

Bolivia (Santa Cruz), Ecuador.

Mountain cloud forest.

2000–2100 m.

May–June.

Erigeron L. sect. *Caenotus* Nutt., Gen. Pl. 2: 148 (1818) = **Conyza** Less.

Erigeron L. sect. *Conyza* (L.) Baillon, Hist. Pl. 8: 143 (1882), nom. inval. = **Conyza** Less.

Erigeron L. sect. *Oritrophium* (Kunth) Benth. & Hook.f., Gen. Pl. 2: 280 (1873) = **Oritrophium** (Kunth) Cuatrec.

Erigeron L., Sp. Pl. : 863 (1753).

Trimorpha Cass., Bull. Sci. Soc. Philom. Paris 1817: 137 (1817), but its rank was not specified – appearing as 'Ce genre, ou sous-genre, ...'; Dict. Sci. Nat. 3: Suppl. 65 (Dec. 1816 or Jan. 1817) is cited in *Index Kewensis*, although this was a nom. nud. at this date. Type: not stated.

Stenactis Cass., Dict. Sci. Nat. 37: 485 (1825). Type: not stated.

Phalacrocoma Cass., Dict. Sci. Nat. 39: 404 (1826). Type: not stated.
Polyactis Less., Syn. Gen. Compositae : 188 (1832). Type: *Polyactis delphinifolia* (Willd.) Less. = *Erigeron delphinifolius* Willd.
Terranea Colla, Mem. Reale Accad. Sci. Torin. 38: 11 (1835). Type: *Terranea fernandeziana* Colla = *Erigeron fernandezianus* (Colla) Solbrig
Musteron Raf., Fl. Tellur. 2: 50 (1836). Type: not cited. [*Musteron bellidifolium* (Muhl. ex Willd.) Raf. = *Erigeron bellidifolius* Muhl. ex Willd.]
Fragmosa Raf., Fl. Tellur. 2: 50 (1836). Type: not cited.
Diplemium Raf., Fl. Tellur. 2: 50 (1836). Type: not cited.
Polyactidium DC., Prodr. 5: 281 (1836). Type: *Polyactidium delphinifolium* (Willd.) DC. = *Erigeron delphinifolia* Willd.
Heterochaeta DC., Prodr. 5: 282 (1836). Type: not stated.
Woodvillea DC., Prodr. 5: 318 (1836). Type: *Woodvillea calendulacea* DC. = *Erigeron glaucus* Ker Gawl.
Achaetogeron A. Gray, Mem. Amer. Acad. Arts 2, 4 [Pl. Fendl.]: 72 (1849). Type: *Achaetogeron wislizenii* A. Gray = *Erigeron wislizeni* (A. Gray) Greene
Wyomingia A. Nelson, Bull. Torrey Bot. Club 26(5): 249 (1899). Type: not stated, but Nelson implied that it was based on *Wyomingia pulcherrima* (A. Heller) A. Nelson = *Erigeron pulcherrimus* Heller
Asterigeron Rydb., Fl. Rocky Mts. : 891 (1918). Type: *Asterigeron watsonii* (A. Gray) Rydb. = *Erigeron watsonii* (A. Gray) Cronquist

Type: *Erigeron uniflorus* L.

References

Nesom, G. L. (1989). Infrageneric taxonomy of New World *Erigeron* (Compositae: Astereae). *Phytologia* 67(1): 67–93.

Solbrig, O. T. (1962). The South American species of *Erigeron*. *Contr. Gray Herb.* 191: 3–79.

Erigeron albidum (Willd. ex Spreng.) A. Gray, Proc. Amer. Acad. Arts 5: 319 (1861-62) = ***Conyza bonariensis*** (L.) Cronquist
Erigeron (Euerigeron) alpestre Gardner, London J. Bot. 4: 123 (1845) = ***Leptostelma maximum*** D. Don
Erigeron artemisiifolius (Meyen & Walp.) Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865) = ***Laennecia artemisiifolia*** (Meyen & Walp.) G. L. Nesom
Erigeron bilboanus (Remy) Cabrera, Revista Mus. La Plata, Secc. Bot. 2: 254 (1939) = ***Conyza floribunda*** Kunth
Erigeron bonariensis* L., Sp. Pl. : 863 (1753) = *Conyza bonariensis*** (L.) Cronquist
Erigeron bonariensis L. var. *angustifolius* Cabrera, Revista Mus. La Plata, Secc. Bot. 4 (16): 88 (1941) = ***Conyza bonariensis*** (L.) Cronquist
Erigeron bonariensis L. var. *floribundus* (Kunth) Cuatrec., Trab. Mus. Nac. Ci. Nat. Jard. Bot. Madrid, Ser. Bot. 33: 132 (1936) = ***Conyza floribunda*** Kunth
Erigeron bonariensis L. f. *glabrata* Speg., Anal. Soc. Ci. Argent. 48: 191 (1899) = ***Conyza floribunda*** Kunth
Erigeron bonariensis L. var. *leiothecus* S. F. Blake, Contr. Gray Herb. 52: 28 (1917) = ***Conyza floribunda*** Kunth
Erigeron bonariensis L. var. *microcephala* Cabrera, Revista Mus. La Plata, Secc. Bot. 4(16): 88 (1941) = ***Conyza bonariensis*** (L.) Cronquist
Erigeron brittonianus* Rusby, Mem. Torrey Bot. Club 3(3): 54 (1893) = *Erigeron rosulatus*** Wedd.
Erigeron canadensis* L., Sp. Pl. : 863 (1753) = *Conyza canadensis*** (L.)
Erigeron camporum (Gardner) Sch.Bip. ex Benth. & Hook.f., Gen. Pl. 2: 273 (1873), nom. nud. pro syn. = ***Inulopsis camporum*** (Gardner) G. L. Nesom
**Erigeron canescens* 'Sch.Bip.', Linnaea 34(5): 534 (Feb. 1866). Although listed by Foster (1958) this name, on its own, does not appear in Linnaea 34(5): 534 (or in Bull. Bot. Soc. France 12: 81, 1865), but does as two varieties, q.v.
Erigeron canescens 'Sch.Bip.' var. *arenosus* Sch.Bip., Bull. Bot. Soc. France 12: 81 (1865); Linnaea 34(5): 534 (Feb. 1866), nom. nud. (based on Mandon 220) = ***Conyza*** sp. [Duplicate in K, NY × 2]
Erigeron canescens 'Sch.Bip.' var. *schistosus* Sch.Bip., Bull. Bot. Soc. France 12: 81 (1865); Linnaea 34(5): 534 (Feb. 1866), nom. nud. (based on Mandon 217) = ***Conyza*** sp. [Duplicate in K, NY (00168651)]
Erigeron catharinensis Cabrera, Arch. Jard. Bot. Rio de Janeiro 15: 75 (1957) = ***Leptostelma maximum*** D. Don
Erigeron chilensis (Spreng.) D. Don ex Loudon, Hort. Brit. : 343 (1830) = ***Conyza primulifolia*** (Lam.) Cuatrec. & Lourteg

Erigeron chinensis Jacq., Pl. Hort. Schoenbr. 3: 30 (1798) = **Conyza laevigata** (Rich.) Pruski
Erigeron cinerascens* Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud. = **Conyza deserticola Phil.
Erigeron cinerascens Sch.Bip. ex Wedd., Chloris Andina 1: 196 (1857) = **Conyza deserticola** Phil.
Erigeron (Eschenbachia) collinus, Bull. Soc. Bot. France 12: 82 (1865), based on *Mandon* 290 = ?**Conyza** sp.
[Duplicate in K]

Erigeron depile Phil., Anales Univ. Chile 87: 417 (1894) = **Symphotrichum squamatum** (Spreng.) G. L. Nesom

**Erigeron ferrugineus* Wedd., Chloris Andina 1: 195 (1857) = ? [Type: 'Hab. BOLIVIE: parmi les rochers, sur la crête de la Cordillère de Sorata!, h. 5100 mètres (*Wedd.*).' Holotype: P.]

Erigeron floribundus* (Kunth) Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865) = **Conyza floribunda Kunth

Erigeron frigidum* Wedd., Chloris Andina 1: 231 (1857), nom. illegit. = **Oritrophium limnophilum (Sch.Bip.) Cuatrec.

**Erigeron hieracioides* Wedd., Chloris Andina 1: 194 (1857) = ? [Types: 'Hab. PÉROU: Cordillères de Carabaya! et du département de Cuzco!, dans la région alpestre (*Gay, Wedd.*).' Syntypes: P.]

Erigeron hieracifolia Poir. in Lam., Encycl. 8: 491 (1808) = **Podocoma hieracifolia** (Poir.) Cass.

***Erigeron hillii** Domke, Notizbl. Bot. Gart. Mus. Berlin-Dahlem 13(117): 244 (1936). Type: 'Bolivien: Tiahuanaco. Blühend am 22. Januar 1903; leg. A. W. Hill n. 273'. Holotype: K. Bolivia (La Paz).

Note: Comparison of *E. rosulatus* and *E. hillii* is needed as the two may be conspecific; *Erigeron hillii* was not mentioned by Solbrig (1962).

Erigeron laevigatum Rich., Actes Soc. Hist. Nat. Paris 1: 112 (1792) = **Conyza laevigata** (Rich.) Pruski

***Erigeron lanceolatus** [as *lanceolatum*] Wedd., Chloris Andina 1: 193 (1857). Types: 'Hab. PÉROU: Cordillères de Carabaya! et du département de Cuzco!, dans la région alpestre (*Gay, Wedd.*).' Syntypes: P.

**Erigeron lanceolatus* Wedd. var. β *subacaule* Wedd., Chloris Andina 1: 193 (1857). Type: not cited for 'variety' but: 'Hab. BOLIVIE: Cordillère d'Ayopaya!, dans le département de Cochabamba, à la hauteur de 3500 mètr. (*Wedd.*).' follows the whole description.

Erigeron lanceolatus Wedd. var. *lorentzianus* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 170; Pl. Lorentz. : 123 (1874). Types: '[Argentina] Catamarca, in alpinis Vayas altas pr. Belen alt. 9-11000'. (»Bolivia«).'

Holotype: *Lorentz* 627, GOET; isotype: DARW.

Argentina, Bolivia (Cochabamba), Peru.

3000-4000 m.

Erigeron lanceolatum Wedd. var. *lorentzianus* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 170; Pl. Lorentz. : 123 (1874) = **Erigeron lanceolatus** Wedd.

Erigeron lanceolatum* Wedd. var. β *subacaule* Wedd., Chloris Andina 1: 193 (1857) = **Erigeron lanceolatus Wedd.

***Erigeron laxiflorus** Baker in Mart., Fl. Bras. 6(3): 31 (1882). Types: [Brazil:] 'Habitat in prov. S. Paulo prope S. Bernardo: *Burchell* n. 3955!; prope Morumbi: *Burchell* n. 4481!; praeterea legit *Sello* n. 832, sine designatione loci.' Syntypes: *Burchell* 3955 & 4481 are in K. Bolivia (?), Brazil.

Erigeron limnophilus Sch.Bip., Bull. Bot. Soc. France 12: 81 (1865), nom. nov. pro *E. frigidum* Wedd. =

Oritrophium limnophilum (Sch.Bip.) Cuatrec.

Erigeron linifolium Willd., Suppl. 3: 1955 (1804) = **Conyza bonariensis** (L.) Cronquist

Erigeron lyratum (Kunth) Gómez [de la Maza], An. Hist. Nat. Madrid 19: 272 (1890) = **Pseudoconyza viscosa** (Mill.) D'Arcy

Erigeron mandonii Sch.Bip., Bull. Bot. Soc. France 12: 81 (1865), nom. nud. (based on *Mandon* 227) = ?

Erigeron maximus (D. Don) DC., Prodr. 5: 284 (1836) = **Leptostelma maximum** D. Don

Erigeron maximus (D. Don) DC. var. *palustris* (Gardner) Baker in Mart., Fl. Bras. 6(3): 28 (1882) = **Leptostelma maximum** D. Don

Erigeron maximus (D. Don) DC. var. *minor* Baker in Mart., Fl. Bras. 6(3): 28 (1882) = **Leptostelma maximum** D. Don

Erigeron (Eschenbachia) niveus Sch.Bip., Bull. Bot. Soc. France 12: 81 (1865), nom. nud. (based on *Mandon* 221) = **Laennecia gnaphalioides** (Kunth) Cass.

Erigeron notobellidiastrum (Griseb.) S. F. Blake, Contr. Gray Herb. 52: 31 (1917) = **Podocoma notobellidiastrum** (Griseb.) G. L. Nesom

Erigeron (Euerigeron) palustre Gardner, London J. Bot. 4: 123 (1845) = **Leptostelma maximum** D. Don

Erigeron paucifolius Less. ex Baker in Mart., Fl. Bras. 6(3): 34 (1882), nom. nud. pro syn. = **Podocoma notobellidiastrum** (Griseb.) G. L. Nesom

***Erigeron pazensis** Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 3(3): 54 (1893). Types: [Bolivia:] 'Vic. La Paz, 10,000 ft., 1889 ([*Bang*] 14 and 67). = *Rusby* 1662 and 1663.' Syntypes: ?NY; isosyntype (*Bang* 14): BM, GH (6914), LIL, MO (1767134), ?NY, US (00062683), WU; isosyntype (*Bang* 67): BM, GH (6915 - a fragment in a packet), MO (1767131, 1767135), ?US; isosyntype (*Rusby* 1662): ?GH, ?NY, ?US; isosyntype (*Rusby* 1663): BM, ?GH, ?MO, ?US. Note: I have now placed question marks against several herbaria as this material is clearly not yet recorded in their virtual herbaria. However, it raises some doubt as to where Rusby actually saw material of the four syntypes, or whether he saw one of them and relied upon Britton's European visit to equate these to other collections.

Erigeron (Conyzella) pazensis Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865), nom. nud. (based on *Mandon* 144). Bolivia (La Paz), Peru. 3000 m.

Erigeron primulifolia Juss. ex Cass., Dict. Sci. Nat. 42: 61 (1826), nom. nud. pro syn. = **Podocoma hieracifolia** (Poir.) Cass.

Erigeron pulvinatus* Wedd., Chloris Andina 1: 194 (1857) = **Erigeron rosulatus Wedd.

***Erigeron rosulatus** [as *rosulatum*] Wedd., Chloris Andina 1: 193 (1857). Type: 'Hab. BOLIVIE: au sommet de la Cordillère de La Paz! (*d'Orbigny*).' Holotype: P.

**Erigeron pulvinatus* Wedd., Chloris Andina 1: 194 (1857). Type: 'Hab. BOLIVIE: punas, aux environs de La Paz! (*Wedd.*).' Holotype: P. Note: Solbrig (1962: 49) cited the holotype as *Weddell* 4334, with an isotype in

**Erigeron brittonianum* Rusby, Mem. Torrey Bot. Club 3(3): 54 (1893). Type: [Bolivia:] 'Songo, Nov. 1890 ([*Bang*] 913).' Holotype: NY (00168648); isotype: BM, GH (6901), K, MO (1767142), NY (00168647), US (01400332), WU, Z (000003324).

Argentina, Bolivia (La Paz).

Puna Peruana.

3200–4000 m.

Erigeron (Euerigeron) scaberrimum Gardner, London J. Bot. 7: 80 (1848) = **Leptostelma maximum** D. Don

Erigeron semiamplexicaule* Meyen, Reise um die Erde 1: 311 (1834) = **Symphitrichum squamatum (Spreng.) G. L. Nesom

Erigeron seneciiformis* S. F. Blake, Proc. Biol. Soc. Washington 36: 51 (1923) = **Leptostelma tweediei (Hook. & Arn.) D. J. N. Hind & G. L. Nesom

Erigeron senecioides* Wedd., Chloris Andina 1: 198 (1857) = **Conyza senecioides (Wedd.) Cabrera

Erigeron spathulatum Vahl in West, Bidr. Beskr. Ste. Croix : 303 (1793) = **Conyza laevigata** (Rich.) Pruski

Erigeron sulcatum DC., Prodr. 5: 284 (1836) = **Leptostelma maximum** D. Don

Erigeron tunariensis* Kuntze, Revis. Gen. Pl. 3(3): 146 (1898) = ?Conyza bonariensis** (L.) Cronquist

Erigeron tweediei Hook. & Arn., Companion Bot. Mag. 2(No. 14): 50 (1836) = **Leptostelma tweediei** (Hook. & Arn.) D. J. N. Hind & G. L. Nesom

Erigeron vahlii Gaudich., Ann. Sci. Nat., ser. 1, 5: 103 (1825) = **Symphitrichum vahlii** (Gaudich.) G. L. Nesom

Eriolepis lanceolata (L.) Cass., Dict. Sci. Nat. 41: 331 (1826) = **Cirsium vulgare** (Savi) Ten.

Ernstia V. M. Badillo, Cat. Fl. Venez. 2: 503 (in key); 504 (1947), nom. nud. = **Pseudoconyza** Cuatrec.

Ernstia lyrata (Kunth) V. M. Badillo, Cat. Fl. Venez. 2: 504 (1947), nom. nud. = **Pseudoconyza viscosa** (Mill.) D'Arcy

Eschenbachia Moench, Meth.: 573 (1794) = **Conyza** Less.

Eschenbachia lyrata (Kunth) Britton & Millsp., Fl. Baham. Fl. : 444 (1920) = **Pseudoconyza viscosa** (Mill.) D'Arcy

Eschenbachia tenuisecta (A. Gray) Woot. & Standl., Contr. U.S. Natl. Herb. 16: 186 (1913) = **Laennecia sopherifolia** (Kunth) G. L. Nesom

Ethulia bidentis L., Mant. Pl. : 110 (1767) = **Flaveria bidentis** (L.) Kuntze

Ethulia sparganophora L., Sp. Pl., ed. 2 :1171 (1763) = **Struchium sparganophorum** (L.) Kuntze

Ethulia struchium Sw., Fl. Ind. Occ. 3: 1297 (1806) = **Struchium sparganophorum** (L.) Kuntze

Eupatoriophalacrom Mill., Gard. Dict. Abr. ed. 4 (1754), nom. rej. = **Eclipta** L.

Eupatorium L., Sp. Pl. : 836 (1753).

Eupatorium L. sect. *Austroeupatorium* (R. M. King & H. Rob.) Cabrera, Fl. Il. Catarinense. 4 tribo Eupatorieae : 579 (1991) = **Austroeupatorium** R. M. King & H. Rob.

Eupatorium L. sect. *Campovassouria* (R. M. King & H. Rob.) Cabrera = **Campovassouria** R. M. King & H. Rob.

Eupatorium L. sect. *Campuloclinium* (DC.) Benth. ex Baker in Mart., Fl. Bras. 6(2): 354 (1876) =

Campuloclinium DC.

Eupatorium L. sect. *Chromolaena* (DC.) Benth. ex Baker in Mart., Fl. Bras. 6(2): 300 (1876) = **Chromolaena** DC.

Eupatorium L. sect. *Cylindrocephala* DC., Prodr. 5: 141 (1836) = **Chromolaena** DC.

Eupatorium L. subgen. *Gyptis* Cass., Bull. Sci. Soc. Philom. Paris 1818: 139 (1818) = **Gyptis** (Cass.) Cass.

Eupatorium L. sect. *Gyptis* (Cass.) Cabrera, Fl. Ilust. Catarinense : 553 (1991) = **Gyptis** (Cass.) Cass.

Eupatorium sect. *Hebeclinium* (DC.) Benth. ex Baker in Mart., Fl. Bras. 6(2): 345 (1876) = **Hebeclinium** DC.

Eupatorium sect. *Heterocondylus* (R. M. King & H. Rob.) Cabrera, Fl. Il. Catarinense 4 tribo Eupatorieae : 565 (1991) = **Heterocondylus** R. M. King & H. Rob.

Eupatorium L. sect. *C. Heterolaena* (Sch.Bip. ex Benth. & Hook.f.) Baker in Mart., Fl. Bras. 6(2): 328 (1876) = **Chromolaena** DC.

Eupatorium L. sect. *Laevia* Cabrera, Fl. Ilustr. Catarinense Part 1 Monogr. 4 Tribo Eupatorieae : 595 (1991) = **Koanophyllon** Arruda

Eupatorium L. sect. *Microstemon* Cabrera, Fl. Il. Catarinense. 4 tribo Eupatorieae : 591 (1991) = **Fleischmannia** Sch.Bip.

Eupatorium L. sect. *Osmia* (Sch.Bip.) Benth. ex Baker in Mart., Fl. Bras. 6(2): 275 (1876) = **Chromolaena** DC.

Eupatorium L. sect. *Raulinoreitzia* (R. M. King & H. Rob.) Cabrera, Fl. Illustr. Catarinense Part 1. Monogr.

Compostas 4. Tribo Eupatorieae : 496 (1991) = **Raulinoreitzia** R. M. King & H. Rob.

Eupatorium L. sect. *Sphaereupatorium* O. Hoffm. In Engl. & Prantl, Nat. Pflanzenfam. Nachtr. 1: 322 (1897) = *Sphaereupatorium* (O. Hoffm.) Kuntze ex B. L. Rob.

Eupatorium L. sect. *Urolepis* (DC.) Benth. ex Baker in Mart., Fl. Bras. 6(2): 364 (1876) = **Urolepis** (DC.) R. M. King & H. Rob.

Eupatorium alternifolium Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 333 (1876) = **Gyptis crassipes** (Hieron.) R. M. King & H. Rob.

Eupatorium alternifolium Sch.Bip. ex Baker var. *asperum* Hassl., Repert. Soec. Nov. Regni Veg. 14(10-15): 287 (1916) = **Gyptis lanigera** (Hook. & Arn.) R. M. King & H. Rob.

Eupatorium alternifolium Sch.Bip. ex Baker var. *β burchellii* Baker in Mart., Fl. Bras. 6(2): 334 (1876)

Eupatorium alternifolium* var. *genuinum* Hassler f. *nitidum* J. Koster, Blumea 5(3): 651 (1945) = **Gyptis crassipes (Hieron.) R. M. King & H. Rob.

Eupatorium alternifolium Sch.Bip. ex Baker var. *hispidulum* Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 287 (1916) = **Gyptis lanigera** (Hook. & Arn.) R. M. King & H. Rob.

Eupatorium alternifolium Sch.Bip. ex Baker var. *γ oppositifolia* Baker in Mart., Fl. Bras. 6(2): 334 (1876) = **Gyptis crassipes** (Hieron.) R. M. King & H. Rob.

Eupatorium alternifolium Sch.Bip. ex Baker var. *vernoniopsis* (Sch.Bip. ex Baker) Hassl., Repert. Spec. Nov. Regni Veg. 14: 287 (1916) = **Gyptis lanigera** (Hook. & Arn.) R. M. King & H. Rob.

Eupatorium amarum Vahl, Symb. Bot. 3: 93 (1794), nom. illegit., pro *Eupatorium parviflorum* Aubl. = **Mikania parviflora** (Aubl.) H. Karst.

Eupatorium amblyolaenum Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 332 (1876), nom. nud. pro syn. = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.

- **Eupatorium amygdalinum* Lam., Encycl. 2: 408 (1788) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
Eupatorium amygdalinum Lam. var. β *elegans* (Gardner) Baker in Mart., Fl. Bras. 6(2): 313 (1876) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
Eupatorium amygdalinum Lam. var. γ *dissitiflora* Baker in Mart., Fl. Bras. 6(2): 314 (1876) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
Eupatorium amygdalinum Lam. var. δ *glandulosa* (Gardner) Baker in Mart., Fl. Bras. 6(2): 314 (1876) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
Eupatorium amygdalinum Lam. var. ϵ *oxychlaenum* (DC.) Baker in Mart., Fl. Bras. 6(2): 314 (1876) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
Eupatorium amygdalinum var. ζ *revoluta* Baker in Mart., Fl. Bras. 6(2): 314 (1876) = **Ayapana stenolepis** (Steetz) R. M. King & H. Rob.
Eupatorium amygdalinum Lam. var. ζ *revolutum* Baker f. *angustifolium* Hieron. ex Kuntze, Revis. Gen. Pl. 3(3): 146 (1898), nom. nud. = **Ayapana stenolepis** (Steetz) R. M. King & H. Rob.
Eupatorium appendiculatum Less. ex Baker in Mart., Fl. Bras. 6(2): 365 (1876), nom. nud. pro syn. = **Urolepis hecatantha** (DC.) R. M. King & H. Rob.
Eupatorium argentinum Ariza, Darwiniana 22(4): 551 (1980), nom. nov. pro *Eupatorium prasiifolium* Griseb. = **Fleischmannia prasiifolia** R. M. King & H. Rob.
Eupatorium armanii Balb., Hort. Taur. Stirp. 1: 27, t. 6 (1810) = **Clibadium armanii** (Balb.) Sch.Bip. ex O.E.Shulz
Eupatorium arnottianum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 167 (1874); Pl. Lorentz.: 119 (1874) = **Chromolaena arnottiana (Griseb.) R. M. King & H. Rob.
Eupatorium asclepiadeum DC., Prodr. 5: 148 (1836) = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.
Eupatorium asperulaceum Baker in Mart., Fl. Bras. 6(2): 342 (1876) = **Praxelis asperulacea** (Baker) R. M. King & H. Rob.
Eupatorium aureo-viride Chodat, Bull. Herb. Boissier, ser. 2, 2(3): 309 (1902) = **Gyptis lanigera** (Hook. & Arn.) R. M. King & H. Rob.
Eupatorium austerum* B. L. Rob., Contr. Gray Herb. 68: 9 (1923) = **Chromolaena austera (B. L. Rob.) R. M. King & H. Rob.
Eupatorium australe Thunb., Pl. Bras. 2: 26 (1818) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
Eupatorium axilliflorum Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 169 (1874); Pl. Lorentz.: 121 (1874) = **Ophryosporus axilliflorus** (Griseb.) Hieron.
Eupatorium azangaroense* Sch.Bip. ex Wedd., Chloris Andina 1: 217 (1857) = **Ageratina azangaroensis (Sch.Bip. ex Wedd.) R. M. King & H. Rob.
Eupatorium balansae Hieron., Bot. Jahrb. Syst. 22(4-5): 778 (1897) = **Bejaranoa balansae** (Hieron.) R. M. King & H. Rob.
Eupatorium balansae Hieron. var. *menthoides* Chodat, Bull. Herb. Boissier, ser. 2, 3(8): 708 (1903) = **Bejaranoa balansae** (Hieron.) R. M. King & H. Rob.
Eupatorium balansae Hieron. var. *menthoides* Chodat f. *foliosa* Chodat, Bull. Herb. Boissier, ser. 2, 3(8): 708 (1903) = **Bejaranoa balansae** (Hieron.) R. M. King & H. Rob.
Eupatorium balansae Hieron. var. *reticulatum* Chodat, Bull. Herb. Boissier, ser. 2, 3(8): 708 (1903) = **Bejaranoa balansae** (Hieron.) R. M. King & H. Rob.
Eupatorium bangii* Rusby, Mem. Torrey Bot. Club 6(1): 56 (1896) = **Chromolaena bangii (Rusby) R. M. King & H. Rob.
Eupatorium barclayanum Benth., Bot. Voy. Sulphur :112 (April 1845) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
Eupatorium berterianum (Spreng.) Colla, Mem. Reale Acc. Sci. Torino 33: 110 (1829) = **Fleischmannia microstemon** (Cass.) R. M. King & H. Rob.
Eupatorium betoniciforme* (DC.) Baker in Mart., Fl. Bras. 6(2): 362 (1876) = **Barrosoa betoniciformis (DC.) R. M. King & H. Rob. (possibly mistaken for **Conocliniopsis prasiifolia** (DC.) R. M. King & H. Rob. although this species hasn't been reported for Bolivia).
Eupatorium betoniciforme (DC.) Baker var. β *hastatum* Baker in Mart., Fl. Bras. 6(2): 363 (1876) = **Barrosoa betoniciformis** (DC.) R. M. King & H. Rob.
Eupatorium bimatum Stendley & L. O. Williams, Ceiba 3: 64 (1952) = **Fleischmannia microstemon** (Cass.) R. M. King & H. Rob.
Eupatorium bracteatum Gardner var. *reticulatum* Chodat, Bull. Herb. Boissier, ser. 2, 1(4): 713 (1901) = **Bejaranoa balansae** (Hieron.) R. M. King & H. Rob.

- **Eupatorium bridgesii* B. L. Rob., Proc. Amer. Acad. Arts 55: 7 (1919) = **Fleischmannia bridgesii** (B. L. Rob.) R. M. King & H. Rob.
- **Eupatorium buniifolium* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 240 (1836) = **Acanthostyles buniifolius** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium buniifolium* Hook. & Arn. var. *bakeri* Kuntze, Revis. Gen. Pl. 3(3): 146 (1898) = **Acanthostyles buniifolius** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium buniifolium* Hook. & Arn. var. *hieronymi* Kuntze, Revis. Gen. Pl. 3(3): 146 (1898) = **Acanthostyles buniifolius** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium buniifolium* Hook. & Arn. var. *saucechicoense* (Hieron.) Ariza, Kurtziana 22: 155 (1993) = **Acanthostyles buniifolius** (Hook. & Arn.) R. M. King & H. Rob.
- **Eupatorium bupleurifolium* DC., Prodr. 5: 149 (1836) = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.
- Eupatorium bupleurifolium* DC. '3.' var. *ensifolium* [as *ensifolia*] (Griseb.) Hieron, Bot. Jahrb. Syst. 22(4-5): 777 (1897) = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.
- Eupatorium bupleurifolium* DC. var. β [sic! = γ] *linifolium* (DC.) Baker in Mart., Fl. Bras. 6(2): 332 (1876) = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.
- **Eupatorium calderillense* Hieron., Bot. Jahrb. Syst. 40(3): 381 (1908) = **Ageratina calderillensis** (Hieron.) R. M. King & H. Rob.
- **Eupatorium camachense* Hieron., Bot. Jahrb. Syst. 40(3): 386 (1908) = **Ageratina camachensis** (Hieron.) R. M. King & H. Rob.
- **Eupatorium camataquiense* Hieron., Bot. Jahrb. Syst. 40(3): 377 (1908) = **Kaunia camataquinensis** (Hieron.) R. M. King & H. Rob.
- Eupatorium candolleanum* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 243 (1836) = **Barrosoa candolleana** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium candolleanum* Hook. & Arn. var. β *lancifolium* [as *lancifolia*] Baker in Mart., Fl. Bras. 6(2): 364 (1876) = **Barrosoa candolleana** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium capitatum* Rusby, Bull. New York Bot. Gard. 4(14): 380 (1907) = **Trichogonia capitata** (Rusby) B. L. Rob.
- Eupatorium catarium* Veldk., Garden's Bull, Singapore 51: 121 (1999), as nom. nov. pro *Eupatorium clematideum* Griseb. = **Praxelis clematidea** R. M. King & H. Rob.
- Eupatorium celosioides* Willd. ex Steetz in Seem., Bot. Voy. Herald: 145 (1854), nom. nud. pro syn. = **Condylidium iresinoides** (Kunth) R. M. King & H. Rob.
- **Eupatorium chaparense* B. L. Rob., Contr. Gray Herb. 90: 24 (1930) = **Austroeupatorium chaparense** (B. L. Rob.) R. M. King & H. Rob.
- Eupatorium chilense* Molina, Sagg. Stor. Nat. Chile : 142, 354 (1782/9) = **Flaveria bidentis** (L.) Kuntze
- **Eupatorium chiquitense* B. L. Rob., Contr. Gray Herb. 68: 11 (1923) = **Praxelis chiquitensis** (B. L. Rob.) R. M. King & H. Rob.
- Eupatorium chrysocephalum* Klatt, Bot. Beibl. Leopoldina 1895: 2 (1895) = **Neurolaena lobata** (L.) R.Br. ex Cass.
- Eupatorium ciliatum* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 240 (1836), nom. illegit., non Less. (1831) = **Chromolaena hookeriana** (Griseb.) R. M. King & H. Rob.
- Eupatorium claussenii* Gardner, London J. Bot. 6: 445 (1847) = **Chromolaena stachyophylla** (Spreng.) R. M. King & H. Rob.
- Eupatorium clavulatum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 168 (1874); Pl. Lorentz.: 120 (1874) = **Ophryosporus piquerioides** (DC.) Benth. ex Baker
- **Eupatorium clematideum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 172 (March-April 1879), nom. illegit. non (Wall. ex DC.) Sch.Bip. = **Praxelis clematidea** R. M. King & H. Rob.
- Eupatorium clematidis* DC., Prodr. 5: 144 (1836) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
- Eupatorium clematidis* DC. var. *tomentosum* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34: 535 (1866), nom. nud. = **Chromolaena mallota** (B. L. Rob.) R. M. King & H. Rob.
- **Eupatorium cochabambense* Hieron., Bot. Jahrb. Syst. 22(4-5): 745 (1897) = **Chromolaena connivens** (Rusby) R. M. King & H. Rob.
- **Eupatorium confluentis* B. L. Rob., Contr. Gray Herb. 77: 11 (1926) = **Barrosoa confluentis** (B. L. Rob.) R. M. King & H. Rob.
- **Eupatorium connivens* Rusby, Mem. Torrey Bot. Club 6(1): 57 (1896) = **Chromolaena connivens** (Rusby) R. M. King & H. Rob.
- **Eupatorium conoclinanthium* Hieron., Bot. Jahrb. Syst. 40(3): 388 (1908) = **Praxelis conoclinanthia** (Hieron.) R. M. King & H. Rob.

- **Eupatorium conyzoides* Vahl var. *ciliatum* (Hook. & Arn.) Hieron., Bot. Jahrb. Syst. 22(4-5): 741 (1897) = **Chromolaena hookeriana** (Griseb.) R. M. King & H. Rob.
- Eupatorium conyzoides* Vahl var. *heterolepis* Griseb., Fl. Brit. W.I. : 358 (1861) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
- ?*Eupatorium conyzoides* Vahl var. δ *incanum* Baker in Mart., Fl. Bras. 6(2): 278 (1876) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
- Eupatorium conyzoides* Mill. var. ϵ *pauciflorum* Baker in Mart., Fl. Bras. 6(2): 278 (1876) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
- Eupatorium conyzoides* Vahl var. *scaberulum* Hassl., Repert. Spec. Nov. Regni Veg. 14: 279 (1916) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
- Eupatorium conyzoides* Vahl var. *tunariensis* Hieron., Bot. Jahrb. Syst. 22(4-5): 742 (1897) = **Chromolaena tunariensis** (Hieron.) R. M. King & H. Rob.
- Eupatorium cotinifolium* Willd., Phytogr. : 11 (1794) = **Baccharis pedunculata** (Mill.) Cabrera
- Eupatorium crassipes* Hieron., Bot. Jahrb. Syst. 22 (4-5): 780 (1897) = **Gyptis crassipes** (Hieron.) R. M. King & H. Rob.
- Eupatorium crenatum* Gardner, London J. Bot. 6: 441 (1846) = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- **Eupatorium crenulatum* (Spreng.) Spreng. ex Hieron., Bot. Jahrb. Syst. 22(4-5): 776 (1897), comb. illegit. non Gardner (1846) = **Raulinoreitzia crenulata** (Spreng.) R. M. King & H. Rob.
- Eupatorium crithmifolium* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 169 (1974) = **Acanthostyles buniifolius** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium critonioides* Steetz, Bot. Voy. Herald : 145 (1854) = **Critonia morifolia** (Mill.) R. M. King & H. Rob.
- Eupatorium cruciatum* (Vell.) Ariza, Kurtziana 22: 155 (1993) = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.
- Eupatorium decemflorum* DC., Prodr. 5: 154 (1836) = **Austroeupatorium decemflorum** (DC.) R. M. King & H. Rob.
- **Eupatorium dejectum* B. L. Rob., Contr. Gray Herb. 77: 12 (1926) = **Helogyne tacaquirensis** Hieron.
- **Eupatorium dentatum* Gardner, London J. Bot. 6: 443 (1847) = **Stomatanthus dentatus** (Gardner) H. Rob.
- Eupatorium nudatum* Chodat, Bull. Herb. Boissier, sér. 2, 1(4): 413 (1901) = **Campuloclinium macrocephalum** (Less.) DC.
- **Eupatorium desmocephalum* B. L. Rob., Contr. Gray Herb. 68: 14 (1923) = **Chromolaena desmocephala** (B. L. Rob.) R. M. King & H. Rob.
- **Eupatorium didymum* Klatt, Ann. Naturh. Hofmus. Wien 9: 356 (1894) = **Ayapanopsis didyma** (Klatt) R. M. King & H. Rob.
- Eupatorium didymum* Klatt var. *glandulitectum* B. L. Rob., Contr. Gray Herb. Harvard Univ. 80: 19 (1928) = **Ayapanopsis didyma** (Klatt) R. M. King & H. Rob.
- Eupatorium diffusum* Vahl, Symb. Bot. 3: 94 (1794) = **Brickellia diffusa** (Vahl) A. Gray
- Eupatorium divergens* Less., Linnaea 5(1): 138 (1830) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
- Eupatorium dodoneifolium* Hook. & Arn., Companion Bot. Mag. 2(No. 14): 44 (1836) = **Pluchea dodoneifolia** (Hook. & Arn.) H. Rob. & Cuatrec. [INULEAE]
- Eupatorium donianum* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 243 (1836) = **Campuloclinium macrocephalum** (Less.) DC.
- Eupatorium dryadeum* DC., Prodr. 7: 269 (1838) = **Hebeclinium macrophyllum** (L.) DC.
- Eupatorium dumosum* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 254, p.p.) = ? (ignota, according to King & Robinson (1987).
- Eupatorium ecuadorae* Klatt, Ann. K. K. Naturhist. Hofmus. 9: 356 (1894) = **Heterocondylus vitalbae** (DC.) R. M. King & H. Rob.
- Eupatorium eleutheranthemum* Rusby, Mem. Torrey Bot. Club 3(3): 53 (1893) = **Ophryosporus eleutherantherus** (Rusby) B. L. Rob.
- **Eupatorium endytum* B. L. Rob., Proc. Amer. Acad. Arts 55: 13 (1919) = **Kaunia endyta** (B. L. Rob.) R. M. King & H. Rob.
- Eupatorium epaleaceum* (Gardner) B. L. Rob., Proc. Amer. Acad. Arts 51: 534 (1916) = **Chromolaena epaleacea** Gardner
- Eupatorium erigeroides* DC., Prodr. 5: 171 (1836) = **Hatschbachiella tweedieana** (Hook. & Arn.) R. M. King & H. Rob.

- Eupatorium erigeroides* [var.] β *ramulosum* DC., Prodr. 5: 171 (1836) = **Hatschbachiella tweedieana** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium erythrolepis* Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); Linnaea 34(5): 535 (1865), nom. nud. (based on Mandon 261) = *Lorentzianthus viscidus* (Hook. & Arn.) R. M. King & H. Rob. according to King & Robinson (1987). However, Mandon 261 is *Praxelis conoclinianthia*!
- **Eupatorium eucosmum* B. L. Rob., Contr. Gray Herb. 61: 6 (1920) = **Kaunia saltensis** (Hieron.) R. M. King & H. Rob.
- **Eupatorium euphyes* B. L. Rob., Contr. Gray Herb. 68: 16 (1923) = **Ayapanopsis euphyes** (B. L. Rob.) R. M. King & H. Rob.
- Eupatorium exiguum* Klotsch ex Steetz in Seem., Bot. Voy. Herald : 145 (1854), nom. nud. = **Condylidium iresinoides** (Kunth) R. M. King & H. Rob.
- **Eupatorium extensum* Gardner, London J. Bot. 6: 440 (1847) = **Chromolaena extensa** (Gardner) R. M. King & H. Rob.
- Eupatorium extrorsum* Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 290 (1876), nom. nud. pro syn. = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- Eupatorium fasciculare* Poepp., Nov. Gen. Sp. Pl. 3: 54 (1845) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
- Eupatorium ferrugineum* Gardner f. *parvifolium* Hassler, Repert. Spec. Nov. Regni Veg. 11(9/15): 175 (1912) = **Chromolaena oxylepis** (DC.) R. M. King & H. Rob.
- **Eupatorium fiebrigii* Hieron., Bot. Jahrb. Syst. 40(3): 371 (1908), non Hassler (1912) (= *Chacoa pseudoprasiiifolia* (Hassler) R. M. King & H. Rob.) = **Fleischmannia** sp. (unassigned by R. M. King & H. Rob.!) [based on 'Bolivia: habitat prope Camacho, alt. s. m. 2700 m in arvis (*Fiebrig* n. 3528; 15. m. Dec. 1903).']
- Eupatorium filicaule* Sch.Bip. ex A. Gray, Proc. Amer. Acad. Arts 21: 384 (1886) = **Koanophyllon solidaginoides** (Kunth) R. M. King & H. Rob.
- Eupatorium floribundum* Kunth in Humb. Bonpl. & Kunth., Nov. Gen. Sp. Pl. 4 (ed. folio): 92 (1818) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
- Eupatorium fruticosum* Mill., Gard. Dict., ed. 8: *Eupatorium* no. 6 (1768) = **Mikania houstonia** (L.) B. L. Rob.
- Eupatorium glandulosissimum* Malme, Kongl. Svenska Vetenskapsakad. Handl. 32(5): 40 (1899) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
- **Eupatorium gloeocladum* B. L. Rob., Proc. Amer. Acad. Arts 55: 17 (1919) = **Ageratina gloeoclada** (B. L. Rob.) R. M. King & H. Rob.
- Eupatorium glumaceum* DC., Prodr. 5: 181 (1836) = **Condylidium iresinoides** (Kunth) R. M. King & H. Rob.
- Eupatorium gouani* hort. ex Spreng., Novi Provent. : 23 (1819), nom. nud. pro syn. = **Salmea scandens** (L.) DC.
- Eupatorium graciliflorum* DC., Prodr. 5: 145 (1836) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
- ? *Eupatorium graminifolium* Chodat, Bull. Herb. Boissier, ser. 2, 1(4): 411 (1901) = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.
- **Eupatorium grossidentatum* Hieron., Bot. Jahrb. Syst. 40(3): 377 (1908), nom. illegit., non Mart. ex Colla (1834) = **Kaunia grossidentata** R. M. King & H. Rob.
- Eupatorium guadalupense* Spreng., Syst. Veg., ed. 16, 3: 414 (1826) = **Fleischmannia microstemon** (Cass.) R. M. King & H. Rob.
- **Eupatorium guanaiense* Britton, Bull. Torrey Bot. Club 18: 333 (1891) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- **Eupatorium gynoxioides* Rusby, Bull. New York Bot. Gard. 4(14): 380 (1907) = **Kaunia gynoximorpha** (Rusby ex B. L. Rob.) R. M. King & H. Rob.
- **Eupatorium gynoxymorphum* Rusby ex B. L. Rob., Contr. Gray Herb. 61: 7 (1920) = **Kaunia gynoximorpha** (Rusby ex B. L. Rob.) R. M. King & H. Rob.
- Eupatorium hasslerianum* Chodat, Bull. Herb. Boissier, ser. 2, 3(8): 711 (1903) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
- Eupatorium hecatanthum* Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 262) = ?
- **Eupatorium hecatanthum* (DC.) Baker in Mart. Fl. Bras. 6(2): 365 (1876) = **Urolepis hecatantha** (DC.) R. M. King & H. Rob.
- Eupatorium hecatanthum* Klatt, Ann. Naturhist. Hofmus. Wien 9: 356 (1894), nom. nud. = **Ayapanopsis didyma** (Klatt) R. M. King & H. Rob.

- Eupatorium heptanthum* Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud. (based on *Lechler* 1751) = **Ophryosporus heptanthus** (Sch.Bip. ex Wedd.) R. M. King & H. Rob.
- Eupatorium heptanthum* Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); *Linnaea* 34(5): 535 (Feb. 1866), nom. nud. (based on *Mandon* 260, p.p.) = **Ageratina sternbergiana** (DC.) R. M. King & H. Rob.
- Eupatorium heptanthum* Sch.Bip. ex Wedd., *Chloris Andina* 1: 217 (1857) = **Ophryosporus heptanthus** (Sch.Bip. ex Wedd.) R. M. King & H. Rob.
- Eupatorium heptanthum* Sch.Bip. ex Rusby, Bull. New York Bot. Gard. 4(14): 378 (1907), non Sch.Bip. ex Wedd. (1857) (= **Ophryosporus heptanthus** (Sch.Bip. ex Wedd.) R. M. King & H. Rob.) = **Ageratina sternbergiana** (DC.) R. M. King & H. Rob.
- **Eupatorium herzogii* B. L. Rob., Contr. Gray Herb. 68: 19 (1923) = **Chromolaena herzogii** (B. L. Rob.) R. M. King & H. Rob.
- *?*Eupatorium hirsutum* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 239 (1836) = **Chromolaena hirsuta** (Hook.) & Arn.) R. M. King & H. Rob.
- Eupatorium hoffmannii* Kuntze, Revis. Gen. Pl. 3(3): 147 (1898) = **Sphaereupatorium scandens** (Gardner) R. M. King & H. Rob.
- Eupatorium hookerianum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 166 (1874), as nom. nov. pro *E. ciliatum* Hook. & Arn. = **Chromolena hookeriana** (Griseb.) R. M. King & H. Rob.
- Eupatorium hookerianum* Griseb. var. *jujuiense* (Hieron.) Cabrera & Vittet, Revista Mus. La Plata, Secc. Bot. 8: 216 (1954) = **Chromolena hookeriana** (Griseb.) R. M. King & H. Rob.
- **Eupatorium hosanense* B. L. Rob., Contr. Gray Herb. 100: 14 (1932) = **Kaunia hosanensis** (B. L. Rob.) R. M. King & H. Rob.
- Eupatorium houstonianum* L., Sp. Pl.: 836 (1753) = **Mikania houstoniana** (L.) B. L. Rob.
- Eupatorium huambutiense* Cabrera, Revista Univ. Cuzco 33(No. 87): 117 (1945) = **Helogyne tacaquirensis** Hieron.
- **Eupatorium ignoratum* Hieron., Bot. Jahrb. Syst. 40(3): 379 (1908) = **Kaunia ignorata** (Hieron.) R. M. King & H. Rob.
- Eupatorium inconspicuum* Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); *Linnaea* 34(5): 535 (Feb. 1866) = **Ageratina azangaroensis** (Sch.Bip. ex Wedd.) R. M. King & H. Rob.
- **Eupatorium inulifolium* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 85 (1818) = **Austro eupatorium inulifolium** (Kunth) R. M. King & H. Rob.
- **Eupatorium inulifolium* Kunth f. *suaveolens* (Kunth) Hieron., Bot. Jahrb. Syst. 29(1): 11 (1900) = **Austro eupatorium inulifolium** (Kunth) R. M. King & H. Rob.
- **Eupatorium iresinoides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 83 (1818) = **Condylium iresinoides** (Kunth) R. M. King & H. Rob.
- Eupatorium iresinoides* Kunth var. α *villosum* Steetz in Seem., Bot. Voy. Herald: 145 (1854) = **Condylium iresinoides** (Kunth) R. M. King & H. Rob.
- Eupatorium iresinoides* Kunth var. β *glabrescens* Steetz in Seem., Bot. Voy. Herald: 145 (1854) = **Condylium iresinoides** (Kunth) R. M. King & H. Rob.
- **Eupatorium ivifolium* L., Syst. Nat. (ed. 10) : 1205 (1759) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- **Eupatorium ivifolium* L. var. β *extorsum* Baker in Mart., Fl. Bras. 6(2): 290 (1876) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- Eupatorium ivifolium* L. var. *foliosum* Chodat, Bull. Herb. Boissier, ser. 2, 1(4): 413 (1901) = **Chromolaena ? squarrosoramosa** (Hieron.) R. M. King & H. Rob.
- Eupatorium ivifolium* L. var. γ *gracillima* Baker in Mart., Fl. Bras. 6(2): 290 (1876), based on *Ooclinium clavatum* Benth. = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- Eupatorium ivifolium* L. var. δ *laxiflora* Baker in Mart., Fl. Bras. 6(2): 290 (1876) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- Eupatorium ivifolium* L. var. ϵ *aspera* Baker in Mart., Fl. Bras. 6(2): 291 (1876) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- Eupatorium ivifolium* L. var. *genuinum* Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 280 (1916) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- Eupatorium ivifolium* L. var. *hirsutum* Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 280 (1916) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- Eupatorium ivifolium* L. var. *perturbinatum* B. L. Rob., Contr. Gray Herb. 80: 23 (1928) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.

- Eupatorium ivifolium* L. var. *pilcomayense* Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 280 (1916) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- Eupatorium ivifolium* L. var. *serratum* Griseb., Cat. Pl. Cub.: 146 (1866) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- Eupatorium ixodes* Benth., Ann. Nat. Hist. 2(8): 108 (Oct. 1838) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
- '*Eupatorium ixodes* Benth., J. Bot. (Hooker) 2(9): 41 (Feb. 1840)', nom. illegit., superfl. = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
- **Eupatorium jugipaniculatum* Rusby, Bull. New York Bot. Gard. 4(14): 379 (1907) = **Koanophyllon jugipaniculatum** (Rusby) R. M. King & H. Rob.
- Eupatorium jujuiense* Hieron., Bot. Jahrb. Syst. 22(4-5): 744 (1897) = **Chromolena hookeriana** (Griseb.) R. M. King & H. Rob.
- Eupatorium klattii* Millsp., Publ. Field Columbian Mus., Bot. Ser. 2: 105 (1900) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
- **Eupatorium kleinioides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 94 (1818) = **Praxelis kleinioides** (Kunth) Sch.Bip.
- Eupatorium kleinioides* Kunth var. β *hecatantha* Baker in Mart., Fl. Bras. 6(2): 343 (1876) = **Praxelis kleinioides** (Kunth) Sch.Bip.
- **Eupatorium kuntzei* Hieron., Bot. Jahrb. Syst. 22(4-5): 766 (1897) = **Ophryosporus macrodon** Griseb.
- **Eupatorium laevigatum* Lam., Encycl. 2: 408 (1786) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
- **Eupatorium laevigatum* Lam. f. *albiflorum* Kuntze, Revis. Gen. Pl. 3(3): 147 (1898) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
- **Eupatorium laevigatum* Lam. f. *flavidum* Kuntze, Revis. Gen. Pl. 3(3): 147 (1898) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
- **Eupatorium laevigatum* Lam. f. *lilacinum* Kuntze, Revis. Gen. Pl. 3(3): 147 (1898) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
- Eupatorium laevigatum* Lam. var. *longepetiolatum* Hassl., Repert. Spec. Nov. Regni Veg. 14(?): ?282/?744 (1916) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
- Eupatorium laevigatum* Lam. var. *psidiifolia* (DC.) Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 282 (1916) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
- Eupatorium laevigatum* Lam. var. *submembranaceum* Hieron., Bot. Jahrb. Syst. 22(4-5): 748 (1897) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
- Eupatorium lanigerum* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 242 (1836) = **Gyptis lanigera** (Hook. & Arn.) R. M. King & H. Rob.
- **Eupatorium lanigerum* Hook. & Arn. var. *longicuneatum* B. L. Rob. = needs checking because of problem with **Gyptis lanigera** vs **crassipes** !
- Eupatorium lanigerum* Hook. & Arn. [var.] β *minor* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 242 (1836) = **Gyptis lanigera** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium lanigerum* Hook. & Arn. var. *typicum* B. L. Rob., Ostensia: 353 (1933) = **Gyptis lanigera** (Hook. & Arn.) R. M. King & H. Rob.
- **Eupatorium lasiophthalmum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 167 (1874) = **Kaunia lasiophthalma** (Griseb.) R. M. King & H. Rob.
- **Eupatorium latipaniculatum* Rusby, Bull. New York Bot. Gard. 4(14): 380 (1907) = **Ayapanopsis latipaniculata** (Rusby) R. M. King & H. Rob.
- *?*Eupatorium leptocepalum* DC., Prodr. 5: 148 (1836) = **Chromolaena leptocepala** (DC.) R. M. King & H. Rob.
- *?*Eupatorium leptocepalum* DC. var. *hypomalacum* B. L. Rob., Contr. Gray Herb. 80: 24 (1928) = **Chromolaena leptocepala** (DC.) R. M. King & H. Rob.
- Eupatorium linifolium* DC., Prodr. 5: 149 (1836) = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.
- **Eupatorium lobatum* B. L. Rob., Proc. Amer. Acad. Arts 55: 21 (1919) = **Neocuatrecasia lobata** (B. L. Rob.) R. M. King & H. Rob.
- **Eupatorium lobbii* Klatt, Ann. K. K. Naturhist. Hofmus. 9: 356 (1894) = **Dasycondylus lobbii** (Klatt) R. M. King & H. Rob.
- Eupatorium longepetiolatum* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. = **Kaunia longipetiolata** (Sch.Bip. ex Rusby) R. M. King & H. Rob.

- **Eupatorium longipetiolatum* Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 3(3): 52 (1893) = **Kaunia longipetiolata** (Sch.Bip. ex Rusby) R. M. King & H. Rob.
- Eupatorium longipetiolatum* Sch. Bip. ex Rusby var. *α typicum* B. L. Rob., Contr. Gray Herb. Harvard Univ., n.s. 61: 9 (1920) = **Kaunia longipetiolata** (Sch.Bip. ex Rusby) R. M. King & H. Rob.
- Eupatorium loniceroides* Kunth var. *β minarum* Sch.Bip., Linnaea 30: 182 (1859/60), nom. nud. = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
- Eupatorium lorentzii* Hieron., Bot. Jahrb. Syst. 22(4-5): 787 (1897) = **Ageratina lorentzii** (Hieron.) R. M. King & H. Rob.
- Eupatorium lupulinum* Baker in Mart., Fl. Bras. 6(2): 301 (1876), nom. illegit. (based on **Chromolaena epaleacea** Gardner) = **Chromolaena epaleacea** Gardner
- Eupatorium luquense* Hassl., Bull. Herb. Boissier, ser. 2, 1(4): 413 (1901) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- **Eupatorium macrocephalum* Less., Linnaea 5(1): 136 (1830) = **Campuloclinium macrocephalum** (Less.) DC.
- Eupatorium macrocephalum* Less. var. *angustifolium* Baker in Mart., Fl. Bras. 6(2): 358 (1876) = **Campuloclinium macrocephalum** (Less.) DC.
- Eupatorium macrocephalum* Less. var. *stigmatosum* (Chodat) Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 290 (1916) = **Campuloclinium macrocephalum** (Less.) DC.
- **Eupatorium macrophyllum* L., Sp. Pl., ed. 2 : 1175 (1863) = **Hebeclinium macrophyllum** (L.) DC.
- Eupatorium macrum* Standley & Steyerl., Publ. Field Mus. Nat. Hist., Bot. Ser. 23: 184 (1944) = **Condylium iresinoides** (Kunth) R. M. King & H. Rob.
- **Eupatorium mallotum* B. L. Rob., Proc. Amer. Acad. Arts 55: 22 (1919) = **Chromolaena mallota** (B. L. Rob.) R. M. King & H. Rob.
- **Eupatorium mallotum* B. L. Rob. var. *aporum* B. L. Rob., Proc. Amer. Acad. Arts 55: 23 (1919) = **Chromolaena mallota** (B. L. Rob.) R. M. King & H. Rob.
- **Eupatorium mandonii* Sch.Bip., Bull. Soc. Bot. France 12: 533 (1865); Linnaea 34(5): 533 (Feb. 1866), nom. nud. = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.
- **Eupatorium mapiriense* Hieron., Bot. Jahrb. Syst. 40(3): 374 (1908) = **Austroeupatorium decemflorum** (DC.) R. M. King & H. Rob.
- **Eupatorium marginatum* Poepp., Nov. Gen. Sp. Pl. 3: 54 (1845) = **Fleischmannia marginata** (Poepp.) R. M. King & H. Rob.
- Eupatorium martii* Mart., Flora 21(2): 88 (1838) = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- Eupatorium martiusii* DC., Prodr. 7: 269 (1838) = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- Eupatorium melarhabdotrichum* Gilli, Feddes Repert. 94(5): 308 (1983) = **Polyanthina nemerosa** (Klatt) R. M. King & H. Rob.
- Eupatorium micranthon* J. G. Gmel., Syst. 1198 (1792), nom. superfl. incl. *E. parviflorum* Aubl.
- **Eupatorium microstemon* Cass., Dict. Sci. Nat. 25: 432 (1822) = **Fleischmannia microstemon** (Cass.) R. M. King & H. Rob.
- Eupatorium molle* Sw., Prodr. : 111 (1788) = **Hebeclinium macrophyllum** (L.) DC.
- Eupatorium montevidense* Spreng., Syst. Veg., ed. 16, 3: 417 (1826) = **Baccharis coridifolia** DC. ssp. **coridifolia**
- **Eupatorium morifolium* Mill., Gard. Dict. Ed. 8, Eupatorium n. 10 (1768) = **Critonia morifolia** (Mill.) R. M. King & H. Rob.
- Eupatorium nemorense* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. = **Lorentzianthus viscidus** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium nemorense* Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 304 (1876), nom. nud. = **Lorentzianthus viscidus** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium neurophyllum* Mart. ex Baker in Mart., Fl. Bras. 6(2): 321 (1876), nom. nud. pro syn. = **Raulinoreitzia crenulata** (Spreng.) R. M. King & H. Rob.
- Eupatorium oblongifolium* (Spreng.) Baker subvar. *hirsutum* Chodat, Bull. Herb. Boissier, sér. 2, 3(8): 708 (1903) = **Gyptis lanigera** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium obovatum* Willd. ex Baker in Mart., Fl. Bras. 6(2): 100 (1873), nom. nud. pro syn. = **Vernonia brasiliiana** (L.) Druce
- Eupatorium obscurum* DC., Prodr. 5: 142 (1836) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- Eupatorium odoratum* L. var. *pauciflorum* (Baker) Hieron., Bot. Jahrb. Syst. 28(5): 564 (1901) = **Chromolaena odorata** (L.) R. M. King & H. Rob.

- Eupatorium origanoides* Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl 1: 257 (1843), nom. illegit. non Kunth (1818) (= *Cronquistianthus origanoides* (Kunth) R. M. King & H. Rob.) = **Ophryosporus heptanthus** (Sch.Bip. ex Wedd.) R. M. King & H. Rob.
- Eupatorium oxychlaenum* DC., Prodr. 5: 162 (1836) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
- Eupatorium oxychlaenum* DC. f. *hasslerianum* (Chodat) Hassl., Repert. Spec. Nov. Regni Veg. 11: 175 (1912) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
- Eupatorium oxylepis* DC., Prodr. 5: 145 (1836) = **Chromolaena oxylepis** (DC.) R. M. King & H. Rob.
- Eupatorium oyadense* Hieron., Bot. Jahrb. Syst. 22(4-5): 755 (1897) = **Chromolaena squarrosoramosa** (Hieron.) R. M. King & H. Rob.
- Eupatorium oyadense* Hieron. var. *paraguayense* Hieron., Bot. Jahrb. Syst. 22(4-5): 756 (1897) = **Chromolaena squarrosoramosa** (Hieron.) R. M. King & H. Rob.
- Eupatorium pallescens* DC., Prodr. 5: 154 (1836) = **Austroeupatorium inulifolium** (Kunth) R. M. King & H. Rob.
- Eupatorium pallescens* DC. [var.] β *hirsutum* DC., Prodr. 5: 154 (1836) = **Austroeupatorium inulifolium** (Kunth) R. M. King & H. Rob.
- Eupatorium pallidum* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 241 (1836) = **Austroeupatorium inulifolium** (Kunth) R. M. King & H. Rob.
- Eupatorium palustre* (DC.) Baker in Mart., Fl. Bras. 6(2): 363 (1876) = **Barrosoa betoniciformis** (DC.) R. M. King & H. Rob.
- Eupatorium palustre* (DC.) Baker var. *guaraniticum* Chodat, Bull. Herb. Boissier, sér. 2, 3(8): 710 (1903), nom. illegit = **Barrosoa candolleana** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium palustre* (DC.) Baker var. *verbenaceum* Chodat, Bull. Herb. Boissier, sér. 2, 1(4): 412 (1901) = **Barrosoa candolleana** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium paniculatum* Schrad., Ind. Sem. Hort. Acad. Goett. : 2 (1832), nom. illegit., non Mill. (1768)(= *Brickellia paniculata* (Mill.) B. L. Rob.), nec Lindley ex DC. (1836) (= *Vernonia paniculata* DC.) = **Fleischmannia microstemon** (Cass.) R. M. King & H. Rob.
- Eupatorium paranaense* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 241 (1836) = **Austroeupatorium inulifolium** (Kunth) R. M. King & H. Rob.
- Eupatorium parviflorum* Aubl., Hist. Pl. Guiane 2: 797 (1775) = **Mikania parviflora** (Aubl.) H. Karst.
- Eupatorium patagonicum* Klatt, Abh. Naturf. Ges. Halle 15: 324 (1881) = **Austrobrickellia patens** (D. Don ex Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium patens* D. Don ex Hook. & Arn., Companion Bot. Mag. 1(No. 8): 242 (1836) = **Austrobrickellia patens** (D. Don ex Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium patens* D. Don ex Hook. & Arn. var. *gracilior* Lorentz, Informe Exped. Rio Negro 2, Bot. : 227 (1883) = **Austrobrickellia patens** (D. Don ex Hook. & Arn.) R. M. King & H. Rob.
- **Eupatorium patens* D. Don ex Hook. & Arn. var. *rhodolaenum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 170 (1879) = **Austrobrickellia patens** (D. Don ex Hook. & Arn.) R. M. King & H. Rob.
- **Eupatorium patens* D. Don ex Hook. & Arn. var. *tomentosum* Hieron., Bot. Jahrb. Syst. 22(4-5): 773 (1897) = **Austrobrickellia patens** (D. Don ex Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium patens* Phil., Anales Univ. Chile 36: 178 (1870), nom. illegit. = **Austroeupatorium patens** (D. Don ex Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium paucidentatum* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866) = **Chromolaena connivens** (Rusby) R. M. King & H. Rob.
- Eupatorium pentanthum* Sch.Bip., Linnaea 22(5): 572 (1849), nom. nud. = **Raulinoreitzia crenulata** (Spreng.) R. M. King & H. Rob.
- **Eupatorium pentlandianum* DC., Prodr. 5: 157 (1836) = **Ageratina pentlandiana** (DC.) R. M. King & H. Rob.
- Eupatorium phlogifolium* DC., Prodr. 5: 147 (1836) = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.
- **Eupatorium phyllocephalum* Klatt, Ann. K. K. Naturhist. Hofmus. 9: 358 (1894) = **Chromolaena** sp.
- Eupatorium piauhyense* Gardner, London J. Bot. 5: 472 (1846) = **Raulinoreitzia crenulata** (Spreng.) R. M. King & H. Rob.
- Eupatorium pinnatifidum* DC., Prodr. 5: 149 (1836) = **Acanthostyles buniifolius** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium pinnatifidum* DC. var. β *virgatum* (D. Don ex Hook. & Arn.) Baker in Mart., Fl. Bras. 6(2): 321 (1876) = **Acanthostyles buniifolius** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium piptopappum* Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 259, p.p.) = ? (ignota, according to King & Robinson (1987)).

- Eupatorium piquerioides* DC., Prodr. 5: 175 (1836) = **Ophryosporus piquerioides** (DC.) Benth. ex Baker
 Eupatorium polopolense* B. L. Rob., Contr. Gray Herb. 61: 10 (1920) = **Fleischmannia polopolensis (B. L. Rob.) R. M. King & H. Rob.
- Eupatorium polyanthum* Sch.Bip. ex Baker in Mart. Fl. Bras. 6(2): 285 (1876) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
- Eupatorium populifolium* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 87 (1818) = **Critonia morifolia** (Mill.) R. M. King & H. Rob.
- Eupatorium populifolium* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 242 (1836), non Kunth (1818) = **Urolepis hecatantha** (DC.) R. M. King & H. Rob.
- Eupatorium populifolium* Mart., Flora 20, 2 Beibl. : 105 (1837), nom. illegit., non Kunth (1818) (= **Critonia morifolia** (Mill.) R. M. King & H. Rob.), nec Hook. & Arn. (1836) (= **Urolepis hecatantha** (DC.) R. M. King & H. Rob.) = **Hebeclinium macrophyllum** (L.) DC.
- **Eupatorium porophylloides* B. L. Rob., Contr. Gray Herb. 68: 29 (1923) = **Chromolaena porophylloides** (B. L. Rob.) R. M. King & H. Rob.
- Eupatorium poterioides* Sch.Bip., Linnaea 30: 182 (1858/1860), nom. nud. = **Sphaereupatorium scandens** (Gardner) R. M. King & H. Rob.
- Eupatorium prasiifolium* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 171 (March-April 1879); Symb. Fl. Argent.: 171 (1879), non (DC.) Griseb. (1874) (= *Conocliniospsis prasiifolia* (DC.) R. M. King & H. Rob.) = **Fleischmannia prasiifolium** R. M. King & H. Rob., Phytologia 19(1): 205 (1970).
- Eupatorium prasiifolium* Griseb. var. *glanduliferum* R. E. Fr., Nova Acta Regiae Soc. Sci. Upsal., ser. 4, 1(1): 76 (1905) = **Ageratina azangaroensis** (Wedd.) R. M. King & H. Rob.
- Eupatorium psiadiifolium* DC., Prodr. 5: 144 (1836) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
- Eupatorium psiadiifolium* DC. var. β *latifolium* DC., Prodr. 5: 145 (1836) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
- **Eupatorium pteropodium* Hieron., Bot. Jahrb. Syst. 29(1): 15 (1900) = **Polyanthina nemorosa** (Klatt) R. M. King & H. Rob.
- Eupatorium pulchrum* Gardner, London J. Bot. 6: 444 (1847), nom. superfl. pro *Chromolaena alternifolia* Gardner = **Chromolaena stachyophylla** (Spreng.) R. M. King & H. Rob.
- **Eupatorium pycnocephalum* Less., Linnaea 6(3): 404 (1831) = **Fleischmannia pycnocephala** (Less.) R. M. King & H. Rob.
- **Eupatorium pyramidale* Klatt, Abh. Naturf. Ges. Halle 15: 323 (1881) = **Ayapana stenolepis** (Steetz) R. M. King & H. Rob.
- **Eupatorium pyramidale* Klatt f. β *angustifolium* (Hieron.) B. L. Rob., Contr. Gray Herb. 61: 67 (1920) = **Ayapana stenolepis** (Steetz) R. M. King & H. Rob.
- Eupatorium ramosissimum* Gardner, London J. Bot. 6: 441 (1847) = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- Eupatorium resinosum* Poepp., Nov. Gen. Sp. 3: 54 (1845) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
- Eupatorium revolutum* Pohl ex Baker in Mart., Fl. Bras. 6(2): 314 (1876), nom. nud. pro syn. = **Ayapana stenolepis** (Steetz) R. M. King & H. Rob.
- Eupatorium rhodanthum* Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 314 (1876), nom. nud. pro syn. = **Ayapana stenolepis** (Steetz) R. M. King & H. Rob.
- Eupatorium rufescens* Lund ex DC., Prodr. 5: 168 (1836) = **Kaunia rufescens** (Lund ex DC.) R. M. King & H. Rob.
- Eupatorium rufescens* Lund ex DC. var. *glabratum* Hieron. ex Kuntze, Revis. Gen. Pl. 3(3): 148 (1898), nom. nud. = **Kaunia rufescens** (Lund ex DC.) R. M. King & H. Rob.
- **Eupatorium rufescens* Lund ex DC. var. *glabratum* Hieron. ex B. L. Rob., Contr. Gray Herb. 61: 67 (1920) = **Kaunia rufescens** (Lund ex DC.) R. M. King & H. Rob.
- **Eupatorium rusbyi* Britton, Bull. Torrey Bot. Club 18: 334 (1891) = **Polyanthina nemerosa** (Klatt) R. M. King & H. Rob.
- Eupatorium saltense* Hieron., Bot. Jahrb. Syst. 22(4-5): 786 (1897) = **Kaunia saltensis** (Hieron.) R. M. King & H. Rob.
- Eupatorium salzmannianum* DC., Prodr. 5: 159 (1836) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
- **Eupatorium santacruzense* Hieron., Bot. Jahrb. Sys. 22(4-5): 762 (1897) = **Lorentzianthus viscidus** (Hook. & Arn.) R. M. King & H. Rob.

- Eupatorium sartorii* Sch.Bip. ex Klatt, Leopoldina 20: 91 (1884), nom. nud. pro syn. = **Critonia morifolia** (Mill.) R. M. King & H. Rob.
- Eupatorium saucechicoense* Hieron., Bot. Jahrb. Syst. 22(4-5): 775 (1897) = **Acanthostyles buniifolius** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium scaberrimum* Walp., Linnaea 14: 505 (1840) = **Chromolaena stachyophylla** (Spreng.) R. M. King & H. Rob.
- Eupatorium schickendantzii* Hieron., Bot. Jahrb. Syst. 22(4-5): 769 (1897) = **Fleischmannia schickendantzii** (Hieron.) R. M. King & H. Rob.
- **Eupatorium scopulorum* Wedd., Chloris Andina 1: 216 (1857) = **Ageratina scopulorum** (Wedd.) R. M. King & H. Rob.
- Eupatorium sieberianum* DC., Prodr. 5: 181 (1836) = **Condylidium iresinoides** (Kunth) R. M. King & H. Rob.
- **Eupatorium simillimum* B. L. Rob., Contr. Gray Herb. 77: 38 (1926) = **Koanophyllon simillima** (B. L. Rob.) R. M. King & H. Rob.
- Eupatorium sitiense* Hieron., Bot. Jahrb. Syst. 22(4-5): 751 (1897) = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- **Eupatorium solidaginoides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 99 (1818) = **Koanophyllon soldagionoides** (Kunth) R. M. King & H. Rob.
- Eupatorium sonderi* Sch.Bip., Linnaea 30: 182 (1859/60), nom. nud. = **Campovassouria cruciata** (Vell.) R. M. King & H. Rob.
- Eupatorium soratae* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. = **Fleischmannia soratae** (Sch.Bip. ex B. L. Rob.) R. M. King & H. Rob.
- Eupatorium soratae* Sch.Bip. ex B. L. Rob., Contr. Gray Herb. 61: 51 (1920) = **Fleischmannia soratae** (Sch.Bip. ex B. L. Rob.) R. M. King & H. Rob.
- **Eupatorium sordescens* DC. var. *bolivianum* Rusby, Mem. Torrey Bot. Club 6(1): 56 (1896) = prob. refers to **Dasycondylus lobbii** (Klatt) R. M. King & H. Rob. rather than **D. resinus**
- Eupatorium sphaerocephalum* Sch.Bip., Linnaea 30: 182 (1859/1860), nom. nud. = **Sphaereupatorium scandens** (Gardner) R. M. King & H. Rob.
- Eupatorium sphaerocephalum* Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 317 (1876), nom. nov. pro *Conoclinium scandens* Gardner = **Sphaereupatorium scandens** (Gardner) R. M. King & H. Rob.
- Eupatorium squalidum* DC., Prodr. 5: 142 (1836). Type: Brazil, Minas Gerais, 'ad Mariannum'. Vauthier 279. (G-DC, fiche K!) = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- Eupatorium squalidum* DC. var. β *caleoides* Baker in Mart., Fl. Bras. 6(2): 282 (1876) = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- **Eupatorium squalidum* DC. var. *rusbyanum* B. L. Rob., Proc. Amer. Acad. Arts 55: 34 (1919) = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- Eupatorium squalidum* DC. var. δ *subvelutina* (DC.) Baker in Mart., Fl. Bras. 6(2): 282 (1876) = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- Eupatorium squalidum* DC. var. γ *tomentosum* Baker in Mart., Fl. Bras. 6(2): 282 (1876) = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- **Eupatorium squarrosoramosum* Hieron., Bot. Jahrb. Syst. 22(4-5): 753 (1897) = **Chromolaena squarrosoramosum** (Hieron.) R. M. King & H. Rob.
- **Eupatorium stachyophyllum* Spreng., Syst. Veg., ed. 16, 3: 420 (1826) = **Chromolaena stachyophylla** (Spreng.) R. M. King & H. Rob.
- Eupatorium stenolepis* Steetz in Seem., Bot. Voy. Herald : 148 (1854) = **Ayapana stenolepis** (Steetz) R. M. King & H. Rob.
- **Eupatorium sternbergianum* DC., Prodr. 5: 167 (1836) = **Ageratina sternbergiana** (DC.) R. M. King & H. Rob.
- **Eupatorium steviifolium* DC., Prodr. 5: 158 (1836) = **Hatschbachiella tweediana** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium steviifolium* DC. var. γ *erigeroides* (DC.) Baker in Mart., Fl. Bras. 6(2): 319 (1876) = **Hatschbachiella tweediana** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium steviifolium* DC. var. *viscosum* Chodat, Bull. Herb. Boissier, ser. 2, 3(8): 709 (1903) = **Hatschbachiella tweediana** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium stigmatosum* Chodat, Bull. Herb. Boissier, sér. 2, 1(4): 413 (1901) = **Campuloclinium macrocephalum** (Less.) DC.
- Eupatorium stigmatosum* Chodat var. *subcalvatum* Chodat, Bull. Herb. Boissier, sér. 2, 2(8): 709 (1903) = **Campuloclinium macrocephalum** (Less.) DC.

- Eupatorium stigmatosum* Chodat var. *violaceum* Chodat, Bull. Herb. Boissier, sér. 2, 2(8): 709 (1903) = **Campuloclinium macrocephalum** (Less.) DC.
- **Eupatorium stipuliferum* Rusby, Mem. Torrey Bot. Club 4(3): 210 (1895) = **Koanophyllon stipulifera** (Rusby) R. M. King & H. Rob.
- Eupatorium stramineum* DC., Prodr. 5: 150 (1836) = **Helogyne straminea** (DC.) B. L. Rob.
- Eupatorium suaveolens* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 86 (1818) = **Austroeupatorium inulifolium** (Kunth) R. M. King & H. Rob.
- Eupatorium subalternifolium* DC., Prodr. 5: 152 (1836) = **Chromolaena stachyophylla** (Spreng.) R. M. King & H. Rob.
- Eupatorium subobtusum* DC., Prodr. 5: 161 (1836) = **Ayapana amygdalina** (Lam.) R. M. King & H. Rob.
- **Eupatorium subscandens* Hieron., Bot. Jahrb. Syst. 22(4-5): 742 (1897) = **Chromolaena subscandens** (Hieron.) R. M. King & H. Rob.
- Eupatorium subtriplinerve* Sch.Bip., Linnaea 30: 182 (1859/60), nom. nud. = **Kaunia rufescens** (Lund ex DC.) R. M. King & H. Rob.
- Eupatorium subvelutinum* DC., Prodr. 7: 268 (1838) = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- Eupatorium tacaquirense* (Hieron.) B. L. Rob., Contr. Gray Herb. 90: 31 (1930) = **Helogyne tacaquirensis** Hieron.
- **Eupatorium tamboense* Hieron., Bot. Jahrb. Syst. 22(4-5): 770 (1897) = **Fleischmannia tamboensis** (Hieron.) R. M. King & H. Rob.
- Eupatorium tetranthum* Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 337 (1876), nom. nud. pro syn. = **Stomatanthes dentatus** (Gardner) H. Rob.
- **Eupatorium thymifolium* Britton, Bull. Torrey Bot. Club 19: 1 (1892) = **Neocuatrecasia thymifolia** (Britton) R. M. King & H. Rob.
- **Eupatorium toldense* Hieron., Bot. Jahrb. Syst. 40(3): 378 (1908) = **Chromolaena toldensis** (Hieron.) R. M. King & H. Rob.
- Eupatorium trichotomum* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 258), non Sch.Bip. ex Baker (1876) (= **Heterocondylus alatus** (Vell.) R. M. King & H. Rob.) = **Ageratina gloeoclada** (B. L. Rob.) R. M. King & H. Rob.
- Eupatorium trigonum* Gardner, London J. Bot. 6: 446 (1847) = **Stomatanthes trigonus** (Gardner) B. L. Rob.
- **Eupatorium triosteifolium* Rusby, Bull. New York Bot. Gard. 4(14): 379 (1907) = **Ayapanopsis triosteifolia** (Rusby) R. M. King & H. Rob.
- **Eupatorium tucumanense* Lillo & B. L. Rob., Contr. Gray Herb. 90: 32 (1930) = **Ayapanopsis tucumanensis** (Lillo & B. L. Rob.) R. M. King & H. Rob. Note: Foster (1958: 210) recorded this species as present in Bolivia, although King & Robinson (1987) only recorded this species from Argentina.
- **Eupatorium tunariense* Hieron., Contr. Gray Herb. 61: 39 (1920) = **Chromolaena tunariensis** (Hieron.) R. M. King & H. Rob.
- Eupatorium tweedeanum* Hook. & Arn., Companion Bot. Mag. 1(No. 8): 242 (1835) = **Hatschbachiella tweediana** (Hook. & Arn.) R. M. King & H. Rob.
- Eupatorium uber* B. L. Rob., Contr. Gray Herb. 60: 37 (1919) = **Kaunia uber** (B. L. Rob.) R. M. King & H. Rob.
- Eupatorium urticifolium* L.f., Suppl. Pl. : 354 (1781), nom. illegit. non Reichard (1780) = **Praxelis clematidea** R. M. King & H. Rob.
- Eupatorium urticifolium* L.f. var. *clematideum* (Griseb.) Hieron. ex Kuntze, Revis. Gen. Pl. 3(3): 148 (1898) = **Praxelis clematidea** R. M. King & H. Rob.
- Eupatorium urticifolium* L.f. var. *nanum* [as *nana*] Hieron., Bot. Jahrb. Syst. 22(4-5): 783 (1897) = **Praxelis clematidea** R. M. King & H. Rob.
- Eupatorium urticifolium* Banks ex Griseb., Fl. Brit. W. I. : 362 (1861), nom. nud. pro syn. = **Fleischmannia microstemon** (Cass.) R. M. King & H. Rob.
- Eupatorium valverdianum* Klatt, Bull. Soc. Royale Bot. Belge 31(2): 188 (1892) = **Neurolaena lobata** (L.) R.Br. ex Cass.
- Eupatorium venosissimum* Rusby, Mem. Torrey Bot. Club 6(1): 57 (1896) = **Ophryosporus venosissimus** B. L. Rob.
- Eupatorium venosum* Mart. ex Baker in Mart., Fl. Bras. 6(2): 281 (1876), nom. nud. pro syn. = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- Eupatorium vernoniopsis* Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 334 (1876) = **Gyptis lanigera** (Hook. & Arn.) R.M. King & H. Rob.
- Eupatorium vincifolium* Lam., Encycl. 2: 410 (1786), nom. nov. pro *E. parviflorum* Aubl.

Eupatorium virgatum D. Don ex Hook. & Arn., Companion Bot. Mag. 1(No. 8): 240 (1836) = **Acanthostyles buniifolius** (Hook. & Arn.) R. M. King & H. Rob.
Eupatorium viscidum Hook. & Arn., Companion Bot. Mag. 1(No. 8): 241 (1836) = **Lorentzianthus viscidus** (Hook. & Arn.) R. M. King & H. Rob.
Eupatorium viscidum Hook. & Arn. var. *protractum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19: 167; Pl. Lorentz.: 120 (1874) = **Lorentzianthus viscidus** (Hook. & Arn.) R. M. King & H. Rob.
Eupatorium vitalbae* DC., Prodr. 5: 163 (1836) = **Heterocondylus vitalbae (DC.) R. M. King & H. Rob.
Eupatorium vitalbae DC. var. *serratifolium* Chodat, Bull. Herb. Boissier, ser. 2, 2(3): 306 (1902) = **Heterocondylus vitalbae** (DC.) R. M. King & H. Rob.
Eupatorium wagneri Hieron., Bot. Jahrb. Syst. 40(3): 375 (1908) = **Condylidium iresinoides** (Kunth) R. M. King & H. Rob.
Eupatorium xylophyloides DC., Prodr. 5: 149 (1836) = **Raulinoreitzia crenulata** (Spreng.) R. M. King & H. Rob.
Eupatorium yungasense* B. L. Rob., Contr. Gray Herb. 104: 30 (1934) = **Fleischmannia yungasensis (B. L. Rob.) R. M. King & H. Rob.

Euthrixia D. Don, Trans. Linn. Soc. Bot., ser. 2, 16(2): 257 (1830) = **Chaetanthera** Ruiz & Pav.

Euxenia Cham. in/ex Nees, Hort. Phys. Berol. 75. t. 16 (1820) = *Podanthus* Lag.

?*Euxenia radiata* Nees & Mart., Nova Acta Acad. Caes. Leop. Carol. German. Nat. Cur. 12: 7 (1824) = **Tilesia baccata** (L.) Pruski

Eyrea F. Muell., Linnaea 25: 403 (1852) = **Pluchea** Cass.

Eyselia Reichb., Icon. Bot. Exot. 242, pl. 242 (1830) = **Egletes** Cass.

F

Fabera Sch.Bip., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 21: 129 (1845) = **Hypochoeris** L.

Facelis Cass., Bull. Sci. Soc. Philom. Paris 1819: 94 (1819).

Type: *Facelis apiculata* Cass., nom. illegit., nom. superfl., citing *Gnaphalium retusum* Lam. [= **Facelis retusa** (Lam.) Sch.Bip.]

References

Beauverd, G. (1913). Contribution à l'étude des Composées (suite VIII). III. Le genre *Facelis* Cassini (emend. Beauverd). Bull. Soc. Bot. Genève, sér. 2, 5(5): 212–220.

Dillon, M. O. & A. Sagástegui-Alva. (1991). *Facelis*. In: J. F. Macbride & collab., Flora of Peru, Family Asteraceae: Part V. Fieldiana, Bot. n.s. 26 (1422): 24–27.

Key to species

- | | | |
|----|---|----------------------|
| 1. | Stems simple, erect | <i>F. lasiocarpa</i> |
| | Stems usually much-branched from base, ascending or decumbent | 2 |
| 2. | Leaves oblanceolate, apices truncate or retuse | <i>F. retusa</i> |
| | Leaves linear, apices attenuate and mucronate | <i>F. plumosa</i> |

Facelis apiculata Cass., Bull. Sci. Soc. Philom. Paris 1819: 94 (1819) = **Facelis retusa** (Lam.) Sch.Bip.

Facelis capillaris* Rusby, Mem. Torrey Bot. Club 6(1): 62 (1896) = **Facelis lasiocarpa (Griseb.) Cabrera

Facelis lasiocarpa (Griseb.) Cabrera, Physis 10: 280 (1931).

**Filago lasiocarpa* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 180 (1874); Pl. Lorentz.: 132 (1874). Type: [Argentina] 'Tucuman, pr. Cienega.' Holotype: Lorentz 123, GOET.

**Facelis capillaris* Rusby, Mem. Torrey Bot. Club 6(1): 62 (1896). Type: [Bolivia:] 'Vic. Cochabamba, 1891 ([Bang] 1144).' Holotype: NY (00169302); isotypes: K (00484030), NY (00169303), US (01402772), Z (000003392).

**Facelis schultziana* Beauverd, Bull. Soc. Bot. Genève, ser. 2, 5(5): 219 (1913). Type: 'Hab. – BOLIVIA. Prov. Larecaja, viciniis Sorata, clivosis collis Catarguata, in dumosis, alt. 2700 m. (leg. G. Mandon, Plantae Andium Bolivienis No 177, in herb. Boissier!).' Holotype: G; isotype: K (000500381).

Lucilia erecta Benoist, Bull. Soc. Bot. France 83: 806 (1936). Type: 'Equateur: pentes occidentales du Pichincha, le long d'un chemin, ver Tablahuasi, 21 mai 1931 (Benoist n° 4342).' Holotype: P.

Argentina, Bolivia (Chuquisaca, Cochabamba), Ecuador, Peru.

Rocky slopes, Puna.

1500–4000 m.

January–April.

Chuquisaca: Wood 9766 (K).

Facelis plumosa (Wedd.) Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865). Note: *Index Kewensis* gave 'Sch.Bip., Linnaea 34(5): 532 (1865–66), nomen', apparently overlooking the valid combination made there.

Lucilia plumosa Wedd., Chloris Andina 1: 155 (1856). Type: 'Hab. PÉROU: Cordillères, entre Puno et Arequipal, h. 4000 mètres (Wedd.).' Holotype: P.

**Facelis weddelliana* Beauverd, Bull. Soc. Bot. Genève (ser. 2) 5(5): 217 (1913), nom. superfl. Note: Originally provided as a nom. nov. pro *Lucilia plumosa* Wedd. when transferred to *Facelis*, on the mistaken thinking that there were both '*Facelis plumosa* Benth. et Hook., Gen. Plant. II: 304 (1873)' and of 'Schultz Bip. (1866)'. In fact no valid combination had ever been provided under *Facelis plumosa* by Bentham & Hooker f., and Beauverd had overlooked the valid combination made earlier by Schultz Bipontinus, regardless of the fact that it was assigned to material of another species. Beauverd noted that *Mandon* 166 fitted Weddell's description.]

Argentina, Bolivia (La Paz), Peru.

Puna.
2500–4500 m.
February–March.

Facelis retusa (Lam.) Sch.Bip., *Linnaea* 34(5): 532 (Feb. 1866).

Gnaphalium retusum Lam., *Encycl.* 2: 758 (1788). Type(s?): 'Commerson a trouvé cette espèce à Buenos-Ayres & au Monte-Video. ✎ *(v.s.)'. Holotype: P-LA (324/17).

Facelis apiculata Cass., *Bull. Sci. Soc. Philom. Paris* 1819: 94 (1819), nom. illegit. pro *Gnaphalium retusum* Lam.

Helichrysum retusum (Lam.) Spreng., *Syst. Veg.*, ed. 16, 3: 484 (1826).

Leptalea apiculata (Cass.) D. Don ex Hook. & Arn., *Companion Bot. Mag.* 1(No. 4): 102 (1835).

Pteropogon chilense Fisch. & Meyer, *Ind. Sem. Hort. Petrop.* 6: 14 (1839), nom. nud.

Pteropogon andicola Nees, *Linnaea* 16: 223 (1842). Type: 'Pt. andicola N. ab E. in Ind. Sem. horti Vratisl. 1841. ... Hab. in Andibus Chilensibus, unde semia miss sunt. †. Fl. Aestate.' Holotype: ?WRSL.

Facelis retusa (Lam.) Sch.Bip. var. *chilensis* (Fisch. & Meyer) Baker in Mart., *Fl. Bras.* 63: 119 (1882).

Facelis retusa (Lam.) Sch.Bip. var. *andicola* (Nees) Beauverd, *Bull. Soc. Bot. Genève* 5(2): 214 (1913).

Facelis retusa (Lam.) Sch.Bip. var. *andicola* (Nees) Beauverd f. *gigantea* Beauverd, *Bull. Soc. Bot. Genève* 5(2): 214 (1913). Type: not cited.

Facelis retusa (Lam.) Sch.Bip. var. *andicola* (Nees) Beauverd f. *nana* Beauverd, *Bull. Soc. Bot. Genève* 5(2): 214 (1913). Type: not cited.

Facelis retusa (Lam.) Sch.Bip. var. *candelabrum* Beauverd, *Bull. Soc. Bot. Genève* 5(2): 214, Fig. IV, 13 (1913).

Type: 'Hab. — URUGUAY: environ de Montevideo (*Berro* N° 3602, an. 1906!'. Note: Beauverd only cited this single specimen although at the same time describing the following two forms.

Facelis retusa (Lam.) Sch.Bip. var. *candelabrum* Beauverd f. *laxa* Beauverd, *Bull. Soc. Bot. Genève* 5(2): 215 (1913). Type: not cited.

Facelis retusa (Lam.) Sch.Bip. var. *candelabrum* Beauverd f. *congesta* Beauverd, *Bull. Soc. Bot. Genève* 5(2): 215 (1913). Type: not cited.

Facelis retusa (Lam.) Sch.Bip. ssp. *patula* Beauverd var. *patula* Beauverd, *Bull. Soc. Bot. Genève* 5(2): 216 (1913).

Types: 'Hab. — RÉPUBLIQUE ARGENTINE: région andine de la province de San Luis et environs de Cordoba, — Estancia San Teodoro, Rio I, Cordoba, oct.-déc. (*Stuckert* N°s 9561, 9561bis, 13370bis, 13426, ... 13599 cum f. *nana!*); Rio IV, Cordoba. déc. 1909 (*Stuckert* N° 19402, cum f. *nana!*) Pampa de San Luis, Achala (*Stuckert* N° 20928, cum f. *nana!*); ...'

Facelis retusa (Lam.) Sch.Bip. ssp. *patula* Beauverd var. *patula* Beauverd f. *planifolia* Beauverd, *Bull. Soc. Bot. Genève* 5(2): 216 (1913). Types: '... : Cueva, Sierra Achala, 4 déc. 1901 (*Stuckert* N° 10350); Villa Garcia, Tanti, 16 déc. 1909 (*Stuckert* N°s 20458 et 20522).'

Facelis retusa (Lam.) Sch.Bip. ssp. *patula* Beauverd var. *patula* Beauverd f. *nana* Beauverd, *Bull. Soc. Bot. Genève* 5(2): 216 (1913). Types: '... : Prov. San Luis, à 3000 m., 1 déc. 1898 (*Stuckert* N° 5225); Sierra de

Cordoba, oct. 1899 (*Stuckert* N° 7216); ...', together with the mixed collections amongst those of var. *patula*.

Argentina, ?Bolivia (?), Brazil, Chile, Paraguay, Uruguay. Introduced into South Africa, Australia and North America. Not recorded for Bolivia in Freire (1995: 18; 1998: 26) nor Freire & Nieva (1998: 26); its presence in Bolivia needs to be confirmed.

Amongst rock outcrops, humid rock crevices/cracks, modified soils, sandy soils.

0–1000 m.

(July–) September–November.

Note: I am unsure where Beauverd saw Stuckert's collections. There are apparently no duplicates in G; CORD seems most likely. However, *Stuckert* 7216 is recorded (in TROPICOS) as *Ambrosia tenuifolia* Spreng. so some further research is clearly needed.

Facelis retusa (Lam.) Sch.Bip. var. *andicola* (Nees) Beauverd, *Bull. Soc. Bot. Genève* 5(2): 214 (1913) = **Facelis retusa** (Lam.) Sch.Bip.

Facelis retusa (Lam.) Sch.Bip. var. *andicola* (Nees) Beauverd f. *gigantea* Beauverd, *Bull. Soc. Bot. Genève* 5(2): 214 (1913) = **Facelis retusa** (Lam.) Sch.Bip.

Facelis retusa (Lam.) Sch.Bip. var. *andicola* (Nees) Beauverd f. *nana* Beauverd, *Bull. Soc. Bot. Genève* 5(2): 214 (1913) = **Facelis retusa** (Lam.) Sch.Bip.

Facelis retusa (Lam.) Sch.Bip. var. *candelabrum* Beauverd, *Bull. Soc. Bot. Genève* 5(2): 214, Fig. IV, 13 (1913) = **Facelis retusa** (Lam.) Sch.Bip.

Facelis retusa (Lam.) Sch.Bip. var. *candelabrum* Beauverd f. *congesta* Beauverd, Bull. Soc. Bot. Genève 5(2): 215 (1913) = **Facelis retusa** (Lam.) Sch.Bip.
Facelis retusa (Lam.) Sch.Bip. var. *candelabrum* Beauverd f. *laxa* Beauverd, Bull. Soc. Bot. Genève 5(2): 215 (1913) = **Facelis retusa** (Lam.) Sch.Bip.
Facelis retusa (Lam.) Sch.Bip. var. *chilensis* (Fisch. & Meyer) Baker in Mart., Fl. Bras. 63): 119 (1882) = **Facelis retusa** (Lam.) Sch.Bip.
Facelis retusa (Lam.) Sch.Bip. ssp. *patula* Beauverd var. *patula* Beauverd, Bull. Soc. Bot. Genève 5(2): 216 (1913) = **Facelis retusa** (Lam.) Sch.Bip.
Facelis retusa (Lam.) Sch.Bip. ssp. *patula* Beauverd var. *patula* Beauverd f. *nana* Beauverd, Bull. Soc. Bot. Genève 5(2): 216 (1913) = **Facelis retusa** (Lam.) Sch.Bip.
Facelis retusa (Lam.) Sch.Bip. ssp. *patula* Beauverd var. *patula* Beauverd f. *planifolia* Beauverd, Bull. Soc. Bot. Genève 5(2): 216 (1913) = **Facelis retusa** (Lam.) Sch.Bip.
Facelis schultiziana* Beauverd, Bull. Soc. Bot. Genève, ser. 2, 5(5): 219 (1913) = **Facelis lasiocarpa (Griseb.) Cabrera
Facelis weddelliana* Beauverd, Bull. Soc. Bot. Genève (ser. 2) 5: 217 (1913) = **Facelis plumosa (Wedd.) Sch.Bip.

Filago L., Sp. Pl. : 927 (1753), nom. cons.

Filago lasiocarpa* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 180 (1874) = **Facelis lasiocarpa (Griseb.) Cabrera

Fimbrillaria Cass., Bull. Sci. Soc. Philom. Paris 1818: 30 (1818) = **Conyza** Less.

Fimbristima Raf., Fl. Tellur. 2: 46 (1836)[1837] = **Symphotrichum** Nees

Fingalia Schrank, Syll. Ratisb. 1: 87 (1824) = **Eleutheranthera** Poit. ex Bosc.

Fingalia hexagona Schrank, Sylloge Pl. Nov. 1: 87 (1824) = **Eleutheranthera ruderalis** (Sw.) Sch.Bip.

Flaveria Juss., Gen. Pl. : 186 (1789).

Vermifuga Ruiz & Pav., Prodr. Fl. Per. : 114 (1794). Type: *Vermifuga corymbosa* Ruiz & Pav. = **Flaveria bidentis** (L.) Kuntze

Brotera Spreng., J. Bot. (Schrad.) 1800: 184, pl. 5 (1801), non *Brotera* Cav. (1799). Type: *Brotera contrayerba* Spreng. = *Flaveria trinervia* (Spreng.) C. Mohr

Nauenbergia Willd., Sp. Pl. 3: 1489, 2393 (1803/4). Type: *Nauenbergia trinervata* Willd. (based on *Brotera contrayerba* Spreng.) = *Flaveria trinervia* (Spreng.) C. Mohr

Dilepis Suess. & Merxm., Mitt. Bot. Staatssamml. Munchen, Heft 1: 14 (1950). Type: *Dilepis dichotoma* Suess. & Merxm. = *Flaveria trinervia* (Spreng.) C. Mohr

Lectotype (selected by Johnston, 1903): *Flaveria chilensis* J. F. Gmel. = **Flaveria bidentis** (L.) Kuntze

References

Powell, A. M. (1978). Systematics of *Flaveria* (Flaveriinae-Asteraceae). Ann. Missouri Bot. Gard. 65: 590–636.

Robinson, H. (2006). *Flaveria*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6).

Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 167–171.

Flaveria bidentis (L.) Kuntze, Revis. Gen. Pl. 3(3): 148 (1898).

Ethulia bidentis L., Mant. Pl. : 110 (1767). Type: 'Habitat in India?' Lectotype (selected by Howard, Fl. Lesser Antilles 6: 566, 1989): Herb. Linn. No. 977.4 (LINN).

Eupatorium chilense Molina, Sagg. Stor. Nat. Chile : 142, 354 (1782/9). Type: ? [Original publication not seen.]

Flaveria chiloensis Juss., Gen. Pl. : 187 (1789). Type: '... (Milleria Chiloensis H. R. P.) capitalis, in Peruvianâ à *Dombeyo* datâ spicatis.' Holotype: ?P-JU.

Milleria chiloensis Juss., Gen. Pl. : 187 (1789), nom. nud. pro syn.

**Flaveria chilensis* J. F. Gmel., Syst. Nat., ed. 13, 2: 1269 (1791), based on *Flaveria chiloensis* Juss.

Milleria contrayerba Cav., Icon. 1: 2, pl. 4 (1791). Type: 'Habitat in Huanuco imperii Peruani. †. Vidi floridam in Regio hortu Matritensi a mense Septembri usque ad Decembrem.' Holotype: MA.

Vermifuga corymbosa Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 216 (1798), based on *Milleria contrayerba* Cav.

**Flaveria contrayerba* (Cav.) Pers., Syn. Pl. 2: 489 (1807).

Flaveria capitata Juss. ex Smith in Rees, Cycl. 14: *Flaveria* no. 1. (1810), nom. illegit. (incl. *Ethulia bidentis* L. in synonymy).

Flaveria bonariensis DC., Prodr. 5: 635 (1836). Type: '• circa Bonarium legit cl. Bacle [147]. Flores ign. (v.s.)'. Holotype: G-DC.

Flaveria contrayerba (Cav.) Pers. var. *latifolia* Phil., Anales Univ. Chile 36: 185 (1871). [Note: In a separately paginated reprint/preprint in K this appeared on p. 27.] Type: 'Mendoza.' NB. This was not listed by Pizarro (1960) in his list of Philippi collections.

Flaveria bidentis (L.) Kuntze [f.] β *angustifolia* Kuntze, Revis. Gen. Pl. 3(3): 148 (1898). Type: 'Argentina: Cordoba ([15 Mar 1878] *Galander* [s.n.]), westliche Pampas.'. Holotype: NY (00169353). Note: Kuntze actually used the word 'Form' not 'Varietäten'.

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija), Brazil, Chile, Ecuador, Paraguay, Peru, USA, West Indies (prob. intr.). Widespread as a weed in the Old World with scattered records throughout Africa.

Dry cultivated areas, roadsides, scrub, dry woodland, Prepuna.

50–2800 m.

Probably flowering throughout the year.

Chuquisaca: Wood et al. 20498 (K).

Cochabamba: Wood et al. 23100 (K).

Santa Cruz: Wood et al. 22093 (K, USZ).

Note: Material of '*Verbesina mandonii* Sch.Bip.', based on *Mandon* 58, is quite clearly *Flaveria bidentis*;

Verbesina mandonii Sch.Bip. ex B. L. Rob. & Greenm. appears to have been based on Schultz Bipontinus' name, without examining the material. Interestingly, Navarro (2002: 247) listed *Verbesina mandonii* as one of the associated companion species in 'Arbusteda xéricas prepuneñas' [Prepunean xeric shrublands], along with *Viguiera pazensis* and *Baccharis boliviensis*.

Vernacular names: BALDA, CHASCA, CGASCAYUYO, CONTRA HERVA, CONTRAHIERBA, CONTRAYERBA, DAUDA, DAUDÁ, FIQUE, FLORA AMARILLA, ILAVERIO, MATA GUSANOS, NACUNAN, ÑACUÑÁN, PIQUE, QUEJATULPINO, QUELOTARPO, SOLO, SUNCHILLO, TUNTUSA, VALDA (Freire et al., 2006); FIQUE (SAN JUAN, ARGENTINA), CONTRAYERBA (Petenatti & Ariza Espinar, 1997: 6).

Flaveria bidentis (L.) Kuntze [f.] β *angustifolia* Kuntze, Revis. Gen. Pl. 3(3): 148 (1898) = ***Flaveria bidentis*** (L.) Kuntze

Flaveria bonariensis DC., Prodr. 5: 635 (1836) = ***Flaveria bidentis*** (L.) Kuntze

Flaveria capitata Juss. ex Smith in Rees, Cycl. 14: *Flaveria* no. 1. (1810), nom. illegit. = ***Flaveria bidentis*** (L.) Kuntze

Flaveria chiloensis Juss., Gen. Pl. : 187 (1789) = ***Flaveria bidentis*** (L.) Kuntze

Flaveria chilensis* Gmel., Syst. 1269 (1791) = *Flaveria bidentis*** (L.) Kuntze

Flaveria contrayerba* (Cav.) Pers., Syn. Pl. 2: 489 (1807) = *Flaveria bidentis*** (L.) Kuntze

Flaveria contrayerba (Cav.) Pers. var. *latifolia* Phil., Anales Univ. Chile 36: 185 (1871). [Note: In a separately paginated reprint/preprint in K this appeared on p. 27.] = ***Flaveria bidentis*** (L.) Kuntze

Flaveria humillima Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); *Linnaea* 34(5): 529 (Feb. 1866), nom. nud. (based on Mandon 64) = ?

Flaveria trinervia (Spreng.) C. Mohr, Contr. U.S. Natl. Herb. 6: 810 (1901). Not recorded for Bolivia by Powell (1978) but material will need to be checked carefully since this species is present in both Ecuador and Brazil.

Fleischmannia Sch.Bip., Flora 33: 417 (1850).

Eupatorium L. sect. *Microstemon* Cabrera, Fl. Il. Catarinense. 4 tribo Eupatorieae : 591 (1991). Type: *Eupatorium microstemon* Cass. = ***Fleischmannia microstemon*** (Cass.) R. M. King & H. Rob.

Type: *Fleischmannia rhodostyla* Sch.Bip. = *Fleischmannia arguta* (Kunth) B. L. Rob.

Note: Foster (1958: 208) listed *Eupatorium fiebrigii* Hieron. for Bolivia. However, King & Robinson (1987) merely left the name unassigned to a species in *Fleischmannia* in their 'Nomenclator'.

Fleischmannia bridgesii (B. L. Rob.) R. M. King & H. Rob., *Phytologia* 19(4): 203 (1970).

**Eupatorium bridgesii* B. L. Rob., *Proc. Amer. Acad. Arts* 55: 7 (1919). Type: 'BOLIVIA: without locality, *Bridges* (K., phot. and fragm. Gr.)'. Holotype: K. Bolivia (?).

?**Fleischmannia marginata** (Poepp.) R. M. King & H. Rob., *Phytologia* 19(4): 204 (1970).

**Eupatorium marginatum* Poepp., *Nov. Gen. Sp. Pl.* 3: 54 (1845). Type: [Peru:] 'Crescit cum praecedente. Augusto floret.' q.v. *Eupatorium decemflorum* – 'Crescit in fruticetis ad Cassapi.'

?Bolivia (?), Peru. Note: Although listed by Foster (1958: 209) this species of *Fleischmannia* was only recorded for Peru by King & Robinson (1987: 288).

Disturbed areas, forest, riversides.

500–3000 m.

August.

Fleischmannia microstemon (Cass.) R. M. King & H. Rob., *Phytologia* 19(4): 204 (1970).

**Eupatorium microstemon* Cass., *Dict. Sci. Nat.* 25: 432 (1822). Type: 'Nous avons observé cette plante sur un individu vivant, cultivé au Jardin du Roi, où il étoit innomé, et où il fleurissoit en août. Nous ignorons son origine.' Holotype: probably in P.

Eupatorium guadalupense Spreng., *Syst. Veg.*, ed. 16, 3: 414 (1826). Type: 'Guadalupa. (E. violaceum Bertero.)' Holotype: P.

Mikania berteriana Spreng., *Syst. Veg.*, ed. 16, 3: 423 (1826). Type: 'Guadalupa. Bertero.' Holotype: P.

Eupatorium berterianum (Spreng.) Colla, *Mem. Reale Acc. Sci. Torino* 33: 110 (1829).

Eupatorium paniculatum Schrad., *Ind. Sem. Hort. Acad. Goett.* : 2 (1832), nom. illegit., non Mill. (1768)(=

Brickellia paniculata (Mill.) B. L. Rob.), nec Lindley ex DC. (1836) (= *Vernonia paniculata* DC.). Type: 'Specie ab hoc non diversum habeo *Eupatorium microstemi* nomine ex Horto Parisino praeced. anno missum.'

Holotype: GOET.

Eupatorium urticifolium Banks ex Griseb., *Fl. Brit. W. I.* : 362 (1861), nom. nud. pro syn.

Eupatorium bimatum Standley & L. O. Williams, *Ceiba* 3: 64 (1952). Type: 'HONDURAS: Dept. Morazán: El Zamorano, matorral húmedo, alt. 800 m., Oct. 18, 1949, Paul C. Standley 13132.' Holotype: F (1355070); isotype: 'Herb. Esc. Agr. Panam.' ≡ ?PMA

Ageratina bimatra (Standley & L. O. Williams) R. M. King & H. Rob., *Phytologia* 19: 212 (1970).

Central America, Bolivia (La Paz), Brazil, Colombia, Mexico, Peru, Venezuela, West Indies. Adventive in Africa.

Roadsides, pasture, disturbed forest, riverbanks.

0–2600 m.

August–October.

Fleischmannia polopolensis (B. L. Rob.) R. M. King & H. Rob., *Phytologia* 19(4): 205 (1970).

**Eupatorium polopolense* B. L. Rob., *Contr. Gray Herb.*, n.s. 61: 10 (1920). Types: 'BOLIVIA: Polo-Polo near Coroico, alt. 1100 m., *Buchtien* nos. 429 (Gr., N.Y.) and 3934 (N.Y.)'. Isosyntype (*Buchtien* 429): NY (00169166), US (01399176), Z (000003363). Syntypes (*Buchtien* 3934): NY (00169144, 00169167).

Bolivia (La Paz).

1100 m.

October–November.

Fleischmannia prasiifolia R. M. King & H. Rob., *Phytologia* 19(4): 205 (1970).

Eupatorium prasiifolium Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 171 (1879)[, non (DC.) Griseb. (1874) (= *Conocliniopsis prasiifolia* (DC.) R. M. King & H. Rob.)]. Types: 'C.: S. Achala. T. S.' There are a number of syntypes in GOET that correspond to the 'localities' mentioned in the protologue. In expanso the represents 'Prov. Cordoba und Santiago del Estero: Sierra Achala. Prov. Tucuman. Prov. Salta.' following Grisebach's explanation (1879: 4). The following collections correspond to these localities: 'La Cumbre u. Rodeo de los Caballos; Gebiet des Rio Tercero; Sierra Achala; Prov. de Córdoba. 24.III. 1876. G. Hieronymus 888', 'Cuesta de Periquillo; Sierra de Tucuman. 18. I. 1873. P. G. Lorentz & G. Hieronymus 1059', 'Yacone pr. Salta. III. [18]73. Lorentz & Hieronymus 322', 'Salta. Los Potreros, Nev. del Castillo. 24.3.1873. P. G. Lorentz & G. Hieronymus 153', 'Salta. Nevado del Castillo, Los Potreros. 20.3.1873. P. G. Lorentz & G. Hieronymus 154', and 'Haufig unter der Vegetation der Alpen Wiesen bei der Cienaga. 25–31. III. [18] 72. P. G. Lorentz 154'.

According to Ariza Espinar (1980: 551) there are full, or fragmentary duplicates of all excepting *Lorentz & Hieronymus* 322 in *CORD*; he refrained from lectotypifying Grisebach's name. *Lorentz* 154 in *GOET* is marked as 'Holotypus?' in pencil on the sheet, yet the syntype status of the other material is not alluded to. *Eupatorium argentinum* Ariza, *Darwiniana* 22(4): 551 (1980), nom. nov. pro *E. prasiifolium* Griseb. Argentina, Bolivia (?), Paraguay. February–May.

?*Fleischmannia pycnocephala* (Less.) R. M. King & H. Rob., *Phytologia* 19(4): 205 (1970).

**Eupatorium pycnocephalum* Less., *Linnaea* 6(3): 404 (1831). Type: [Mexico:] 'Papantla. Jan.' Holotype: B†. King & Robinson (1987: 289) recorded this species from Central America (Belize, El Salvador, Guatemala, Honduras, Mexico). Note: Foster (1958: 209) recorded *Eupatorium pycnocephalum* for Bolivia, based upon *Rusby* 1608 (noted by Robinson, 1920: 58) and *Herzog* 1769 following a determination by Koster (1945) for material from Samaipata (noting also this was recorded under the name of '*E. prasiifolium* (Beauverd) non Griseb.' in Herzog (1923)). It remains to be seen what *Rusby* 1608 and *Herzog* 1769 refer to today.

Fleischmannia schickendantzii (Hieron.) R. M. King & H. Rob., *Phytologia* 19(4): 205 (1970).

Eupatorium schickendantzii Hieron., *Bot. Jahrb. Syst.* 22(4–5): 769 (1897). Type: 'Catamarca: in der Quebrada (Schlucht) und auf der Cuesta de la Muschaea (SCHICKENDANTZ, Febr. 1876, n. 259).' Holotype: B†. Argentina, Bolivia (?). 700–1200 m. February–April.

Fleischmannia soratae (Sch.Bip. ex B. L. Rob.) R. M. King & H. Rob., *Phytologia* 19(4): 206 (1970).

Eupatorium soratae Sch.Bip., *Bull. Soc. Bot. France* 12: 81 (1865); *Linnaea* 34(5): 535 (Feb. 1866), nom. nud., based on *Mandon* 251.

**Eupatorium soratae* Sch.Bip. ex B. L. Rob., *Contr. Gray Herb.* 61: 51 (1920). Type : [Bolivia:] 'LA PAZ: Prov. Larecaja: in woods of the temperate region in the valley of Challasuya, near Sorata, alt. 2700–2800 m., 8 Apr., 1858, *Mandon*, no. 251'. Holotype: ?NY(00169196); isotype: P. Bolivia (La Paz). 2700–2800 m. March–April.

Fleischmannia tamboensis (Hieron.) R. M. King & H. Rob., *Phytologia* 19(4): 206 (1970).

**Eupatorium tamboense* Hieron., *Bot. Jahrb. Syst.*, 22(4–5): 770 (1897). Type: 'Bolivia: an der Cuesta del Tambo zwischen El Tambo und Narvaéz (*LOR.*, u. *HIERON.*, Juni 1873, n. 888).' Holotype: ?B. Bolivia (Cochabamba, La Paz). 900–2100 m. June.

Fleischmannia yungasensis (B. L. Rob.) R. M. King & H. Rob., *Phytologia* 19(4): 206 (1970).

**Eupatorium yungasense* B. L. Rob., *Contr. Gray Herb.* 104: 30 (1934). Type: 'BOLIVIA: Nor-Yungas; subtropical region, alt. 1300 m., Millugnaya, December, 1917, *Dr. Otto Buchtien*, no. 4407'. Holotype: GH (8060); isotypes: GH (8059, 8061), NY (00169266), US (01098810). Bolivia (La Paz). 1300 m. December. La Paz: Sirupaya near Yonacachi in Sur-Yungas, *Buchtien* 300 (paratype) [originally referred to '*E. tamboense*'].

Flotovia Spreng., *Syst. Veg.*, ed. 16, 3: 359 (1826) = ***Dasyphyllum*** Kunth

Flotovia armata (J. Koster) Tovar, *Publ. Mus. Hist. Nat. "Javier Prado"*, Ser. B., Bot. 7: 7 (1953) = ***Dasyphyllum armatum*** (Koster) Cabrera

Flotovia barnadesioides Tovar, *Publ. Mus. Hist. Nat. "Javier Prado"*, Ser. B., Bot. 7: 10 (1953) = ***Dasyphyllum brasiliense*** (Spreng.) Cabrera var. ***barnadesioides*** (Tovar) Cabrera

Flotovia brasiliensis (Spreng.) Cabrera ex Tovar, *Publ. Mus. Hist. Nat. "Javier Prado"*, Ser. B., Bot. 7: 1 (1953) = ***Dasyphyllum brasiliense*** (Spreng.) Cabrera

Flotovia candolleana Gardner, *London J. Bot.* 6: 453 (1847) = ***Dasyphyllum candolleanum*** (Gardner) Cabrera

Flotovia divaricata (Griseb.) Hieron., Act. Acad. Nac. Cienc. Cordoba 2: 33 (1886) = **Dasyphyllum brasiliense** (Spreng.) Cabrera var. **divaricatum** (Griseb.) Cabrera
Flotovia ferox Wedd., Chloris Andina 1: 5 (1855) = **Dasyphyllum ferox** (Wedd.) Cabrera
Flotovia hystrix Wedd., Chloris Andina 1: 6 (1855) = **Dasyphyllum hystrix** (Wedd.) Cabrera var. **hystrix**
Flotovia (?) *latifolia* Gardner, London J. Bot. 6: 454 (1847) = **Dasyphyllum latifolium** (Gardner) Cabrera
Flotovia leiocephala Wedd., Chloris Andina 1: 6 (1855) = **Dasyphyllum leiocephalum** (Wedd.) Cabrera
Flotovia (*Erinesia*) *quinquineris* Gardner, London J. Bot. 4: 127 (1845) = **Dasyphyllum brasiliense** (Spreng.) Cabrera
Flotovia varians Gardner, London J. Bot. 6: 454 (1847) = **Dasyphyllum brasiliense** (Spreng.) Cabrera var. **varians** (Gardner) Cabrera

Flourensia DC., Prodr. 5: 592 (1836).

Lectotype (selected by Blake, 1921): *Flourensia laurifolia* DC.

References

Dillon, M. O. (1984). A systematic study of *Flourensia* (Asteraceae, Heliantheae). Fieldiana, Bot., n.s. 16: 1–66.

Blake, S. F. (1921). Revision of the genus *Flourensia*. Contr. U.S. Natl. Herb. 20(10): 393–409.

Key to species

Phyllaries > 2 mm wide (at least inner); ray florets c. 13, ray limb 15–25 × 5–7 mm; leaves 7.5–13 (14.5) × 1.4–2.5 cm *F. heterolepis*
Phyllaries < 2 mm wide; ray florets 7–10, ray limb 11–16 × 6–8 mm; leaves 3.5–5 (–8) × (5–) 7–14 (–20) mm *F. fiebrigii*

Flourensia atacamensis (Phil.) Reiche, Anales Univ. Chile 112: 146 (1903) = **Viguiera pazensis** Rusby

***Flourensia fiebrigii** S. F. Blake, Bot. Jahrb. Syst. 54, beibl. 119(3): 47 (1916). Type: 'Bolivia: slope, summit of pass, Paicho, west of Tarija, alt. 3200 m ([5. II 04], FIEBRIG n. 3050).' Holotype: B†; isotypes: BM, F (520479), GH, K, MO, S, SI, US (01473171). Note: Dillon (1984: 51) designated the isotype in F as the lectotype.

Argentina, Bolivia (Potosí, Tarija).

Boliviano-Tucumano scrub, matorral, rocky slopes.

2500–3700 m.

January–March.

***Flourensia heterolepis** S. F. Blake, Contr. Gray Herb. n.s. 54: 186 (1918), as nom. nov.

Viguiera glutinosa Rusby, Mem. Torrey Bot. Club 4(3): 211 (1895), non *Flourensia glutinosa* (B. L. Rob. & Greenm.) S. F. Blake (1913). Type: [Bolivia:] '[Bang] 977.' Holotype: NY (277958); isotype: K, NY (277956), US (00049204).

Bolivia (Cochabamba).

Boliviano-Tucumano scrub, thorn scrub, degraded Podocarpus forest in clearings and on eroded soils.

2700–3075 m.

November–March.

Fornicaria Raf., Sylva Tellur. : 116 (1838) = **Salmea** DC.

Fornicaria scandens (L.) Raf., Sylva Tellur. : 116 (1838) = **Salmea scandens** (L.) DC.

Fougeria Moench, Meth. Suppl. : 243 (1802) = **Baltimora** L.

Fougerouxia Cass., Dict. Sci. Nat. 54: 461 (1829), orth. var. (of *Fougeria* Moench) = **Baltimora** L.

Fragmosa Raf., Fl. Tellur. 2: 50 (1836) = **Erigeron** L.

Franseria Cav., Icon. 2: 78 (1793) = **Ambrosia** L.

Franseria artemisioides* Willd., Sp. Pl. 4(1): 378 (1805) = **Ambrosia arborescens Mill.

Franseria conwayi* Rusby, Bull. New York Bot. Gard. 8(No. 28): 130 (1912) = **Ambrosia arborescens Mill.

Franseria recurva* Rusby, Bull. New York Bot. Gard. 8(No. 28): 131 (1912) = **Ambrosia arborescens Mill.

G

Gaertneria Medik., Phil. Bot. 1: 45 (1789), non *Gaertneria* Schreb. (1789), nec *Gaertneria* Retz. (1791), nec *Gaertneria* Lam. (1791) = **Ambrosia** L.

Gaertneria artemisioides (Willd.) Kuntze, Revis. Gen. Pl. 1: 339 (1891) = **Ambrosia arborescens** Mill.

Galinsoga Ruiz & Pav., Prodr. : 110, t. 24 (1794).

Galinsogea Willd., Sp. Pl. 3: 2228 (1803), orth. var.

Gallinsoga St.Hil., Expos. 1: 417 (1805), orth. var.

Galinsoja Roth, Catal. Bot. 3: 78 (1806), orth. var.

Galinsogaea Himpel, Fl. Elsass-Lothr. : 187 (1891), orth. var.

Wiborgia Roth, Catal. Bot. 2: 112 (1800), nom. rej., non *Viborgia* Moench (1794), nec *Wiborgia* Thunb. (1800), nom. cons.

Vigolina Poir. in Lam., Encycl. 8: 613 (1808), nom. superfl., based on *Wiborgia* Roth. Type: *Wiborgia acmella* Roth = **Galinsoga parviflora** Cav.

Vargasia DC., Prodr. 5: 676 (1836), non Bertero ex Spreng. (1825). Type: *Vargasia caracasana* DC. = **Galinsoga quadriradiata** Ruiz & Pav.

Adventina Raf., New Fl. N. Amer. 1: 67 (1836). Type: not stated. Lectotype (selected by Canne, 1977: 335):

Adventina parviflora Raf. = **Galinsoga parviflora** Cav.

Baziasa Steud., Nomencl. Bot., ed. 2, 1: 192 (1840), p.p.

Stematella Wedd. ex Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865), nom. nud.

Stemmatella Wedd. ex Benth. & Hook. f., Gen. Pl. 2: 193, 359, 360 (1873). Type: *Stemmatella congesta* Wedd. ex O. Hoffm. = **Galinsoga mandonii** Sch.Bip.

Stenocarpa S. F. Blake, Bull. Misc. Inform. 1915: 348 (1915). Type: *Stenocarpa filiformis* (Hemsl.) S. F. Blake = *Galinsoga filiformis* Hemsl.

Type: **Galinsoga parviflora** Cav.

References

Canne, J. M. (1977). A revision of the genus *Galinsoga* (Compositae: Heliantheae). *Rhodora* 79: 319–389.

Canne, J. M. (1978). Circumscription and generic relationships of *Galinsoga* (Compositae: Heliantheae). *Madroño* 25: 81–93.

Canne-Hilliker, A. M. (1992). An emended description, chromosome counts, and a key to South American *Galinsoga* (Asteraceae, Heliantheae). *TAXON* 41(4): 661–666.

Robinson, H. (2006). *Galinsoga*. In: G. Harling & L. Andersson (eds), *Flora of Ecuador*, No. 77(1): 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 171–178.

St. John, H. & D. White. (1920). The genus *Galinsoga* in North America. *Rhodora* 22(258): 97–101.

Key to species (modified from Canne, 1977)

1. Capitula 4–15 mm diam.; ray limbs 0.7–2.5 mm wide, 3-lobed, lobes conspicuous and equal 2
Capitula 1.5–5 mm diam.; ray limbs absent or 0.2–2 mm wide, 1–3-lobed, lobes short and unequal 3
2. (1) Plants erect; pedicels elongate with small bracteoles; leaf margins serrate; outermost paleae 2–3 mm long; inner phyllary apices maroon; ray corolla dark maroon *G. quadriradiata*
Plants sprawling; pedicels absent or shorter than large bracteoles; leaf margins entire or sometimes serrulate; outermost paleae 3–4 mm long; inner phyllary apices green; ray corollas white to pale maroon *G. boliviensis*
3. (1) Capitula usually sessile; phyllaries reddish-purple; ray corollas white to reddish-purple; phyllaries and paleae deciduous *G. mandonii*

Capitula pedicellate; phyllaries green; ray corollas whitish or rarely pink; phyllaries and paleae persistent *G. parviflora*

Galinsoga aristulata E. P. Bicknell, Bull. Torrey Bot. Club 43: 270 (1916), based on *Galinsoga parviflora* Cav. var. *hispida* DC. = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga bicolorata St. John & D. White, Rhodora 22: 99 (1920) = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga boliviensis J. M. Canne Rhodora, 79(819): 365 (1977). Type: 'Bolivia: Chuquisaca, Prov. Oropeza, Villa Maria, ca 10 km NE of Sucre, ca 2850 m, 12 Apr 1963, D. Ugent & M. Cardenas 4944'. Holotype: WIS. Bolivia (Chuquisaca).

Cultivated areas.

c. 2850 m.

April – May.

Galinsoga brachystephana Otto, Index Sem. Hort. Berol. (1840), nom. nud. = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga brachystephana Otto ex Heer & Regel, Index Sem. Hort. Turic. 1846 [1847] = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga calva Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 529 (Feb. 1866), nom. nud. (based on *Mandon* 80 & 81) = **Jaegeria hirta** (Lag.) Less.

Galinsoga calva Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 167 (1884), nom. nud. pro syn. = **Jaegeria hirta** (Lag.) Less.

Galinsoga calva* Rusby, Mem. Torrey Bot. Club 3(3): 61 (1893) = **Galinsoga mandonii Sch.Bip.

Galinsoga caracasana (DC.) Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865) = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga ciliata (Raf.) S. F. Blake, Rhodora 24: 35 (1922) = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga eligulata Cuatrec., Revista Acad. Colomb. Ci. Exact. 9: 241 (1954) = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga hirsuta Baker, Curator's Rep. Thirsk Nat. Hist. Soc. 1861: 13 (1862), nom. nud. = **Galinsoga parviflora** Cav.

Galinsoga hispida (DC.) Hieron., Notizbl. Königl. Bot. Gart. Berlin-Dahlem 19: 15 (1907), hom. illegit. = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga hispida Benth. var. *albiflora* Fenzl, Del. Sem. Hort. Vindob. Advers. Bot. Stirp. Sem. 1849/1850: 2 (1851), nom. nud. = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga hispida Benth. var. *purpurascens* Fenzl, Del. Sem. Hort. Vindob. Advers. Bot. Stirp. Sem. 1849/1850: 2 (1851), based on *Galinsoga brachystephana* Otto ex Heer & Regel = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga humboldtii Hieron., Bot. Jahrb. Syst. 28(5): 602 (1901) = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga laciniata Retx. in D. G. F. Hoffm., Phytogr. Blätt. 1: 46 (1803) = **Galinsoga parviflora** Cav.

Galinsoga mandonii Sch.Bip., Bull. Bot. Soc. France 12: 80 (1865), nom. nud. (based on *Mandon* 76) = **Galinsoga mandonii** Sch.Bip.

Galinsoga mandonii Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 167 (1884), nom. nud. pro syn. = **Jaegeria hirta** (Lag.) Less.

Galinsoga mandonii Sch.Bip., Linnaea 34(5): 529 (Feb. 1866). Type: '[Hab. Prov^a Larecaja. Viciniis Sorata, ad culmen collis Lorecasa, in incultis. Alt. Reg. temp^a 3200 m. Oct^{bre} 1859 *Mandon* 76'. Holotype: P; isotypes: GH (8247), K, NY (00169431, 00169432), S, US. Note: this is a very dubious validation by a short diagnosis – '(ach. calva).' that appears after *Mandon's* 76 in the list of *Mandon* collections.

Galinsoga mandonii Sch.Bip., Bull. Bot. Soc. France 12: 80 (1865), nom. nud. (based on *Mandon* 62 and 76).

**Galinsoga unxioides* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 198 (March-April 1879); Symb. Fl.

Argent. : 198 (1879). Type: [Argentina] 'S.: in radice montis Nevado del Castillo.' Holotype (as 'Lectotype' according to GOET type database): *Lorentz & Hieronymus* 167, GOET; isotypes: B†, CORD, US.

Galinsoga calva Sch.Bip., Bull. Bot. Soc. France 12: 80 (1865); Linnaea 34(5): 529 (Feb. 1866), nom. nud., Canne (1977: 370) noted that this was based on *Mandon* 80 & 81. 'A fragment of *Mandon* 80 at US is *G. mandonii*.

The *Mandon* 81 specimens at F, GH, MO, and P are all *G. quadriradiata*, but a specimen at NY is *G. mandonii*.'

**Galinsoga calva* Rusby, Mem. Torrey Bot. Club 3(3): 61 (1893). Types: [Bolivia:] 'Talca Chugiaguilla, April 1890 [Bang] (809). Also collected subsequently in the vicinity of Cochabamba [Bang] (1148). The nomenclature of this species is extremely complicated and puzzling. A specimen in Herb. Columb. of Mandon's No. 81, which is published by Schultz-Bipontinus in *Bull. Soc. Bot. France* as *G. calva*, is a good specimen of *G. parviflora*; but Dr. Britton says that the specimen of this number in Herb. Kew agrees with the one which I have above described. ...' Syntype: Mandon 81, K; isosyntype (Bang 809): F (165783), K, US (01803773)(determined as isotypes by Canne).

Stemmatella congesta Wedd. ex O. Hoffm., *Natürl. Pflanzenfam.* 4(5): 231 (1891). Type: '... in den Anden von Bolivia, außerdem eine unveröffentlichte, von Moritz in Merida gesammelt, ...'. Note: Strangely, Canne (1977: 370) cited the holotype as Mandon 293, especially since Hoffmann clearly indicated it was a Moritz collection, presumably in B†. In US (01803555) there is a sheet with fragments, presumably from P, together with a details drawing. Note: The date of this part of *Natürl. Pflanzenfam.* was confirmed in TLII.

**Galinsoga purpurea* St. John & D.White, *Rhodora* 22(258): 98 (1920). Type: 'BOLIVIA: Bolivian Plateau, 1891, Miguel Bang, no. 1,148'. Holotype: GH (8248); isotypes: K, NY (00169433), US (00063506).

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Oruro, Potosí), Peru.

Puna, alpine pastures, roadsides, stony ground.

2000–4300 m.

December–September.

Galinsoga? oblongifolia (Hook.) DC., *Prodr.* 5: 677 (1836) = *Eclipta prostrata* (L.) L.

**Galinsoga parviflora* Cav., *Icon.* 3: 41, t. 281 (1795). Type: 'Verbesina biflora Hort. Reg. Parisiens. ... Habitat in Peruvia. †. Floret Septembri. Obs. Hanc plantam vidi in Regio horto Pariensiensi anno 1785 nomine Verbesinae biflorae, ibi enata ex seminibus e Peruvia missis a D. Dombeyo; in patriam reduc vidi eam iterim in Regio horto Matritense, cuius nomen tandem mutatum fuit in debitum Galinsogae.' Note: There are four sheets in MA which are variously marked as follows: MA (475684 – Fiche 32/C6), with three handwritten labels: 'Vulgo Pacoyuyu/R. H. Matritensis/Sept. 1790' on the top label, 'Galinsoga parviflora/Icon. t. 281/Peru. 1794.' on the middle label and 'Galinsoga parviflora Cav./ex Peruvia et Regno Chilensis/Née Iter.' on the bottom label, and one typed label indicating this is the lectotype of *Galinsoga parviflora*, determined by Dorothea L. Schulz, 19.7.1979 – this sheet has never been cited as the lectotype; it was also determined in 1978 as *G. quadriradiata* by Schulz; MA (475685 – Fiche 33/A1) with two handwritten labels, the upper 'Galinsoga parviflora Cav./Ex Nov. Hispania/Née Iter.' and the lower 'Galinsoga parviflora/Cav. Ic./Ex Nov. Hispania/Née Iter.', together with a typewritten label 'Galinsoga parviflora Cav.' and two determination slips the later as *G. parviflora* by Schulz; MA (475686 – Fiche 33/A2) with one handwritten label 'Galinsoga parviflora Cav./Ex Lima/Née Iter' and one typewritten label indicating *Galinsoga parviflora* Cav., together with a determination label by Schulz as *Galinsoga quadriradiata*; MA (475687 – Fiche 33/A3) with one handwritten label 'Galinsoga parviflora/Cav. Ic./Ex Peruvia/Née Iter.' and one typewritten label indicating *Galinsoga parviflora* Cav. and one determination label by Schulz as *Galinsoga quadriradiata*. Clearly, this name warrants lectotypification, rather than the citation of 'Holotype: MA' that appears in many flora accounts. Cavanilles, although seeing the plant in Paris, may well have written, or finished writing, his description based on the material in MA.

Galinsoga quinqueradiata Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 198 (1798), nom. illegit. superfl. based on ***Galinsoga parviflora*** Cav.

Wiborgia acmella Roth, *Catal. Bot.* 2: 112 (1800). Type: 'Habitat in Peru. †. ... Ab Indis vocatur haec planta Paica-Iullo, quam masticantur in affectibus ovis.' Holotype: unknown, but probably B† or B-W. Roth's protologue citation referred to Feuillée's J. Obs. (1714-25) in its German translation, *Beschr. Arzen. Pfl.* (1756), based on collections from Chile and Peru. Material from Roth's herbarium went in part to B, some into B-W, the former now largely destroyed. It is possible some duplicated material may exist.

Galinsoga laciniata Retx. in D. G. F. Hoffm., *Phytogr. Blätt.* 1: 46 (1803). Type: not cited. Note: Canne (1977: 373) suggested that a specimen in LD represented the holotype.

Vigolina acmella (Roth) Poir. in *Lam., Encycl.* 8: 613 (1808).

Wiborgia parviflora (Cav.) Kunth in *Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 201 (1818).

Sabazia microglossa DC., *Prodr.* 5: 497 (1836). Type: '... in montanis circa Mexico ad S. Augustinum legit Berlandier (pl. exs. n. 733). (v.s.)'. Holotype: G-DC.

Sabazia microglossa DC. var. *β puberula* DC., *Prodr.* 5: 497 (1836). '... circa Mexico in montanis. (Berl.[andier]! pl. exs. n. 910). (v.s.)'. Holotype: G-DC.

Adventina parviflora Raf., New Fl. N. Amer. 1: 67 (1836). Type: 'Growing spontaneous for several years in the orchard of Bartram's Garden, come with seeds from the south. ... Probably a Florida plant.'

Galinsoga parviflora Cav. var. *semicalva* A. Gray, Smithsonian Contr. Knowl. 5(Art. 6): 98 (1853). Type: 'Side of mountains, at the copper mines; Oct. ([Wright, 1851] 1268.)' Holotype: GH (Barcode 8241); isotype: GH × 2 (Barcodes 8239, 8240).

Galinsoga hirsuta Baker, Curator's Rep. Thirsk Nat. Hist. Soc. 1861: 13 (1862), nom. nud. Note: Canne (1977: 374) accepted valid publication of this name and cited a holotype - which cannot be the case.

Stemmatella sodiroi Hieron., Bot. Jahrb. Syst. 28(): 601 (1901). Type: [Ecuador:] 'Crescit in regione interandina (SODIRO n. 31/1).' Holotype: B†; isotype: US (?fragment of holotype).

Galinsoga parviflora Cav. var. *genuina* f. *parcegladulosa* Thell., Allg. Bot. Zeit. Syst. 21(1-4): 8 (1916). Types: 'die zweite ist besonders für das südliche Gebiet itteleuropas charakteristisch (Tessin, Veltlin, Comersee, Venetien [Vittorio, sonst meist f. 1], auch Zürich!!, Süd-Tirol, Ungarn) und dominert auch in anderen meridionalen Gegenden der Erde (Peru: Lima [Pavon!], Mexiko!, Arizona! [auch Rhode Island!]. Süd-Afrika!, Java! Australien!), deutlich drüsig sind jedoch die Exemplare von Markelfingen am Untersee und solche von Freiburg i. Br!!, Stuttgart!!, Berlin und Stolp in Pommern.' Lectotype (selected by Canne, 1977: 374): 'Australia: New South Wales, Cumberland Co., Erworben, 1913, T. V. Alkin s.n.', Z.

Galinsoga parviflora Cav. var. *β adenophora* Thell., Allg. Bot. Zeit. Syst. 21(1-4): 9 (1916). Types: 'So in typischer Ausbildung in Mexiko: Puebla, 1908, F. Arsène! 1909, F. Nicolas! (beide als *G. brachystephana*, Herb. Univ. Zürich), um São Paulo in Brasilien (*A. Usteri!* in Herb. Eidgen. Tech. Hochschule) und bei Buenos Aires (Umgebung des Hafens, 1899, G. Debeaux Nr. 92! in Herb. Montpell., comm. J. Daveau). In Europa bisher mit Sicherheit nur in England beobachtet: Kew (Surrey), 1901, F. H. Davey n. 812! in Herb. Univ. Zürich; eine angenäherte Form fand sich 1907 im botanischen Garten Zürich (!!) verwildert vor.' Lectotype (selected by Canne, 1977: 374): *Usteri* s.n., ZT; isolectotype: P.

Galinsoga semicalva (A. Gray) St. John & D. White, Rhodora 22(258): 100 (1920).

Galinsoga semicalva (A. Gray) St. John & D. White var. *percalva* S. F. Blake, J. Wash. Acad. Sci. 30: 472 (1940). Type: [USA:] Arizona: Santa Rita Mountains, Pima County, David Griffiths & J. J. Thornber 162 (type no. 497226, U. S. Nat. Herb.); ...' Holotype: US (497226); isotype: NY (00169422).

Galinsoga sphaerocephala Jones ex S. F. Blake, Contrib. U.S. Natl. Herb. 29: 130 (1945), nom. illegit., pro syn. Argentina, Bolivia (Cochabamba, Santa Cruz), Brazil, Ecuador, Mexico, Peru. Widespread weed in temperate North America, Europe, Asia, Africa and Australia.

Roadsides, waste areas, cultivated areas, disturbed ground, humid forest.
0-3000 m.

Flowering throughout the year.

Vernacular names: ALBAHACA SILVESTRE, SAETILLA (FREIRE ET AL., 2006).

Galinsoga parviflora Cav. var. *β adenophora* Thell., Allg. Bot. Zeit. Syst. 21: 9 (1916) = **Galinsoga parviflora** Cav.

Galinsoga parviflora Cav. var. *caracasana* (DC.) A. Gray, Smithson. Contrib. Knowl. 5: 98 (1853) = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga parviflora* Cav. var. *hispida* DC., Prodr. 5: 677 (1836) = **Galinsoga quadriradiata Ruiz & Pav.

Galinsoga parviflora Cav. [var.] * *quadriradiata* (Ruiz & Pav.) Pers., Syn. Pl. 2: 472 (1807) = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga parviflora Cav. var. *quadriradiata* (Ruiz & Pav.) Poir. in Lam., Encycl. Suppl. 2(2): 701 (1812) = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga parviflora Cav. var. *semicalva* A. Gray, Smithsonian Contr. Knowl. 5: 98 (1853) = **Galinsoga parviflora** Cav.

Galinsoga purpurea* St. John & D. White, Rhodora 22: 98 (1920) = **Galinsoga mandonii Sch.Bip.

Galinsoga quadriradiata Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 198 (1798). Type: 'Habitat in Peruviae versuris, ruderatis et segetibus ad Limam et Chancay. Floret toto anno.' Lectotype (selected by Schulz [made in 1979]): C3 on sheet 290 of microfiche of the Ruiz & Pavón herbarium.

Galinsoga parviflora Cav. [var.] * *quadriradiata* (Ruiz & Pav.) Pers., Syn. Pl. 2: 472 (1807).

Galinsoga parviflora Cav. var. *quadriradiata* (Ruiz & Pav.) Poir. in Lam., Encycl. Suppl. 2(2): 701 (1812).

Wiborgia urticifolia [as *urticaefolia*] Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 201, t. 389 (1818). Type: [Ecuador:] 'Crescit juxta villam Marchionis de Miraflores, inter Mulalo et Pansache, alt. 1700 hex. (Regno Quitensi.) Floret Junio.' [Humboldt & Bonpland 'n. 3055']. Holotype: P-Bonpl.

Jaegeria urticifolia (Kunth) Spreng., Syst. Veg., ed. 16, 3: 590 (1826).

- Sabazia urticifolia* (Kunth) DC., Prodr. 5: 497 (1836).
- Vargasia caracasana* DC., Prodr. 5: 676 (1836). Type: ‘ad Caracas legit c. Vargas [267]. (v.s. comm. à cl. inventore.)’ Holotype: G-DC.
- **Galinsoga parviflora* Cav. var. *hispida* DC., Prodr. 5: 677 (1836). Types: ‘in Mexico circa urbem (Berl.[andier]! pl. exs. n. 615), in Chilensibus montibus (h. Haenke!). ... (v.s.)’. Note: Material of the *Berlandier* collection is in G-DC, but there is no evidence of the *Haenke* material from Chile, this is probably in PR.
- Adventina ciliata* Raf., New Fl. N. Amer. 1: 67 (1836). Type: ‘Found with the last, but in a different place and season: ...’ [q.v. *Adventina parviflora* – see under *Galinsoga parviflora* above – ‘Growing spontaneous for several years in the orchard of Bartram’s Garden, come with seeds from the south.’] Location of type material, if extant, unknown.
- Baziasa urticifolia* (Kunth) Steud., Nomencl. Bot. 1: 192 (1840).
- Galinsoga brachystephana* Otto, Index Sem. Hort. Berol. (1840), nom. nud.
- Galinsoga hispida* Benth., Bot. Voy. Sulph. : 119 (1845). Types: ‘Peyta, in Columbia, Guayaquil [*Hinds*]; gathered also by *Cuming* at Lima (n. 1028).’ Syntypes: K. Lectotype (selected by Canne, 1977: 356): *Hinds* s.n., K.
- Wiborgia brachystephana* (Otto) Heynh., Nomencl. Bot. Hort. : 707 (1846), comb. illegit. as apparently based on *Galinsoga brachystephana*, published a year later!
- Galinsoga brachystephana* Otto ex Heer & Regel, Index Sem. Hort. Bot. Turic. [≡ p. 2] (1846) [1847]. Type: not cited but based on cultivated material in ‘Hort. Berol.’ Note: Canne (1977: 356) suggested that this material was probably in ZT.
- Galinsoga hispida* Benth. var. *purpurascens* Fenzl, Del. Sem. Hort. Vindob. Advers. Bot. Stirp. Sem. 1849/1850: 2 (1851), based on *Galinsoga brachystephana* Otto ex Heer & Regel
- Galinsoga hispida* Benth. var. *albiflora* Fenzl, Del. Sem. Hort. Vindob. Advers. Bot. Stirp. Sem. 1849/1850: 2 (1851), nom. nud.
- Galinsoga urticifolia* (Kunth) Benth. in Oerst., Vedensk. Meddel. Dansk Naturhist. Foren Kjøbenhavn : 102 (1852).
- Galinsoga parviflora* Cav. var. *caracasana* (DC.) A. Gray, Smithson. Contrib. Knowl. 5: 98 (1853).
- Galinsoga caracasana* (DC.) Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865).
- Stemmatella sodiroi* Hieron., Bot. Jahrb. Syst. 28(5): 601 (1901). Type: [Ecuador:] ‘Crescit in regione interandina (SODIRO n. 31/1).’ Holotype: B†; isotype: US (?fragment of holotype). Note: Canne (1977: 374) originally placed this name in synonymy of *G. parviflora*.
- Stemmatella lehmannii* Hieron., Bot. Jahrb. Syst. 28(5): 602 (1901). Type: ‘Columbia: crescit frequenter in vicinitate urbis Popayan, alt. s. m. 1600–2200 m (L.[EHMANN] n. 5667).’ Holotype: B; isotype: K, US (fragment of holotype).
- Stemmatella urticifolia* (Kunth) O. Hoffm. ex Hieron. Bot. Jahrb. Syst. 28(5): 603 (1901).
- Galinsoga humboldtii* Hieron., Bot. Jahrb. Syst. 28(5): 618 (1901). Type: ‘Exstat inter plantas a cl. HUMBOLDT et BONPLAND collectas loco non indicato, a cl. KUNTHIO nomine »*Wibourgia urticaefolia* var. *achaeniis* squamulis coronatis« determinata.’
- Stemmatella urticifolia* (Kunth) O. Hoffm. ex Hieron. var. *eglandulosa* Hieron., Bot. Jahrb. Syst. 36(5): 487 (1905). Type: ‘Peruvia: crescit prope Cutervo (J.[elski] n. 609, m. Aprili 1879).’ Holotype: B†.
- Galinsoga hispida* (DC.) Hieron., Notizbl. Königl. Bot. Gart. Berlin-Dahlem 19: 15 (1907), hom. illegit.
- Galinsoga quadriradiata* Ruiz & Pav. var. *hispida* (DC.) Thell., Allg. Bot. Zeit. Syst. 21(1–4): 11 (1916). Note: cited by many authors as ‘var.’ Thellung actually wrote ‘var. (vel subsp.)’ and as such must be considered ‘[unranked]’.
- Galinsoga quadriradiata* Ruiz & Pav. [unranked] *quadriradiata* f. *vargasiana* Thell., Allg. Bot. Zeit. Syst. 21(1–4): 14 (1916). Type: ‘Die venezuelanische Pflanzen (= *Vargasia caracasana* DC.! sens. strict. ex specim. authent.) weicht, wie schon bemerkt (vgl. S. 3 und Fußn. 2), vom Typus der Rasse durch ...’. Note: it is unclear what material is left once the apparent single specimen used by de Candolle is excluded! No other material applicable to this form was cited by Thellung, especially since he appear earlier to have ascribed the *Vargas* type material of de Candolle’s sname to this forma!
- Galinsoga quadriradiata* Ruiz & Pav. [unranked] *quadriradiata* f. *purpurascens* (Fenzl) Thell., Allg. Bot. Zeit. Syst. 21(1–4): 15 (1916).
- Galinsoga quadriradiata* Ruiz & Pav. [unranked] *quadriradiata* f. *albiflora* (Fenzl) Thell., Allg. Bot. Zeit. Syst. 21(1–4): 15 (1916).
- Galinsoga aristulata* E. P. Bicknell, Bull. Torrey Bot. Club 43: 270 (1916), based on *Galinsoga parviflora* Cav. var. *hispida* DC., the validating description with its types, citing also the following material: ‘A few plants on

Easton Street in full flower September 13, 1907; Fair Street, September 19, 1914; specimen in the herbarium of Miss Grace B. Gardner.'

Galinsoga bicolorata St. John & D. White, *Rhodora* 22(258): 99 (1920). Type: 'MEXICO: altitude 4000-5500 feet, Tumbala, Chiapas, Oct. 20, 1895, E. W. Nelson, no. 3,356'. Holotype: GH (8242); isotype: US.

Galinsoga ciliata (Raf.) S. F. Blake, *Rhodora* 24: 35 (1922).

Sabazia urticifolia (Kunth) DC. var. *venezuelensis* Steyerl., *Fieldiana, Bot.* 28: 672 (1953). Type: [Venezuela:] 'Type in herb. Chi. Nat. Hist. Mus., collected on pastured open slopes of mountain between Santa Domingo and Los Quebraditos, south of Las Sabanetas, above Humocavo Bajo, state of Lara, alt. 2430-2475m., February 8, 1944, Julian A. Steyerl. 55379, "rays lavender; disk golden."'. Holotype: F (1388807 - although determined as an isotype); isotype: US (2046662).

Galinsoga eligulata Cuatrec., *Revista Acad. Colomb. Ci. Exact.* 9: 241 (1954). Type: 'Columbia, Dept. Caldas; Chinchiná, "Centro Nacional de Investigaciones del Café", 1350-1400 m. alt., colect. 22-XI-1946 J. Cuatrecasas 23098. "Hierba. Involucro verde, corolas amarillas"'. Holotype: F (1635243).

Ageratum perplexans M. F. Johnson *Ann. Missouri Bot. Gard.*, 58 (1): 80 (1971). Type: 'BOLIVIA. Yungas, 1890, A. Michael Bang 235'. Holotype: MICH; isotypes: GH (a mix of *G. parviflora* and *G. quadriradiata*), MSC (a mix as in GH), MO, MSC (a mix as in GH), NY, US(00076498), WIS (a mix as in GH).

Argentina, Bolivia (La Paz, Santa Cruz), Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Puerto Rico, USA, Venezuela, West Indies. Widely introduced into temperate North America (Canada), Europe, Africa, Asia and the Philippines. Roadsides, waste areas, cultivated areas, disturbed ground, humid forest. 0-3500 m.

Flowering throughout the year.

Galinsoga quadriradiata Ruiz & Pav. var. *hispida* (DC.) Thell., *Allg. Bot. Zeit. Syst.* 21: 11 (1916) = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsoga quinqueradiata Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 198 (1798), nom. superfl. = **Galinsoga parviflora** Cav.

Galinsoga semicalva (A. Gray) St. John & D. White, *Rhodora* 22: 100 (1920) = **Galinsoga parviflora** Cav.

Galinsoga sphaerocephala Jones ex S. F. Blake, *Contrib. U.S. Natl. Herb.* 29: 130 (1945), nom. illegit., pro syn. = **Galinsoga parviflora** Cav.

Galinsoga unxioides* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 198 (March-April 1879); *Symb. Fl. Argent.* : 198 (1879) = **Galinsoga mandonii Sch.Bip.

Galinsoga urticifolia (Kunth) Benth. in Oerst., *Vedensk. Meddel. Dansk Naturhist. Foren Kjøbenhavn* : 102 (1852) = **Galinsoga quadriradiata** Ruiz & Pav.

Galinsogaea Himpel, *Fl. Elsass-Lothr.* : 187 (1891), orth. var. = **Galinsoga** Ruiz & Pav.

Galinsogea Willd., *Sp. Pl.* 3: 2228 (1803), orth. var. = **Galinsoga** Ruiz & Pav.

Galinsoga Roth, *Catal. Bot.* 3: 78 (1806), orth. var. = **Galinsoga** Ruiz & Pav.

Gallinsoga St.Hil., *Expos.* 1: 417 (1805), orth. var. = **Galinsoga** Ruiz & Pav.

Galophthalmum Nees & Mart., *Nova Acta Acad. Caes. Leop. Carol. German. Nat. Cur.* 12: 7, t. 2 (1824) = **Blainvillea** Cass.

Gamochoeta Wedd., *Chloris Andina* 1: 151 (1856).

Gnaphalium L. sect. *Gamochoeta* (Wedd.) Benth. pp. et quoad typum (1873)

Type: not stated. Lectotype (selected by Cabrera, 1961: 362): *Gnaphalium americanum* Mill. = **Gamochoeta americana** (Mill.) Wedd.

References

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Drury, D. G. (1971). The American spicate cudweeds adventive to New Zealand (*Gnaphalium* Section *Gamochaeta*-Compositae). New Zealand J. Bot. 9(1): 157–185.

Freire, S. E. & L. Iharlegui. (1997). *Gamochaeta lullioana* (Asteraceae, Gnaphalieae), una nueva especie de los Andes de Bolivia y Perú. Novon 7(1): 32–34.

Nesom, G. L. (1990). Taxonomic status of *Gamochaeta* (Asteraceae: Inuleae) and the species of the United States. Phytologia 68(3): 186–198.

Note: It might be better to use Cabrera's accounts for a wider species distribution/concept for Bolivia until more material is collected. It is also possible that *G. pennsylvanica* (Willd.) Cabrera and *G. calvoiceps* (Fernald) Cabrera are also present in Bolivia.

Gamochaeta americana (Mill.) Wedd., Chloris Andina 1: 151 (1856).

Gnaphalium americanum Mill., Dict. ed. 8, Gnaphalium no. 17 (1768). Type: 'The seventeenth sort is an annual plant which grows naturally in France, Italy and Spain ...' Holotype: BM.

Gnaphalium consanguineum Gaudich., Ann. Sci. Nat. 5: 103 (1825). Type: not cited. Note: The table provided by Gaudichaud, and the title of the paper, suggest that the material, in general, came from Les Maloines [Falkland Islands] and more specifically 'Détroit de Magellan'. Type material is probably in P.

Gnaphalium purpureum L. var. *americanum* (Mill.) Klatt, Linnaea 42(1): 140 (1878).

Argentina, Bolivia (?), Brazil, Chile, Colombia, Jamaica, Peru, Uruguay. Widely adventive, including New Zealand.

Pastures.

500–3000 m.

October–March.

Note: '*Gamochaeta alpina* Wedd., Chloris Andina 1: 152 (1856)' is referred to by Cabrera (1961: 364) yet it is quite clear Weddell only used the name [var.] *alpina*, but also citing *Gnaphalium consanguineum* Gaudich. in synonymy.

Vernacular name: VIRA-VIRA (Freire, 1998).

Gamochaeta americanum (Mill.) Wedd. var. *discolor* Griseb., Abh. Königl. Gess. Wiss. Göttingen 24(1): 185 (1879) = ***Luciliocline lopezmirandae*** (Cabrera) Anderb. & S. E. Freire

Gamochaeta americana (Mill.) Wedd. var. *linearifolia* Wedd., Chloris Andina 1: 152 (1856) = ***Gamochaeta sphacelata*** (Kunth) Cabrera

Gamochaeta boliviensis (Anderb. & S. E. Freire) M. O. Dillon & Sagásteg., Arnaldoa 10(1): 52 (2003) = ***Jalcophila boliviensis*** Anderb. & S. E. Freire

Gamochaeta capitata Wedd., Chloris Andina 1: 153 (1856) = ***Stuckertiella capitata*** (Wedd.) Beauv.

Gamochaeta erythraetis (Wedd.) Cabrera, Fl. Prov. Jujuy 10: 309 (1978).

Merope erythraetis Wedd., Chloris Andina 1: 162 (1856). Type: 'Hab. BOLIVIE: au voisinage de la laguna de Potosi (d'Orbigny n. 1370).' Holotype: P.

Gnaphalium erythraetis (Wedd.) Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 186 (March–April 1879); Symb. Fl. Argent. : 186 (1879).

Belloa erythraetis (Wedd.) Cabrera, Revista Invest. Agríc. 11: 404 (1957).

Argentina, Bolivia (Potosí), Peru.

Puna Peruana.

Gamochaeta humilis Wedd., *Chloris Andina* 1: 153 (1856). Type: 'Hab. BOLIVIE: endroits pierreux des Cordillères du département de La Paz, dans la partie supérieure du ravin de Chiquiguillo, à La Lancha, au-dessus de 4500 mètres (Wedd.).' Holotype: P.
Bolivia (La Paz), Peru.
c. 4500 m.

Gamochaeta lullioana S. E. Frere & Ihalegui, *Novon* 7(1): 32 (1997). Type: 'Bolivia. La Paz: Cumbre de Yungas, 22 km de La Paz, ± 4600 m.s.m., 15 feb. 1950 (fl), A. Krapovickas et A. M. Fuchs de K. 6763'. Holotype: LP.
Bolivia (La Paz), Peru.
c. 4600 m.
February.

Gamochaeta monticola (Phil. ex Reiche) Cabrera, *Bol. Soc. Argent. Bot.* 9: 371 (1961).

**Gnaphalium monticola* Phil. ex Reiche, *Anales Univ. Chile* 112: 117 (1903), non M. O. Dillon & Sagasteg., *Phytologia* 59(4): 227 (1986). Type: [Chile:] 'Cordilleras de Santiago (Las Arañas). Enero. [I-1861, Landbeck 60]' Holotype: SGO, isotype: LP.

Gnaphalium monticola Phil. ex Reiche, *Fl. Chile* 4: 66 (1905), nom. illegit., later hom.
Bolivia (?), Chile.

Gamochaeta purpurea (L.) Cabrera, *Bol. Soc. Argent. Bot.* 9: 377 (1961).

Gnaphalium purpureum L., *Sp. Pl.* : 854 (1753). Type: 'Habitat in Carolina, Virginia, Pensylvania.' Type: The note provided by Jarvis (2007: 549) indicated that Nesom & Pruski (2005: 1103) had proposed a conserved type, based on Clayton 385 (BM - 000051197; iso- BM) because the type designated by Hilliard & Burt was a collection of *Gamochaeta americana* (Mill.) Wedd.

Gnaphalium rosaceum I. M. Johnst., *Contr. Gray Herb.* 68: 99 (1923). Type: 'Mexico: Regio of San Luis Potosi, 1878. Parry & Palmer 426'. Holotype: GH (8343); isotype: K.

Gamochaeta rosacea (I. M. Johnst.) Anderb., *Opera Bot.* 104: 157 (1991).

A widespread weed in North and South America, Central America (Nicaragua), West Indies, Pacific Islands, Europe, New Zealand. Argentina, Bolivia (?), Peru.

Gamochaeta rosacea (I. M. Johnst.) Anderb., *Opera Bot.* 104: 157 (1991) = **Gamochaeta purpurea** (L.) Cabrera

Gamochaeta sphacelata (Kunth) Cabrera, *Bol. Soc. Argent. Bot.* 9: 380 (1961).

Gnaphalium sphacelatum Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 67 (1818). Type: 'Crescit inter urbem Mexici et pagum Huehuetoque, alt. 1170 hex. ■ Floret Majo.' Holotype: P-Bonpl.

Gnaphalium sphacelatum Kunth f. *α legitimum* DC., *Prodr.* 6: 234 (1838), based on *Gnaphalium sphacelatum* Kunth

Gamochaeta americana (Mill.) Wedd. var. *β linearifolia* Wedd., *Chloris Andina* 1: 152 (1856). Type: 'ÉQUATEUR: dans les pâturages élevés des Andes de Quito!, h. 3350 mètres (Jameson, exsicc., ann. 1856, n. 478).' Holotype: P.

Argentina, Bolivia (?), Ecuador, Mexico. It remains to be seen if this species is actually present in Bolivia.

Gamochaeta simplicaulis (Willd.) Cabrera, *Bol. Soc. Argent. Bot.* 9: 378 (1961)

Gnaphalium simplicicaule Willd. ex Spreng., *Syst. Veg.*, ed. 16, 3: 481 (1826). Type: 'Cumana. Humb.'

Gnaphalium purpureum L. var. *simplicicaule* (Willd.) Klatt, *Linnaea* 42(1): 140 (1878).

Note: Cabrera (1978) listed the distribution of this species as 'América del Sur cálida, desde Venezuela hasta el centro de la Argentina.' It remains to be seen if it also occurs in Bolivia.

Gamochaeta spicata (Lam.) Cabrera, *Bol. Soc. Argent. Bot.* 9: 380 (1961).

**Gnaphalium spicatum* Lam., *Encycl.* 2: 757 (1786). Type: 'Commerson a trouvé cette plante à Monte Video, dans le Paraguay. (v.s.)'. Holotype: P-LA (325/1).

Gnaphalium coarctatum Willd., *Sp. Pl.* 3(3): 1886 (1804), nom. illegit., citing *G. spicatum* Lam. in synonymy.

Gnaphalium purpureum L. var. *spicatum* (Lam.) Klatt, *Linnaea* 42(1): 140 (1878).

Gnaphalium purpureum L. var. *spicatum* (Lam.) Baker in Mart., *fl. Bras.* 6(3): 124 (1882), comb. superfl.

Argentina, Bolivia (Chuquisaca), Chile, Paraguay, Uruguay. Widely adventive elsewhere, including the USA and New Zealand.

Sandy soil, stream beds, streamsides.

3300 m.

April.

Vernacular names: DIUCA LAGUEN, LENGUA DE PERRO, VIRA-VIRA (Freire et al., 2006).

Gamochaeta weddelliana (Rusby) Anderb., Opera Bot. 104: 157 = **Stuckertiella capitata** (Wedd.) Beauverd

Garcilassa Poepp., Nov. Gen. Sp. Pl. 3: 45, tab. 251 (1843).

Type: *Garcilassa rivularis* Poepp.

References

Robinson, H. (2006). *Garcilassa*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 179–181.

Schilling, E. E. & J. L. Panero. (2002). A revised classification of subtribe Heliantheae (Asteraceae: Heliantheae). I. Basal lineages. Bot. J. Linn. Soc. 140(2): 65–76.

Note: Robinson (2006: 179) clearly followed his original view that *Garcilassa* was separate from the broader view of *Hymenostephium* of Schilling & Panero (2002) which included part of *Viguiera* (sect. *Diplostichis*) and *Garcilassa*.

Garcilassa rivularis Poepp., Nov. Gen. Sp. Pl. 3: 46, tab. 251 (1843). Type: ‘Crescit in ripis rivulorum Peruviae orientalis circum Cuchero. Octobre florebat.’ Holotype: W.

Hymenostephium rivulare (Poepp.) E. E. Schilling & J. Panero, Bot. J. Linn. Soc. 140(2): 74 (2002).

Bolivia (La Paz), Ecuador, Guatemala, Peru.

Disturbed areas, riversides, forest.

0–3000 m.

August–October.

Geissopappus Benth., London J. Bot. 2: 44 (1840)[, nom. nov. pro *Schomburghia* DC.] = **Calea** L.

Gerbera incana (Lam.) Kuntze [var.] β *intermedia* Kuntze, Revis. Gen. Pl. 3(3): 149 (1898) = **Trichocline reptans** (Wedd.) Hieron.

Gerbera incana (Lam.) Kuntze [var.] γ *reptans* (Wedd.) Kuntze, Revis. Gen. Pl. 3(3): 149 (1898) = **Trichocline reptans** (Wedd.) Hieron.

Gerbera incana (Lam.) Kuntze [var.] γ *reptans* (Wedd.) Kuntze f. *aurantiaca* Kuntze, Revis. Gen. Pl. 3: 149 (1893) = **Trichocline reptans** (Wedd.) Hieron.

Gerbera incana (Lam.) Kuntze [var.] γ *reptans* (Wedd.) Kuntze f. *pallida* Kuntze, Revis. Gen. Pl. 3: 149 (1893) = **Trichocline reptans** (Wedd.) Hieron.

Gerbera nutans (L.) Sch.Bip. in Seem., Bot. Voy. Herald : 313 (1856) = **Chaptalia nutans** (L.) Polak.

Gnaphalium L. sect. *Calolepis* Kirp., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 20: 309 (1960) = **Pseudognaphalium** Kirp.

Gnaphalium L., Sp. Pl. (1753) & Gen. Pl. (1754).

Lectotype (selected by Hitchcock & Green, 1929: 181 with additional commentary by Jarvis, 2007: 550):

Gnaphalium uliginosum L.

References

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Dillon, M. O. & A. Sagástegui Alva. (1991). Sinopsis de los generos de Gnaphaliinae (Asteraceae-Inuleae) de Sudamerica. *Arnaldoa* 1(2): 5–91.

Dillon, M. O. & A. Sagástegui-Alva. (1991). *Gnaphalium*. In: J. F. Macbride & collab., Flora of Peru, Family Asteraceae: Part V. Fieldiana, Bot. n.s. 26 (1422): 32–41.

Gnaphalium acutifolium Phil., *Anales Univ. Chile* 90: 12 (1895) = ***Pseudognaphalium cheiranthifolium*** (Lam.) Hilliard & B. L. Burt

Gnaphalium alatum* Kunth in Humb. Bonpl. & Kunth, *Nov. Gen. Sp.* 4 (ed. folio): 62 (1818) = *Achyrocline alata*** (Kunth) DC.

Gnaphalium americanum Mill., *Dict. ed. 8, Gnaphalium no. 17* (1768) = ***Gamochaeta americanum*** (Mill.) Wedd.

Gnaphalium americanum Mill. var. *discolor* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 185 (March-April 1879); *Symb. Fl. Argent.* : 185 (1879) = ***Luciliocline lopezmirandae*** (Cabrera) Anderb. & S. E. Freire

Gnaphalium andicola Phil., *Anal. Univ. Chil.* 90: 17 (1895) = ***Pseudognaphalium cheiranthifolium*** (Lam.) Hilliard & B. L. Burt

Gnaphalium antennarioides DC., *Prodr.* 6: 224 (1838) = ***Pseudognaphalium antennarioides*** (DC.) Anderb.

Gnaphalium araucanum Phil., *Anales Univ. Chile* 43: 502 (1873) = ***Pseudognaphalium cheiranthifolium*** (Lam.) Hilliard & B. L. Burt

Gnaphalium argyrolepis Phil., *Anales Mus. Nac. Chile, Secc. 2, Bot.* 8: 46 (1891) = ***Pseudognaphalium lacteum*** (Meyen & Walp.) Anderb.

Gnaphalium badium* Wedd., *Chloris Andina* 1: 145 (1856) = *Pseudognaphalium badium*** (Wedd.) Anderb.

Gnaphalium (Gamochaeta) burkartii Cabrera, *Notas Mus. La Plata, Bot.* 13(No. 56): 10, fig. 2 (1948) =

Luciliocline burkartii (Cabrera) Anderb. & S. E. Freire

Gnaphalium candicans Kunth in Humb., Bonpl. & Kunth, *Nov. Gen. Sp.* 4 (ed. folio): 62 (1818) = ***Achyrocline saturejoides*** (Lam.) DC.

Gnaphalium capitatum (Wedd.) Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 186 (March-April 1879); *Symb. Fl. Argent.* : 186 (1879), comb. illegit., non Lam. (1786), nec Thunb. (1799) = ***Stuckertiella capitata*** (Wedd.) Beauverd

Gnaphalium cheiranthifolium* Lam., *Encycl.* 2: 752 (1786) = *Pseudognaphalium cheiranthifolium*** (Lam.) Hilliard & B. L. Burt

Gnaphalium cheiranthifolium Lam. var. *gaudichaudianum* (DC.) Baker in Mart., *Fl. Bras.* 6(3): 122 (1882) = ***Pseudognaphalium gaudichaudianum*** (DC.) Anderb.

Gnaphalium cheiranthifolium* Lam. var. *multiflorum* J. Koster, *Blumea* 5(3): 655 (1945) = *Pseudognaphalium cheiranthifolium*** (Lam.) Hilliard & B. L. Burt

Gnaphalium cheiranthifolium Lam. var. *paniculatum* (Bertero ex Colla) Skottsbo., *Kongl. Svenska Vetenskapsakad. Handl.* 51(9): 5 (1914) = ***Pseudognaphalium cheiranthifolium*** (Lam.) Hilliard & B. L. Burt

Gnaphalium cheiranthifolium Lam. var. *riedelianum* (Klatt) Baker in Mart., *Fl. Bras.* 6(3): 122 (1882) = ***Pseudognaphalium cheiranthifolium*** (Lam.) Hilliard & B. L. Burt

Gnaphalium cheiranthifolium Lam. var. *α typicum* Kuntze f. 1. *citrinum* (Hook. & Arn.) Kuntze, *Revis. Gen. Pl.* 3(3): 151 (1898) = ***Pseudognaphalium cheiranthifolium*** (Lam.) Hilliard & B. L. Burt

Gnaphalium celosioides Kunth in Humb., Bonpl. & Kunth, *Nov. Gen. Sp.* 4 (ed. folio): 61 (1818) = ***Achyrocline celosioides*** (Kunth) DC.

Gnaphalium citrinum Hook. & Arn., *Bot. Beechey Voy.* : 31 (1830) = ***Pseudognaphalium cheiranthifolium*** (Lam.) Hilliard & B. L. Burt

Gnaphalium coarctatum Willd., *Sp. Pl.* 3(3): 1886 (1804) = ***Gamochaeta spicata*** Lam.) Cabrera

Gnaphalium commersonii Spreng., *Syst. Veg.*, ed. 16, 3: 472 (1826) = ***Lucilia acutifolia*** (Poir.) Cass.

Gnaphalium consanguinea Gaudich., *Ann. Sci. Nat.* 5: 105 (1825) = ***Pseudognaphalium cheiranthifolium*** (Lam.) Hilliard & B. L. Burt

Gnaphalium cymatoides* Kunze ex DC., *Prodr.* 6: 225 (1838) = *Pseudognaphalium cymatoides*** (Kunze ex DC.) Anderb.

****Gnaphalium ecuadorese*** Hieron., *Bot. Jahrb. Syst.* 21(4): 347 (1896). Type: 'Ecuador: crescit prope Panecillo haud procul a praedio Hacienda Pesillo inter urbem Quito et La Esperanza sito, ubi floret mense Martio ([Stübel] coll. ecuad. n. 82).'

**Gnaphalium ecuadoriense* Hieron. var. *boliviense* Cuatrec., Pl. Iserniana 1: 20 (1935); Anales Univ. Madrid (Ciencias) 4(2): 223 (1935). Types: 'Bolivia: Monte llamado Tiaguanaco, 12-VII-1863 ([*Isern*] número 387); Cercanías de La Paz, 2-VII-1863 ([*Isern*] núm. 386).' Syntypes: MA.
Bolivia (La Paz), Ecuador.
March–July.

Gnaphalium erythraetis (Wedd.) Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 186 (March–April 1879);
Symb. Fl. Argent. : 186 (1879) = **Gamochoeta erythraetis** (Wedd.) Cabrera

Gnaphalium evacoides Sch.Bip. ex Klatt, Linnaea 42(1): 142 (1878) = **Belloa piptolepis** (Wedd.) Cabrera

Gnaphalium flaccidum Weinm., Flora 3(2): 610 (1820) = **Achyrocline flaccida** (Weinm.) DC.

Gnaphalium frigidum* Wedd., Chloris Andina 1: 147 (1856) = **Pseudognaphalium lacteum (Meyen & Walp.)
Anderb.

Gnaphalium gaudichaudiana* DC., Prodr. 6: 226 (1838) = **Pseudognaphalium gaudichaudianum (DC.) Anderb.

Gnaphalium glandulosum Klatt, Linnaea 42(1): 129 (1878) = **Pseudognaphalium glandulosum** (Klatt.) Anderb.

Gnaphalium graveolens Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 64 (1818) =

Pseudognaphalium graveolens (Kunth) Anderb.

***Gnaphalium helichrysoides** Wedd., Chloris Andina 1: 146 (1856). Types: 'Hab. PÉROU: Cordillères du département de Cuzco! (*Gay*). – BOLIVIE: province de Carangas! (*d'Orbigny*, n. 1377).' Syntypes: P.
Bolivia (?), Peru.

Gnaphalium incanum Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 62 (1818) =

Achyrocline alata (Kunth) DC.

Gnaphalium jamesonii (Baker) Kuntze, Revis. Gen. Pl. 3(3): 152 (1898) = **Lucilia acutifolia** (Poir.) Cass.

Gnaphalium kunthianum* (Wedd.) Kuntze, Revis. Gen. Pl. 3(3): 152 (1898) = **Belloa kunthiana (DC.) Anderb.
& S. E. Freire

**Gnaphalium lacteum* Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 276
(1843) = **Pseudognaphalium lacteum** (Meyen & Walp.) Anderb.

Gnaphalium linearifolium (Wedd.) Franchet, Bull. Soc. Bot. France 39: 135 (1892) = **Antennaria linearifolia**
Wedd.

Gnaphalium melanosphaeroides* Sch.Bip. ex Wedd., Chloris Andina 1: 148 (1856) = **Pseudognaphalium
melanosphaeroides (Sch.Bip. ex Wedd.) Anderb.

Gnaphalium mendocinum Phil., Anales Univ. Chile 36: 184 (1870) = **Pseudognaphalium gaudichaudianum**
(DC.) Anderb.

Gnaphalium monticola* Phil. ex Reiche, Anales Univ. Chile 112: 117 (1903) = **Gamochoeta monticola (Phil. ex
Reiche) Cabrera

Gnaphalium monticola Phil. ex Reiche, Fl. Chile 4: 66 (1905), nom. illegit., later hom. = **Gamochoeta monticola**
(Phil. ex Reiche) Cabrera

Gnaphalium paniculatum Bertero ex Colla, Mem. Accad. Sci. Torino 38: 17, tab. 26 (1835) = **Pseudognaphalium**
cheiranthifolium (Lam.) Hilliard & B. L. Burt

Gnaphalium piptolepis (Wedd.) Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 186 (1879) = **Belloa**
piptolepis (Wedd.) Cabrera

Gnaphalium polium Wedd., Chloris Andina 1: 147 (1856). Type: 'Hab. PÉROU!: Cordillères du département
de Cuzco (*Gay*).' Holotype: P. Note: Dillon & Sagástegui-Alva (1991: 40) cited the collection as *Gay* 1709.
?Bolivia (?), Peru.

Gnaphalium (*Gamochoeta*) *punae* Cabrera, Notas Mus. La Plata, Bot. 13(No. 56): 7, fig. 1 (1948) = **Luciliocline**
subspicata (Wedd.) Anderb. & S. E. Freire

Gnaphalium purpureum* L., Sp. Pl. : 854 (1753) = **Gamochoeta purpurea (L.) Cabrera

Gnaphalium purpureum L. var. *americanum* (Mill.) Klatt, Linnaea 42(1): 140 (1878) = **Pseudognaphalium**
cheiranthifolium (Lam.) Hilliard & B. L. Burt

Gnaphalium purpureum L. var. *simplicicaule* (Willd.) Klatt, Linnaea 42(1): 140 (1878) = **Gamochoeta**
simplicaulis (Willd.) Cabrera

Gnaphalium purpureum L. var. *spicatum* (Lam.) Klatt, Linnaea 42(1): 140 (1878) = **Gamochoeta spicata** (Lam.)
Cabrera

Gnaphalium purpureum L. var. *spicatum* (Lam.) Baker in Mart., fl. Bras. 6(3): 124 (1882), comb. superfl. = **Gamochaeta spicata** (Lam.) Cabrera

Gnaphalium ramosissimum Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud., non Nutt. (1848) = **Achyrocline ramosissima** Britton ex Rusby

Gnaphalium (*Achyrocline*) *ramosissimum* Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 532 (Feb. 1866), nom. nud. (based on Mandon 157) = **Achyrocline ramosissima** Britton ex Rusby

Gnaphalium regnellii Sch.Bip., Linnaea 30: 180 (1859/60), nom. nud. = **Pseudognaphalium gaudichaudianum** (DC.) Anderb.

Gnaphalium retusum Lam., Encycl. 2: 758 (1788) = **Facelis retusa** (Lam.) Sch.Bip.

Gnaphalium riedelianum Klatt, Linnaea 42: 115 (1878) = **Pseudognaphalium cheiranthifolium** (Lam.) Hilliard & B. L. Burt

Gnaphalium rosaceum I. M. Johnst., Contr. Gray Herb. 68: 99 (1923) = **Gamochaeta purpurea** (L.) Cabrera

Gnaphalium rufescens Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 61 (1818) = **Achyrocline alata** (Kunth) DC.

Gnaphalium saturejoides Lam., Encycl. 2: 747 (1786) = **Achyrocline saturejoides** (Lam.) DC.

Gnaphalium satureioides* Lam. var. *candicans* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 153 (1898) = **Achyrocline saturejoides (Lam.) Pers.

Gnaphalium schultzii (Wedd.) Cabrera, Not. Mus. La Plata, Bot., 13: 14 (1948), comb. illegit. non Mendonca (1943) = **Belloa schultzii** (Wedd.) Cabrera

Gnaphalium sedoides Klatt, Linnaea 42(1): 135 (1878) = **Antennaria linearifolia** Wedd.

Gnaphalium simplicicaule Willd. ex Spreng., Syst. Veg., ed. 16, 3: 481 (1826) = **Gamochaeta simplicaulis** (Willd.) Cabrera

Gnaphalium sphacelatum* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 67 (1818) = **Gamochaeta sphacelata (Kunth) Cabrera

Gnaphalium sphacelatum Kunth f. *α legitimum* DC., Prodr. 6: 234 (1838) = **Gamochaeta sphacelata** (Kunth) Cabrera

Gnaphalium spicatum* Lam., Encycl. 2: 757 (1786) = **Gamochaeta spicata (Lam.) Cabrera

Gnaphalium suaveolens Vell., Fl. Flum. Icones 8: tab. 100 (1831) = **Pluchea sagittalis** (Lam.) Cabrera

Gnaphalium tunariense* Kuntze, Revis. Gen. Pl. 3(3): 155 (1898) = **Novenia acaulis (Wedd. ex Benth. & Hook. f.) S. E. Freire & F. Hellwig

Gnaphalium valdivianum Phil., Linnaea 29: 6 (1857) = **Pseudognaphalium cheiranthifolium** (Lam.) Hilliard & B. L. Burt

Gnaphalium versatile* Rusby, Mem. Torrey Bot. Club 6(1): 62 (1896) = **Pseudognaphalium versatile (Rusby) Anderb.

Gnaphalium virescens (Less.) Kuntze, Revis. Gen. Pl. 3(3): 155 (1898) = **Lucilia acutifolia** (Poir.) Cass.

Gnaphalium virgatum L., Syst. Nat. ed. 10: 1211 (1759) = **Pterocaulon virgatum** (L.) DC.

Gnaphalium viridescens Cabrera, Notas. Mus. La Plata, secc. Bot. 13(56): 15 (1948), non *Gnaphalium virescens* Kuntze = **Belloa schultzii** (Wedd.) Cabrera

Gnaphalium weddellianum Rusby, Mem. Torrey Bot. Club 3(3): 57 (1893), nom. nov. pro *Gnaphalium capitatum* (Wedd.) Griseb. = **Stuckertiella capitata** (Wedd.) Beauverd

Gnaphalium weddellianum* Rusby var. *nanum* Cuatrec., Pl. Iserniana 1: 225 (1935) = **Stuckertiella capitata (Wedd.) Beauverd

Gochnatia Kunth subg.? *Nardophyllum* Hook. & Arn., Companion Bot. Mag. 1(No. 4): 109 (1835) = **Nardophyllum** (Hook. & Arn.) Hook. & Arn.

Gochnatia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 15 (1818).

? *Anastraphia* D. Don, Trans. Linn. Soc. London 16(2): 295 (1830). Type: *Anastraphia ilicifolia* D. Don = *Gochnatia*? Note: Although Cabrera (1971) discussed the problem of the application of Don's name he did not propose to which species of *Gochnatia* it should be referable. The apparent absence of the *Fraser* material makes attribution of Don's genus to any modern concept somewhat difficult (vide Freire et al., 2002: 549).

Seris Less., Linnaea 5(2): 253 (1830), p.p. Type: not designated (but *S. discoidea* Less. now referable to **Richterago** Kuntze).

Spadonia Less., Syn. Gen. Comp. : 99 (1832), p.p. Type: not designated, non Fries [FUNGI?]

Moquinia DC., Prodr. 7: 22 (1838), pp., non Spreng.f. (1828)(= *Mouqiniella* Balle [LORANTHACEAE])

Type: *Gochnatia vernonioides* Kunth

References

Beltran, H. & R. Ferreyra. (2001). Una especie nueva de Asteraceae para Peru y Bolivia: *Gochnatia lanceolata*. *Compositae Newslett.* 36: 26–30.

Cabrera, A. L. (1950). Observaciones sobre los géneros *Gochnatia* y *Moquinia*. *Notas Mus. La Plata, Bot.* 15(No. 74): 37–48 & Figs. 1–5.

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Freire, S. E., Katinas, L. & G. Sancho. (2002). *Gochnatia* (*Asteraceae, Mutisieae*) and the *Gochnatia* complex: taxonomic implications from morphology. *Ann. Missouri Bot. Gard.* 89(4): 524–550.

Sancho, G. (2000). Revisión y filogenia de la sección *Moquiniastrum* Cabrera del género *Gochnatia* Kunth (*Asteraceae, Mutisieae*). *Fontqueria* 54(5): 61–122.

Sancho, G., Freire, S. E., Katinas, L. & M. C. Tellería. (2005). A new combination and a new species of Andean *Mutisieae* (*Asteraceae*). *TAXON* 54(1): 85–90.

Key to species

- | | | |
|--------|--|------------------------|
| 1. | Inflorescence of solitary capitula | 2 |
| | Inflorescence of many capitula | 5 |
| 2. (1) | Involucres cylindrical | 3 |
| | Involucres campanulate; florets >12 | 4 |
| 3. (2) | Florets 7–8; leaves 5–11 × 1.5–3.5 mm, margins revolute, upper surface glandular | <i>G. cardenasii</i> |
| | Florets c. 20; leaves 35–45 × 6–13 mm, margins flat, both surfaces densely glandular | <i>G. angustifolia</i> |
| 4. (2) | Involucres 8–12 mm tall; florets 2–20, corollas 10 mm long | <i>G. curviflora</i> |
| | Involucres 12–15 mm tall; florets >40, corollas 12–15 mm long | <i>G. boliviana</i> |
| 5. (1) | Plants monoecious | <i>G. palosanto</i> |
| | Plants dioecious | 6 |
| 6. (5) | Adult leaves pubescent on both surfaces | <i>G. rusbyana</i> |
| | Adult leaves pubescent beneath | 7 |
| 7. (6) | Pedicels ebracteolate; leaf venation not prominent | <i>G. polymorpha</i> |
| | Pedicels bracteolate towards involucre; leaf venation prominent beneath | <i>G. pulchra</i> |

Gochnatia angustifolia Sancho, S. E. Freire & Katinas, *TAXON* 54(1): 89 (2005). Type: 'Bolivia, Depto. Potosí, Prov. José M. Linares Lizarazu, Jatun Palmar, 2750 m, 5 Apr 1993, *Torrico & Peca* 336'. Holotype: LPB; isotype: US (3258424).

Bolivia (Potosí).

2750 m.

March–April.

****Gochnatia boliviana*** S. F. Blake, *Contr. U.S. Natl. Herb.* 22: 651 (1924). Type: '... collected at Santa Cruz, Bolivia, altitude 1,600 meters, May, 1892, by *Otto Kuntze*.' Holotype: US (00701956); isotype: NY (00169561). Bolivia (Chuquisaca, Cochabamba, Santa Cruz).

Grassy hillsides, on rocks in the interandean dry vallies, sandstone cliffs.

1600–3000 m.

January–May.

Chuquisaca: *Wood* 8203, *Wood* 11094 (K), *Wood* et al. 22003 (K).

Santa Cruz: *Mendoza & Acebo* 897 (K, USZ).

Note: Cabrera's comments (1971: 25) suggested that other than size differences there is little difference between *G. boliviana* and *G. curviflora* and that the former may simply be just a multiflorous variety of the

latter. There is apparently some geographical difference. Cabrera's drawing suggests that the corolla tube is pubescent in this species and not in *G. curviflora*.

***Gochnatia cardenasii** S. F. Blake, J. Wash. Acad. Sci. 25(7): 324 (1925). Type: 'Bolivia: Quechisla, Dept. Potosí, alt. 3420 m., Dec. 1932, M. Cárdenas 326'. Holotype: US (01616163).

Argentina, Bolivia (Potosí).

Loose shaley slopes, dry valleys.

2200–3500 m.

December–August.

Potosí: Wood 10687 (K), Wood 15018 (K).

***Gochnatia curviflora** (Griseb.) Hoffm. in Engl. & Prantl, Nat. Pflanzenfam. 4(5): 337 (1893).

Moquinia curviflora Griseb., Abh. Königl. Gess. Wiss. Göttingen 24(1): 211 (March–April 1879); Symb. Fl.

Argent. : 211 (1879). Type/s: 'O.: Tarija, Cuesta del Tambo [?14.VI.73]. Cuesta de Buyuyu [15.VI.73].'

Syntype (Lorentz & Hieronymus 879): GOET (6337). Syntypes (Lorentz & Hieronymus 873) GOET (6338):

Note: The photo in F of a collection in B is of 'Cuesta del Tambo/[?14].VI.73. Lorentz 879' – an isosyntype.

Argentina, Bolivia (Chuquisaca, Cochabamba, Tarija).

Rocky slopes, thicket margins.

1000–2250 m.

February–June.

Chuquisaca: Wood 8460 (K).

Cochabamba: Wood et al. 19504 (K).

Gochnatia genistoides (D. Don) Hook. & Arn., Companion Bot. Mag. 1(No. 4): 109 (1835) = **Cyclolepis genistoides** D. Don

Gochnatia glutinosa (D. Don) D. Don ex Hook. & Arn., Companion Bot. Mag. 1: 108 (1835). This species was recorded by Navarro (2002: 365, 431, etc.) for Cochabamba and several localities within the Boliviano-Tucumano Province, including the new class *Acacio feddeannae-Prosopietea ferocis*. However, Cabrera (1971: 64) appears to have considered it to be endemic to Argentina, and I consider it as one of two species of *Pentaphorus*, *P. glutinosus* – the type. It remains to be seen upon what Navarro based his record, or if indeed *P. glutinosus* is present in Bolivia.

Gochnatia lanceolata Beltran & Ferreyra, Compositae Newslett. 36: 26 (2001) = *Chucoa lanceolata* (Beltran & Ferreyra) Sancho, Freire, Katinas & Tellería (as to type), and **Gochnatia angustifolia** Sancho, S. E. Freire, Katinas (as to paratype)

Gochnatia macrocephala* (Rusby) Cabrera, Notas Mus. La Plata, Bot. 15(No. 74): 41 (1950) = **Llerasia macrocephala (Rusby) Pruski

Gochnatia malmei Cabrera, Notas Mus. La Plata, Bot. 1: 61 (1935) = **Gochnatia polymorpha** (Less.) Cabrera

Gochnatia palosanto Cabrera, Notas Mus. La Plata, Bot. 1(No. 3): 62 (1935). Type: [Argentina:] 'Tucumán: Vipos, 786 m. s. m., Dep. Trancas, leg. C. Schreiter, n° 85, 9-XI-1921'. Holotype: C; isotype: LP.

Argentina, Bolivia (Chuquisaca, Cochabamba, Santa Cruz), Paraguay.

Chaqueña, on rocks in the interandean dry vallies, Bosque semiárido inferior interandino del Río Grande (Río Grande lower semiarid interandean woodland), Boscque semiárido superior interandino del Río Grande (Río Grande upper semiarid interandean woodland), Bosque seco interandino del Río Grande (Río Grande interandean dry forest), Bosque semiárido interandino del Caine (Río Caine interandean semiarid woodland).

700–2400 m.

August–March.

Chuquisaca: Wood 10132 (K), Wood 11486 (K), Wood 12696 (K).

Vernacular name: PALO SANTO (Cabrera, 1935: 63; Sancho, 1996: 11).

Gochnatia polymorpha (Less.) Cabrera, Notas Mus. La Plata, Bot. 15 (No. 74): 43 (1950).

Baccharis tomentosa Thunb., Pl. Bras. Dec. 3: 38 (1821), non Pers. (1807). Type: not cited. Cabrera (1950: 117) noted that the holotype was in UPS and that the material was s.loc., s.coll.

Spadonia polymorpha Less., Syn. Gen. Compos. : 101 (1832), taken as nom. nov. pro *Baccharis tomentosa* Thunb.

Spadonia polymorpha Less. [var.] α *ceanothifolia* Less., Syn. Gen. Compos. : 102 (1832). Type: not cited.

Spadonia polymorpha Less. [var.] β *elaeagnifolia* Less., Syn. Gen. Compos. : 102 (1832). Type: not cited.
Spadonia polymorpha Less. [var.] γ *obtusifolia* Less., Syn. Gen. Compos. : 102 (1832). Type: not cited.
Spadonia polymorpha Less. [var.] δ *populifolia* Less., Syn. Gen. Compos. : 102 (1832). Type: not cited.
Baccharis lessingiana DC., Prodr. 5: 414 (1836). Type: '■ in Brasiliâ. Bacch. nov. sp. Less.! mss. in Lund. pl. miss. (v. s. comm. à cl. Lund.)'. Holotype: G-DC.
Moquinia polymorpha (Less.) DC., Prodr. 7: 23 (1838).
Moquinia polymorpha (Less.) DC. α *ceanothifolia* (Less.) DC., Prodr. 7: 23 (1838).
Moquinia polymorpha (Less.) DC. β *elaeagnifolia* (Less.) DC., Prodr. 7: 23 (1838).
Moquinia polymorpha (Less.) DC. γ *obtusifolia* (Less.) DC., Prodr. 7: 23 (1838).
Moquinia polymorpha (Less.) DC. δ *populifolia* (Less.) DC., Prodr. 7: 23 (1838).
Gochnatia malmei Cabrera, Notas Mus. La Plata, Bot. 1: 61 (1935). Type: 'Argentina. Misiones: Loreto, G. Grüner 334, 21-I-1932'. Holotype: LP; isotype: K.
 Argentinam, Bolivia (Santa Cruz), Brazil, Paraguay, Uruguay.
 Woodland clearings, cerrado grassland, transition zone between thickets and grassland, woodland margins, rocky ground, sandy soils.
 700–1000 m.
 December–March.

Note: Lessing's provision of the name *Spadonia polymorpha* is interpreted as having provided a new name for Thunberg's, since this was a later homonym (cf. Persoon, 1807 – *B. tomentosa* (Ruiz & Pav.) Pers.). Lessing (1832: 101), however mentioned that there were numerous *Sellow* collections on which he based his description/s. None were linked directly to any of his varieties even though Cabrera (1950) and Sancho (2000) cite types for them. There is no indication that Cabrera saw type material during his travels to European herbaria in 1958. Both Cabrera (1950) and Sancho (2000) provided treatments dividing this species into a number of varieties, either of which can be used if an infraspecific level determination is needed. Vernacular names: CAMBARÁ (Cabrera & Klein, 1973); CAMBARA GUASU, KA'A MARÁ GUASU (Cabrera, 1998).

Gochnatia pulchra Cabrera, Revista Mus. La Plata, Secc. Bot. 12(66): 106 (1971). Type: 'Brasil. São Paulo: Ityrapina, leg. G. Gehrt [8296], 28-IV-1923'. Holotype: LP; isotype: SP (8296), US.
 Bolivia (Santa Cruz), Brazil, Paraguay.
 Cerrado, grassland, rocky soils.
 400–1000 m.
 March–October.

****Gochnatia rusbyana*** Cabrera, Notas Mus. La Plata, Bot. 15(No. 74): 41 (1950), nom. nov. pro *Moquinia boliviana* Rusby
 Moquinia boliviana* Rusby, Bull. New York Bot. Gard. 4(14): 399 (1907), non *Gochnatia boliviana*** S. F. Blake. Type: [Bolivia:] '([Bang] No. 2252.)' Holotype NY (00230669); isotypes BM, CORD, F (78052), G, K, LP, MO, M, NY (00230670), US (01403702), W, Z (000003681). Note: Although there are two specimens at NY (00230669 & 00230670), neither is annotated as the holotype. The first of the two bears a collectors field tag, is the leafiest of the two sheets and represents material cited by Rusby as from the top set. Both sheets entry in the NY virtual herbarium have the following notes against the collection: '[Not on this specimen label: Epiphytish an der Baumgretnze bei Tres Cruces]. Alt. 1500–1700 m. (4921–5577 ft.)', yet there is no indication as to where this data was obtained.
 Bolivia (Chuquisaca, La Paz, Santa Cruz), Peru.
 Lateritic and quartzitic soils, open woodland, dry pastures, cliff slopes.
 800–3000 m.
 June–October.
 La Paz: Wood 11299 (K), Wood 13713 (K).
 Santa Cruz: Soto & Linneo 1274 (K, USZ).

Gochnatia tarapacana Phil., Anales Mus. Nac. Chile, Bot. 8: 34 (1891) = ***Lophopappus tarapacanus*** (Phil.) Cabrera

Grangea domingensis (Cass.) M. Gómez [de la Maza] var. *viscosa* (L.) M. Gómez [de la Maza], Dict. Bot. Nom. Vulg. Cubanos Puerto Riquenos : 115 (1889) = ***Egletes viscosa*** (L.) Less.

Greenella A. Gray, Proc. Amer. Acad. Arts 16: 82 (1880) = **Gutierrezia** Lag.

Grindelia Willd., Gesell. Naturf. Freunde Berlin Mag. 1: 259 (1807).

Prionopsis Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 329 (1840). Type: *Prionopsis ciliata* (DC.) Nutt. = *Grindelia ciliata* (Nutt.) Spreng.

Haplopappus sect. *Prionopsis* (Nutt.) A. Gray, Smithson. Contr. Knowl. 3(2): 98 (1852).

Type: *Grindelia inuloides* Willd.

Reference

Bartoli, A. & R. D. Tortosa. (1999). Revisión de las especies sudamericanas de *Grindelia* (Asteraceae: Astereae). *Kurtziana* 27(2): 327–359.

Cabrera, A. L. (1931). Revisión de las especies sudamericanas del género *Grindelia*. *Revista Mus. La Plata* 33: 207–249.

***Grindelia boliviana** Rusby, Mem. Torrey Bot. Club 6(1): 60 (1896). Type: [Bolivia:] 'Vic. Cochabamba, 1891 ([Bang] 1055).' Holotype: NY (00169647); isotypes: LP, NY (00169648), US (00062677).

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí), Peru.

Puna, disturbed ground.

2500–4000 m.

November–July.

Chuquisaca: Wood 9562 (K).

Potosí: Wood 10696 (K).

Guariruma Cass., Dict. Sci. Nat. 33: 472 (1824) = **Mutisia** L.f.

Gutierrezia Lag., Nov. Gen. Sp. Pl. [Elench. Hort. Matritii] : 30 (1816).

Brachyris Nutt., Gen. Amer. 2: 163 (1818). Type: *Brachyris euthamiae* Nutt. = *Gutierrezia euthamiae* (Nutt.) Torr. & A. Gray

Brachyachyris Spreng., Syst. Veg., ed. 16, 3: 574 (1825). Type: *Brachyachyris euthamiae* (Nutt.) Spreng. = *Gutierrezia euthamiae* (Nutt.) Torr. & A. Gray

Odontocarpa DC., Prodr. 5: 71 (1836). Type: *Odontocarpa poeppigii* DC. = *Gutierrezia paniculata* A. Gray

Hemiachyris DC., Prodr. 5: 33 (1836). Type: *Hemiachyris texana* DC. = *Gutierrezia texana* (DC.) Torr. & A. Gray

Greenella A. Gray, Proc. Amer. Acad. Arts 16: 82 (1880). Type: *Greenella arizonica* A. Gray = *Gutierrezia arizonica* (A. Gray) M. A. Lane

Type: *Gutierrezia linearifolia* Lag.

Reference

Cabrera, A. L. (1978) *Gutierrezia* Lag. In: A. L. Cabrera (dir.), Flora de la Provincia de Jujuy. Parte X. Colección Científica del INTA, Buenos Aires. Vol. 13. pp. 160–163.

Solbrig, O. T. (1966). The South American species of *Gutierrezia*. *Contr. Gray Herb.* 197: 3–42.

Gutierrezia gilliesii Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 173 (1874); Pl. Lorentzianae : 125 (1874) = **Gutierrezia mandonii** (Sch.Bip.) Solbrig

Gutierrezia gilliesii* Griseb. var. *scabriuscula* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 173 (1874); Pl. Lorentz.: 125 (1874) = **Gutierrezia mandonii (Sch.Bip.) Solbrig

Gutierrezia isernii (Phil.) Phil., Anal. Univ. Chile 87: 427 (1894) = **Gutierrezia mandonii** (Sch.Bip.) Solbrig

Gutierrezia leucantha Cabrera, *Revista Mus. La Plata*, n.s. Secc. Bot. 4: 61 (1941) = **Gutierrezia mandonii** (Sch.Bip.) Solbrig

Gutierrezia mandonii (Sch.Bip.) Solbrig, *Contr. Gray Herb.* 197: 20 (1966).

Brachyris mandonii Sch.Bip., *Bull. Soc. Bot. France* 12: 81 (1865), nom. nud. (based on *Mandon* 228).

Brachyris mandonii Sch.Bip., *Linnaea* 34(5): 534 (Feb. 1866). Type: [Bolivia:] '[Mandon] 228.' Holotype: P; isotypes: F (972042, 1025275), GH (4315, 4316, 4317), GOET, NY (00162730, 00162731, 00162732), US (01706007).

Tessaria boliviensis Sch.Bip., *Bull. Soc. Bot. France* 12: 81 (1865); *Linnaea* 34(5): 534 (1866), nom. nud., based on *Mandon 229*

Brachyris isernii Phil., *Anal. Univ. Chile* 27: 337 (1865). Type: 'Cresce entre Santa Rosa y Mendoza, al lado oriental de los Andes'. Pizzaro (1960: 133) cited the collection 65115.

Gutierrezia gilliesii Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19([1]): 173 (1874); *Pl. Lorentzianae* : 125 (1874). Type: [Argentina:] 'Cordoba, in collibus ab urbe occidentalibus, in montibus inter S. Pedro et Horcosumi. (»S. Luis«).' Holotype: 'Lorentz 183 VI-1871', GOET; isotypes: CORD, LP. Note: Grisebach (1874) referred this also to '*Gutierrezia linearifolia* Hook. & Arn. β '

**Gutierrezia gilliesii* Griseb. var. *scabriuscula* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19([1]): 173 (1874); *Pl. Lorentz.*: 125 (1874). Type: 'Catamarca, ubi vegetationem fruticosam in convallibus infra Nacimientos praecipue constituit. (»Mendoza«).' Holotype: *Lorentz 434*, GOET; isotype: CORD.

Gutierrezia isernii (Phil.) Phil., *Anal. Univ. Chile* 87: 427 (1894).

Gutierrezia spathulata (Phil.) Kurtz var. *gilliesii* (Griseb.) Kuntze, *Revis. Gen. Pl.* 3(2): 156 (1898).

Gutierrezia leucantha Cabrera, *Revista Mus. La Plata, n.s. Secc. Bot.* 4: 61 (1941). Type: 'ARGENTINA. - Buenos Aires: Sierra de la Ventana, entre las peñas, leg. A. L. Cabrera, n° 4475, 23-V-1938'. Syntypes (no holotype specified!): 'Cabr., LP, LPD.' Solbrig (1966: 22) cited the 'holotype' as in LP (060212). Isotype/isolectotype: K. Note: Even the K duplicate has simply 'Typus!' written on the collecting label.

Gutierrezia mandonii (Sch.Bip.) Solbrig ssp. *gilliesii* (Griseb.) Solbrig, *Contr. Gray Herb.* 197: 22 (1966).

Gutierrezia mandonii (Sch.Bip.) Solbrig ssp. *isernii* (Phil.) Solbrig, *Contr. Gray Herb.* 197: 24 (1966).

Argentina, Bolivia (Cochabamba, La Paz, Potosí, Tarija).

Roadsides, rocky soils, scree slopes, Pampa, Altiplano, Tolillares y tholares climatófilos (High-andean xeromorphic scrub).

<1000–4000 m.

November–May (–July).

Cochabamba: *Wood 8145* (K).

Potosí: *Wood 11653* (K), *Wood et al. 21315* (K).

Tarija: *Wood 15952* (K).

Note: Solbrig (1966) recognized the typical subspecies and ssp. *gilliesii* and ssp. *isernii* based largely on size differences of the plants, leaves and involucre. Although combined here these two are Argentinian only, the typical subspecies occurring in Argentina and Bolivia. Solbrig (1966: 22) cited Fiebrig 3106 under the typical subspecies. The K duplicate is named '*Gutierrezia fiebrigii* Hieron. n. sp.'; this name appears never to have been published. Similarly, *Fiebrig 3003* appears with the name '*Gutierrezia rosmarinifolia* Hieron. n. sp.' also appears not to have been published.

Gutierrezia mandonii (Sch.Bip.) Solbrig ssp. *gilliesii* (Griseb.) Solbrig, *Contr. Gray Herb.* 197: 22 (1966) =

Gutierrezia mandonii (Sch.Bip.) Solbrig

Gutierrezia mandonii (Sch.Bip.) Solbrig ssp. *isernii* (Phil.) Solbrig, *Contr. Gray Herb.* 197: 24 (1966) =

Gutierrezia mandonii (Sch.Bip.) Solbrig

Gutierrezia spathulata (Phil.) Kurtz var. *gilliesii* (Griseb.) Kuntze, *Revis. Gen. Pl.* 3(2): 156 (1898) = ***Gutierrezia mandonii*** (Sch.Bip.) Solbrig

Gymnocoronis DC., *Prodr.* 5: 106 (1836).

Type: *Gymnocoronis attenuata* DC. = ***Gymnocoronis spilanthis*** (D. Don ex Hook. & Arn.) DC.

Reference

King, R. M. & H. Robinson. (1974). Studies in the *Eupatorieae* (Asteraceae). CXXVII. Additions to the American and Pacific Adenostemmatinae. *Adenostemma*, *Gymnocoronis* and *Sciadocephala*. *Phytologia* 29(1): 1–20.

Gao Tian-gang & Liu Yan. (2007). *Gymnocoronis*, a new naturalized genus of the tribe Eupatorieae, Asteraceae in China. *Acta Phytotax. Sin.* 45(3): 329–332.

Gymnocoronis attenuata DC., Prodr. 5: 106 (1836) = **Gymnocoronis spilanthoides** (D. Don ex Hook. & Arn.) DC.

Gymnocoronis spilanthoides (D. Don ex Hook. & Arn.) DC., Prodr. 7: 266 (1838).

Alomia spilanthoides D. Don ex Hook. & Arn., Companion Bot. Mag. 1(No. 8): 238 (1836). Types: 'Between Casa Blanca and Valparaiso, Chili, and Saladillo, Province of Cordova, Dr. Gillies. Buenos Ayres, Uruguay, and frequent in standing pools on the coast of La Plata, bearing fragrantly scented flowers, Tweedie.'

Syntypes: K. Note: Hooker & Arnott only ascribed the name *Alomia spilanthoides* as 'Don. MSS.', not the description; it is incorrect to ascribe the name only to D. Don.

Gymnocoronis attenuata DC., Prodr. 5: 106 (1836). Type: '■ in Brasiliae prov. Rio-Grande. (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 782 miss.)'. Holotype: P; isotype: G-DC (as fragments only).

Gymnocoronis subcordata DC., Prodr. 5: 106 (1836). Type: '■ in Bras. prov. Rio-Grande. (v.s. cum priori sub n. 886 miss.)'. Holotype: P; isotype: G-DC (as fragments only).

Piqueria attenuata (DC.) Gardner, London J. Bot. 6: 430 (1847).

Piqueria subcordata (DC.) Gardner, London J. Bot. 6: 430 (1847).

Gymnocoronis spilanthoides (D. Don ex Hook. & Arn.) DC. var. *attenuata* (DC.) Baker in Mart., Fl. Bras. 6(2): 183 (1876).

Gymnocoronis spilanthoides (D. Don ex Hook. & Arn.) DC. var. *subcordata* (DC.) Baker in Mart., Fl. Bras. 6(2): 184 (1876).

Argentina, Bolivia (Bení, Pando, Santa Cruz), Brazil, Paraguay, Peru, Uruguay. Recently recorded as naturalized in China and Japan.

Stream, river and lake margins, damp ground, marshes, sometimes in standing water, rough grassland. 0–500 m.

September–July. Probably flowering throughout the year.

Santa Cruz: Wood 12255 (K), Wood 17188 (K).

Vernacular name: ESTERO POTY (Cabrera, 1996).

Gymnocoronis spilanthoides (D. Don ex Hook. & Arn.) DC. var. *attenuata* (DC.) Baker in Mart., Fl. Bras. 6(2): 183 (1876) = **Gymnocoronis spilanthoides** (D. Don ex Hook. & Arn.) DC.

Gymnocoronis spilanthoides (D. Don ex Hook. & Arn.) DC. var. *subcordata* (DC.) Baker in Mart., Fl. Bras. 6(2): 184 (1876) = **Gymnocoronis spilanthoides** (D. Don ex Hook. & Arn.) DC.

Gymnocoronis subcordata DC., Prodr. 5: 106 (1836) = **Gymnocoronis spilanthoides** (D. Don ex Hook. & Arn.) DC.

Gymnolomia Kunth in Humb., Bonpl. & Kunth, Nov., Gen. Sp. Pl. 4 (ed. folio): 170 (1818) = **Eleutheranthera** Poit. ex Bosc.

Gymnolomia connata Spreng., Syst. Veg. 3: 610 (1826) = **Smallanthus connatus** (Spreng.) H. Rob.

Gymnolomia maculata Ker Gawl., Bot. Reg. 8: t. 662 (1822) = **Tilesia baccata** (L.) Pruski

Gymnogyne Steetz in Lehm., Pl. Preiss. 1: 431 (1845), non Didr. (1850) (= *Boehmeria* Jacq. [URTICACEAE]) = **Cotula** L.

Gymnopsis DC., Prodr. 5: 561 (1836), nom. illegit. superfl. pro *Gymnolomia* Kunth = **Eleutheranthera** Poit. ex Bosc.

?*Gymnopsis euxemioides* DC., Prodr. 5: 562 (1836), based on *Euxenia radiata* Nees & Mart. = **Tilesia baccata** (L.) Pruski

Gymnopsis mandonii Sch.Bip., Linnaea 34(5): 528 (Feb. 1866), nom. nud. (based on *Mandon* 41 bis) = ?

Gymnopsis microcephala Gardner, London J. Bot. 7: 292 (1848) = **Eleutheranthera ruderalis** (Sw.) Sch.Bip.

Gymnostyles Juss., Ann. Mus. Nat. Hist. Paris 4: 258 (1804) = **Soliva** Ruiz & Pav.

Gymnostyles lusitanica Spreng., Syst. Veg. 3: 500 (1826), nom. illegit. based on *Hippia stolonifera* Brot. = **Soliva stolonifera** (Brot.) Sweet

Gymnostyles stolonifera (Brot.) Juss. ex Brot., Phytogr. Lusit. Select.: 79 (1816), pro syn. = **Soliva stolonifera** (Brot.) Sweet

Gymnostyles stolonifera (Brot.) Juss. ex DC., Prodr. 6: 143 (1838), nom. nud. pro syn. = **Soliva stolonifera** (Brot.) Sweet
Gymnostyles stolonifera (Brot.) Juss. ex Steud., Nomencl. Bot., ed. 2, 1: 713 (1840), nom. nud. pro syn. = **Soliva stolonifera** (Brot.) Sweet
Gymnostyles stolonifera (Brot.) Tutin, Bot. J. Linn. Soc. 70(1): 18 (1975), comb. superfl. = **Soliva stolonifera** (Brot.) Sweet

Gymnostylis Raf., Amer Monthly Mag. Crit. Rev. 2: 268 (1818), nom. nud. = **Pluchea** Cass.

Gynema Raf., Fl. Ludov. 1817: 63 (1817) = **Pluchea** Cass.

Gynheteria Willd., Mag. Neuesten Entdeck. Gesamten Naturk. Ges. Naturf. Freunde Berlin 1: 140 (1807) = **Tessaria** Ruiz & Pav.

Gynheteria incana Spreng., Neue Entdeck. 2: 135 (1821) = **Tessaria integrifolia** Ruiz & Pav.

Gynoxys Cass. sect. *Praegynoxys* (Cuatrec.) Cuatrec., Brittonia 8(2): 157 (1955) = **Nordenstamia** Lundin

Gynoxys Cass., Dict. Sci. Nat. 48: 455 (1827).

Type: *Senecio baccharoides* Kunth = **Gynoxys baccharoides** (Kunth) Cass. Note: The name *Gynoxys cordifolia* Cass. was also cited by Cassini as belonging to *Gynoxys*. This has subsequently been chosen as the lectotype of *Pseudogynoxys* (Greenm.) Cabrera (Cabrera 1950: 54).

References

Cuatrecasas, J. (1950). Studies on Andean Compositae – I. Fieldiana, Bot. 27(1): 1–53.

Cuatrecasas, J. (1951). Studies on Andean Compositae – II. Fieldiana, Bot. 27(2): 1–74.

Herrera de Loja, B. (1980). Revisión de las especies peruanas del género *Gynoxys*. Bol. Soc. Peruana Bot. 8(1 & 2): 3–74.

Gynoxys alternifolia Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud. = **Nordenstamia repanda** (Wedd.) Lundin

Gynoxys alternifolia Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 6: 67 (1896). = **Nordenstamia repanda** (Wedd.) Lundin

Gynoxys asterotricha Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 529 (Feb. 1866). Type: [Bolivia:] '[Mandon] 84.' Holotype: ?P; isotypes: GH (8571, 78593 – s. n.), K, NY (00178790), US (01803781 – fragments, including a leaf and 2 portions of a capitulum from the material in K). Note: In the earlier published Bull. Soc. Bot. France the name *Gynoxys asterotricha* appeared under the number '84', but appeared under '84bis' in the later published Linnaea.

Bolivia (Cochabamba, La Paz).

Vegetación de la Ceja de Monte Yungueña Alta [Yungas upper Ceja de Monte vegetation], cloud forest. 3350–4000 m.

April–July.

Note: Not listed by Foster (1958), although perfectly validly published by Schultz-Bipontinus (1865–66: 529), cf. *Gynoxys mandonii* – which was simply compared with *G. longifolia*.

***Gynoxys baccharoides** (Kunth) Cass., Dict. Sci. Nat. 48: 455 (1827).

Senecio baccharoides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 146 (1818). Type:

[Ecuador:] 'Crescit locis frigidis Andium Quitensium, alt. 1800 hex. ■ Floret Julio.' Holotype: P-Bonpl.

Bolivia (?La Paz), Ecuador. Note: It is possible that Foster's record for this species in Bolivia was based on a misdetermination, most probably based on *Mandon* 84.

***Gynoxys boliviana** (Klatt) S. F. Blake, Contr. Gray Herb. 53: 28 (1918).

Liabum bolivianum Klatt, Ann. K. K. Naturhist. Hofmus. 9: 362 (1894). Type: 'Hab.: Bolivia, leg. *Cuming*.'
Holotype: W; isotype: GH (8573 – possible type fragment and drawing of type).
Bolivia (La Paz).

***Gynoxys cochabambensis** Cabrera, Notas Mus. La Plata, Bot. 14(No. 71): 194 (1949). Type: 'BOLIVIA.– Dep. Cochabamba, Prov. Chaparé, Yanta-Anduana, 3200 m.s.m., leg. *J. Steinbach*, 9813, 10-VI-1929'. Holotype: LP (60380); isotypes: GH (8576, 8577), K × 2.
Bolivia (Cochabamba).
3200 m.
June.

Gynoxys cummingii Benth., Vidensk. Meddell. Naturhist. Foren. Kjøbenhavn 1852(5–7): 106 (1852)[1853] =
Pseudogynoxys cummingii (Benth.) H. Rob. & Cuatrec.

***Gynoxys cruzensis** Cuatrec., Collect. Bot. (Barcelona) 3(3): 295 (1953). Types: 'Bolivia: Depart. Santa Cruz; Comarapa, Cerro San Mateo, «Oberer Waldguertel 3,400 m., Baum bis 8 m.», colect. *José Steinbach* 8515. (GH, F.)' Syntypes: ?F, GH (8581); isosyntypes: K, S.
Bolivia (Santa Cruz).
3400 m.
October–November.

Gynoxys discolor* Rusby, Bull. New York Bot. Gard. 4(14): 398 (1907) = **Pentacalia marinii (Cabrera) Cuatrec.

***Gynoxys foliosa** (Rusby) S. F. Blake, Contr. U.S. Nat. Herb. 24: 86 (1922).
Diplostephium foliosum Rusby, Bull. New York Bot. Gard. 8(No. 28): 128 (1912). Type: [Bolivia:] ' "Cargadira, 8000 ft. alt., July 29, 1902" ([*R.S. Williams*] No. 1529).' Holotype: NY (00168221); isotypes: K, US (01058659 – fragments of 2 leaves and one floret, together with a photograph of the NY holotype).
Bolivia (La Paz).

Gynoxys glabriuscula* Rusby, Mem. Torrey Bot. Club 6(1): 68 (1896) = **G. psilophylla Klatt.

***Gynoxys hallii** Hieron., Bot. Jahrb. Syst. 19(1): 64 (1894). Types: 'Ecuador: crescit in regione suprema silvae Andium occidentalium prov. Quito, alt. s. m. 2800–3400 m ([*Lehmann*] n. 4664) et prope Zurucucho et Tambo de Quinoa haud procul ab urbe Cuenca, alt. s. m. 3000–3500 m, ubi floret mense Augusto-Septembri ([*Lehmann*] n. 4605). – In monte ignivomo Pichincha, alt. s. m. 3400 m legit *FRANCIS HALL*.' Syntypes: B†. Isosyntypes: *Lehmann* 4605, K × 2; Isosyntypes: *Lehmann* 4664, K × 2.
Bolivia (?), Ecuador, Peru.

Note: According to Herrera de Loja (1980) *G. hallii* is similar to *G. visoensis* Cuatrec. (Peru); leaf venation, pubescence colour and number of disc florets provide easy distinction between the two.

Gynoxys herzogii Beauverd ex/in Herzog, Pflanzenw. Bolivischen Anden : 191 (1923), nom. nud. =

***Gynoxys hoffmannii** Kuntze, Rev. Gen. 3(3): 156 (1898). Type: 'Bolivia: 300 m Weg zum Rio Juntas.' ['BOLIVIA. Weg zum Rio Juntas, 3000 m, 13–21 Apr 1892, *Kuntze* s.n.', according to Wetter & Zanoni, 1985: 332] Holotype: NY (00178859).
Bolivia (Cochabamba).

***Gynoxys hypomalaca** S. F. Blake, Bot. Gaz. 74: 427 (1922). Type: 'BOLIVIA. – Higher limit of trees, Soratá, April 22, 1920, *E.W.D. and M.M. Holway* 567'. Holotype: US (01058605); isotypes: GH (8588), NY (00178861).
Bolivia (La Paz).
April–May.

Note: Cuatrecasas' det. of this material suggests it is *G. mandonii*.

*'*Gynoxys laurifolia* (Kunth) Cass., Dict. Sci. Nat. 48: 455 (1827)' was a combination implied, but not actually made, since Cassini only mentioned *Senecio laurifolius* Kunth in the text. Britton (1892: 265) cited *Rusby* 1638

against this name and this was the basis of Foster's inclusion of the taxon for Bolivia (1958: 211); it is an Ecuadorian endemic. However, Cuatrecasas (1951: 12) cited this *Rusby* collection as the type of his **Gynoxys soratensis**, q.v.

***Gynoxys mandonii** Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 6(1): 67 (1896). Types: 'Espirito Santo, 1891 ([Bang] 1196). The same as *Mandon's* 84, though less tomentose.' Syntypes: K, ?NY; isosyntype (*Bang* 1196): GH (8594, 8595), NY (00178865 – marked as holotype), US (01418728). Note: There is are two unnumbered *Mandon* collection in GH (8592, 8593) which are most probably *Madon* 84.

Gynoxis [sic!] *mandonii* Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); *Linnaea* 34(5): 529 (1865), nom. nud. (based on *Mandon* 84). Note: In the earlier published Bull. Soc. Bot. France, *Gynoxys mandonii* appeared under *Mandon* 84, although in the later *Linnaea* it appeared under *Mandon* 84bis.

Bolivia (Cochabamba, La Paz).

3300–3400 m.

June–July.

Note: Schultz Bipontinus provided a confusing reference to this species in Bull. Soc. Bot. France 12: 80 (1865), in contrast to that in *Linnaea* 34(5): 529 (Feb. 1866) where the line breaks are suffice to explicitly refer the description to *Gynoxys asterotricha*, merely likening *Gynoxys mandonii* to *Gynoxys longifolia*. [In NY there is a sheet (NY- 00178866), *Rusby* 1676, which is marked as an isotype of *Gynoxys mandonii* var. *unduaviana* Cuatrec.]

Gynoxis [sic!] *mandonii* Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); *Linnaea* 34(5): 529 (Feb. 1866), nom. nud. (based on *Mandon* 84) = **Gynoxys mandonii** Sch.Bip. ex Rusby

***Gynoxys '(?)' megacephala** Rusby, Bull. New York Bot. Gard. 4(No. 14): 398 (1907). Types: [Bolivia:] '([Bang] No. 1959.) The same collected by *Pearce* at Huaycani, 11,000 ft., May, 1866.' Syntypes: K. Isosyntype (*Bang* 1959): GH (8597), US (00325827).

Bolivia (?).

3350 m.

May.

***Gynoxys neovelutina** Cuatrec., Fieldiana, Bot. 27(2): 11 (1951). Type: 'Bolivia: 3000 m. alt., 14 April 1892, collected *Otto Kuntze*'. Holotype: NY (00178869).

Bolivia (Cochabamba).

3000 m.

April.

***Gynoxys psilophylla** Klatt, Ann. K. K. Naturh. Hofmus. Wien 9: 367 (1894). Type: 'Hab.: Bolivia, vic. Cochabamba, leg. *Miguel Bang*, Nr. 1116.' Holotype: W; isotypes: GH × 2 (8607, 8606 – lacks coll. n.), US (01418287). See also collections listed below.

**Gynoxys glabriuscula* Rusby, Mem. Torrey Bot. Club 6(1): 68 (1896). Types: [Bolivia:] 'Near snow-line, Mt. Tunari, 1891 ([Bang] 1116). The same as a specimen collected in Bolivia by *Bridges*.' Syntypes: K.

Isosyntypes: *Bang* 1116: GH (8585), NY (178856 – marked as incorrectly as holotype; 178857 – marked incorrectly as isotype), Z (000003472).

Bolivia (Cochabamba, La Paz).

Ceja vegetation, Yungas.

3300–3850 m.

April–June.

Gynoxys repanda* Wedd., *Chloris Andina* 1: 77 (1856) = **Nordenstamia repanda (Wedd.) Lundin

***Gynoxys rusbyi** Cuatrec., Fieldiana, Bot. 27(2): 10 (1951). Type: 'Bolivia: Pongo de Quisne, 12,500 ft., Rocky hills, collected July 2, 1921 *H. H. Rusby* no. 3.' Syntypes: 'US, NY'. [US – 01124015; NY – 00178874].

Bolivia (?).

Ceja vegetation, Yungas.

3810 m.

June–July.

***Gynoxys sorataensis** Cuatrec., Fieldiana, Bot. 27(2): 12 (1951). Type: 'Bolivia: Sorata, 10,000 ft., collected Feb., 1886, H. H. Rusby 1638'. Syntypes: 'NY, F'. The syntype in NY is NY (00178876).
Bolivia (La Paz).
3050 m.
February.

Note: The type collection of this name was first recorded as '*Gynoxys laurifolia*' by Britton (1892: 265); that species is most probably an Ecuadorian endemic.

***Gynoxys tablaensis** Cabrera, Blumea 7(1): 197 (1952). Type: 'Hab.: Bäumchen an der Waldgrenze über Tablas, 3400 m alt., Mai 1911, [Herzog] n. 2201, Bl. gelb (Typus)'. Holotype: L(950251156); isotypes: L (950251102 – a sterile shoot), LP (898892 – according to Freire & Iharlegui, 2000: 320 this was supposedly the holotype, but see 'Obs. '), S, Z (000003473).
Bolivia (Cochabamba).
3400 m.
May.

Gynura aspera Ridl., J. Malay Branch Roy. Asiat. Soc. 1: 74 (1923) = **Erechtites hieraciifolia** (L.) Raf. ex DC. var. **calioides** (Fisch. ex Spreng.) Griseb.

Gynura malasica (Ridl.) Ridl., Fl. Malay Penins. 2: 190 (1923) = **Erechtites hieraciifolia** (L.) Raf. ex DC. var. **calioides** (Fisch. ex Spreng.) Griseb.

Gynura rosea Ridl., J. Straits Branch Roy. Asiat. Soc. 61: 25 (1912) = **Erechtites valerianifolia** (Link ex Spreng.) Less. ex DC. var. **valerianifolia**

Gynura zeylanica Trimen var. *malasica* Ridl., J. Straits Branch Roy. Asiat. Soc. 61: 24 (1912) = **Erechtites hieraciifolia** (L.) Raf. ex DC. var. **calioides** (Fisch. ex Spreng.) Griseb.

Gyptis (Cass.) Cass., Dict. Sci. Nat. 16: 10 (1820).

Eupatorium L. subgen. *Gyptis* Cass., Bull. Sci. Soc. Philom. Paris 1818: 139 (1818).

Eupatorium L. sect. *Gyptis* (Cass.) Cabrera, Fl. Ilust. Catarinense : 553 (1989)[1991].

Type: *Eupatorium* (*Gyptis*) *pinnatifidum* Cass., nom. illegit. = **Gyptis tanacetifolia** (Gillies ex Hook. & Arn.) D. J. N. Hind & Flann

Note: At first mention '*Gyptis pinnatifida*' was described by Cassini (1818: 139) within *Eupatorium* subgen. *Gyptis* Cass. and was therefore nom. illegit. Although repeatedly referred to as '*Gyptis pinnatifida* Cass.' this name has never been validated. King & Robinson (1971: 24) provided a full synonymy but did not take up the first available epithet that could have been used, *tanacetifolia*, from *Eupatorium tanacetifolium* Gillies ex Hook. & Arn. (Hooker & Arnott, 1835: 240). The necessary combination was made in Flann, Greuter & Hind (2010: 1225).

References

Flann, C., Greuter, W. & D. J. N. Hind. (2010). Cassini's Compositae genera: a nomenclatural and taxonomic assessment. TAXON 59(4): 1206–1244.

King, R. M. & H. Robinson. (1971). Studies in the Eupatorieae (Compositae). XXXIII. The genus *Gyptis*. Phytologia 21(1): 22–25.

Note: Cabrera (1996) provided a very broad concept of *Eupatorium lanigerum* with four recognized varieties including several of the synonyms used below, and several others. Under differing synonymies (within *Gyptis*) two of the main concepts can be recognised using the key below, although it would be a simple matter of combining them if one broader species concept, under the name *Gyptis lanigera*, is used.

Key to species

- | | | |
|----|---|---------------------|
| 1. | Leaves densely pubescent | <i>G. lanigera</i> |
| | Leaves essentially glabrous (sometimes with short hairs near margins) | <i>G. crassipes</i> |

Gyptis alternifolia R. M. King & H. Rob., Phytologia 21(1): 23 (1971) (as nom. nov. pro *Eupatorium alternifolium* Sch.Bip. ex Baker) = **Gyptis crassipes** (Hieron.) R. M. King & H. Rob..

Gyptis crassipes (Hieron.) R. M. King & H. Rob., *Phytologia* 37(5): 458 (1977).

Eupatorium alternifolium Sch.Bip. ex Baker in Mart., *Fl. Bras.* 6(2): 333 (1876), non Ard. (1764)(= *Brickellia eupatorioides* (L.) Shinn). Type: 'Habitat loco non indicato Brasiliae meridionalis: *Riedel* n. 885.'

Eupatorium alternifolium Sch.Bip. ex Baker var. β *burchellii* Baker in Mart., *Fl. Bras.* 6(2): 334 (1876). Type: 'Habitat inter urbes S. paulo et Santos: *Burchell* n. 4699.' Holotype: K.

Eupatorium alternifolium Sch.Bip. ex Baker var. γ *oppositifolium* Baker in Mart., *Fl. Bras.* 6(2): 334 (1876). Types: 'Loco non indicato Brasiliae meridionalis: *Sello* n. 696; prov. S. Paulo ad Hytú in campis: *Lund*.'

Eupatorium crassipes Hieron., *Bot. Jahrb. Syst.* 22 (4-5): 780 (1897). Types: 'Entrerios: auf Weiden bei Concepcion del Uruguay (LOR., April 1876, n. 597 und 1031 zum Teil; Juni 1877, n. 1031 zum Teil; NIEDERL., 30. April 1880, n. 157).'

Eupatorium lanigerum Hook. & Arn. var. *oppositifolium* (Baker) B. L. Rob., *Ostenia* : 354 (1933).

**Eupatorium alternifolium* Sch.Bip. ex Baker var. *genuinum* Hassl. f. *nitidum* J. Koster, *Blumea* 5(3): 651 (1945).

Type: 'Hab.: Bergwiesen der Cuesta de los Monos, 1400 m alt., [*Herzog*] n. 1750.' Holotype: L.

Gyptis alternifolia R. M. King & H. Rob., *Phytologia* 21(1): 23 (1971), as nom. nov. pro *Eupatorium alternifolium* Sch.Bip. ex Baker.

Bolivia (?), Brazil, Paraguay.

Grassland.

1400 m.

December–March.

Note: Foster (1958: 208) recorded this taxon (as *Eupatorium alternifolium* Sch.Bip. ex Baker var. *genuinum* Hassl. f. *nitidum* J. Koster), but *Gyptis* was not recorded for Bolivia by King & Robinson (1987).

Gyptis lanigera (Hook. & Arn.) R. M. King & H. Rob., *Phytologia* 21(1): 24 (1971).

Eupatorium lanigerum Hook. & Arn., *Companion Bot. Mag.* 1(No. 8): 242 (1836). Type: 'Rio Grande and Cordova, *Tweedie* (n. 1298).'

Eupatorium lanigerum Hook. & Arn. [var.] β *minor* Hook. & Arn., *Companion Bot. Mag.* 1(No. 8): 242 (1836).

Types: 'Cordova (n. 1298 and 1281) *Tweedie*.'

Eupatorium vernoniopsis Sch.Bip. ex Baker in Mart., *Fl. Bras.* 6(2): 334 (1876). Types: [Brazil:] 'Habitat prov. S. Paulo in campis ad Hytu: *Riedel*, *Sello*.'

Eupatorium aureo-viride Chodat, *Bull. Herb. Boissier, ser. 2*, 2(3): 309 (1902). Type: [Paraguay:] 'In campo pr. fl. Corrientes, Déc., [*Hassler*] 5870 (unicum).' Holotype: G.

Eupatorium oblongifolium (Spreng.) Baker subvar. *hirsutum* Chodat, *Bull. Herb. Boissier, sér. 2*, 3(8): 708 (1903). Type: 'Suffrutex 0,5-0,9, petala rosea, in campo pr. Valenzuela, Febr., [*Hassler*] n. 7094.'

Eupatorium alternifolium Sch.Bip. ex Baker var. *hispidulum* Hassl., *Repert. Spec. Nov. Regni Veg.* 14(10-15): 287 (1916). Type: based on '*E. oblongifolium* var. *tucumanense* subvar. *hirsutum* Chod., l. c. pp.'

Eupatorium alternifolium Sch.Bip. ex Baker var. *asperum* Hassl., *Repert. Soec. Nov. Regni Veg.* 14(10-15): 287 (1916). Type: [Paraguay:] '*Hassler* 7094, l. c.; Cordillera de Altos, *Hassler* 12156.' Syntypes: G.

Eupatorium alternifolium Sch.Bip. ex Baker var. *vernoniopsis* (Sch.Bip. ex Baker) Hassl., *Repert. Spec. Nov. Regni Veg.* 14: 287 (1916).

Eupatorium lanigerum Hook. & Arn. var. *typicum* B. L. Rob., *Ostenia*: 353 (1933).

Argentina, Bolivia (?), Brazil, Paraguay, Uruguay.

Rocky grassland, cerrado.

0-1000 m.

January–April.

Note: Cabrera (1978: 140) was quite explicit about the distribution of this *Gyptis*. However, as noted for the preceding species, King & Robinson (1987: 89) did not record the genus for Bolivia. Both species' presence in Bolivia will need to be confirmed as well as the separation of the two.

Vernacular name: EUPATÓRIO (Cabrera & Klein, 1991).

H

Hamulium Cass., Bull. Sci. Soc. Philom. Paris 1820: 173 (1820) = **Verbesina** L.

Haplocalymma S. F. Blake, Proc. Amer. Acad. Arts 51: 517 (1916) = **Hymenostephium** Benth. & Hook.f.

Haplopappus Cass., Dict. Sci. Nat. 56: 168 (1828). [sub *Aplopappus*]

Haplopappus Cass. [as *Aplopappus*] sect. ? *Inulopsis* DC., Prodr. 5: 349 (1836) = **Inulopsis** (DC.) O. Hoffm.

Haplopappus Cass. [as *Aplopappus*] sect. ? *Leucopsis* DC., Prodr. 5: 348 (1836) = **Noticastrum** DC.

Haplopappus boliviensis* Cabrera, Blumea 7: 193 (1952) = **Llerasia boliviensis (Cabrera) Cuatrec.

Haplopappus [as *Aplopappus*] *cinierariifolius* Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 9 (1882), nom. nud. pro syn. = **Leptostelma tweediei** (Hook. & Arn.) D. J. N. Hind & G. L. Nesom

Haplopappus [as *Aplopappus*] *ledifolius* S. F. Blake, Amer. J. Bot. 14(3): 112 (1927) = **Llerasia ledifolius** (S. F. Blake) Cuatrec.

Haplopappus [as *Aplopappus*] *lucidulus* S. F. Blake, Amer. J. Bot. 14(3): 114 (1927) = **Llerasia macrocephala** (Rusby) Pruski

Haplopappus [as *Aplopappus*] *soratensis* S. F. Blake, Amer. J. Bot. 14(3): 109 (1927) = **Llerasia soratensis** (S. F. Blake) Cuatrec.

Haplopappus tweediei (Hook. & Arn.) Malme, Ark. Bot. 24(Häfte 3) A 6: 42 (1931) = **Leptostelma tweediei** (Hook. & Arn.) D. J. N. Hind & G. L. Nesom

Harthamnus H. Rob., Phytologia 45(6): 451 (1980) = **Plazia** Ruiz & Pav.

Harthamnus boliviensis H. Rob., Phytologia 45(6): 451 (1980) = **Plazia daphnoides** Wedd.

Hatschbachiella R. M. King & H. Rob., Phytologia 23(4): 393 (1972).

Type: *Eupatorium tweedieanum* Hook. & Arn. = **Hatschbachiella tweedieana** (Hook. & Arn.) R. M. King & H. Rob.

Hatschbachiella tweedieana (Hook. & Arn.) R. M. King & H. Rob., Phytologia 23(4): 394 (1972).

Eupatorium tweedieanum Hook. & Arn., Companion Bot. Mag. 1(No. 8): 242 (1835). Type/s: 'Uruguay, Porto Aleges and Rio Grande. *Tweedie*.'

**Eupatorium steviifolium* DC., Prodr. 5: 158 (1836). Type: '■ in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 498 miss.)'. Holotype: P; isotype: G-DC (as fragments).

Eupatorium erigeroides DC., Prodr. 5: 171 (1836). Type: ' in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 809 miss.)'. Holotype: P; isotype: G-DC (as a shoot apex fragment only).

Eupatorium erigeroides [var.] *β ramulosum* DC., Prodr. 5: 171 (1836). Type: in Brasiliae prov. Rio-Grande. ... (v.s. cum. var. *α* sub n. 779.)'. Holotype: P; isotype: G-DC (as fragments only).

Eupatorium steviifolium DC. var. *γ erigeroides* (DC.) Baker in Mart., Fl. Bras. 6(2): 319 (1876).

Eupatorium steviifolium DC. var. *viscosum* Chodat, Bull. Herb. Boissier, ser. 2, 3(8): 709 (1903). Types:

'Suffrutex 1-2, folia villosa-glutinosa, flos albus in dumeto pr. Piribeby, Dec., [Hassler] n. 6652; id. in campo San Bernardino, Febr., [Hassler] n. 3915; id. 0.5-1, foliis duplo latioribus, in dumeto pr. San Bernardino, Febr., [Hassler] n. 3942; ad ripam rivi Juqueri, Oct., [Hassler] n. 1408.' Syntypes: G.

Austroeupatorium tweedieanum (Hook. & Arn.) R. M. King & H. Rob., Phytologia 23: 394 (1972).

Argentina, ?Bolivia, Brazil, Paraguay, Uruguay.

Note: Foster (1958: 209) recorded this species as *E. steviifolium*, yet King & Robinson (1987: 71) did not record this genus for Bolivia. This is the most widespread of the two species in the genus and material should be thoroughly checked to see if it does indeed occur in the country.

Haynea Willd., Sp. Pl. 3: 1787 (1804) = **Pacourina** Aubl.

Haynea edulis (Aubl.) Willd., Sp. Pl. 3: 1787 (1804) = **Pacourina edulis** Aubl.

Hebeclinium DC., Prodr. 5: 136 (1836).

Eupatorium sect. *Hebeclinium* (DC.) Benth. ex Baker in Mart., Fl. Bras. 6(2): 345 (1876).

Lectotype (selected R. M. King & H. Robinson, Sida 3: 335, 1969): *Eupatorium macrophyllum* L. = **Hebeclinium macrophyllum** (L.) DC.

Hebeclinium hecatanthum DC., Prodr. 5: 136 (1836) = **Urolepis hecatantha** (DC.) R. M. King & H. Rob.

Hebeclinium macrophyllum (L.) DC., Prodr. 5: 136 (1836).

**Eupatorium macrophyllum* L., Sp. Pl. ed. 2, : 1175 (1762). Type: 'Habitat in America.' Lectotype (selected by King & Robinson in Woodson & Schery, 1975: 952): [icon] 'Eupatorium foliis cordato-acuminatis' in Plumier in Burman, Pl. Amer.: 121, t. 129 (1757).

Ageratum guianense Aubl., Hist. Pl. Guiane 2: 800 (1775). Type: not cited. Holotype: ?P-JJR.

Eupatorium molle Sw., Prodr. : 111 (1788), nom. illegit. based on *Ageratum guianense* Aubl.

Coleosanthus tiliifolius [sub *tiliaefolius*] Cass., Dict. Sci. Nat. 24: 519 (1822). Type: 'Nous avons observé cette plante dans l'herbier de M. Desfontaines, où elle est nommée *eupatorium macrophyllum*, et où il est dit qu'elle vient de Saint-Domingue et de Cayenne.'

Eupatorium populifolium Mart., Flora 20, 2 Beibl. : 105 (1837), nom. illegit., non Kunth (= **Critonia morifolia** (Mill.) R. M. King & H. Rob.), nec Hook. & Arn. (= **Urolepis hecatantha** (DC.) R. M. King & H. Rob.). Type: [Brazil:] 'In pascuis, sepibus, ruderatis circa Rio de Janeiro.' *Martius* Herb. Fl. Bras. 139. Holotype: BR; isotype: K.

Eupatorium dryadeum DC., Prodr. 7: 269 (1838). Type: '■ in Brasiliae sylvis. Eup. populifolium Mart. herb. fl. bras. n. 139 non Kunth.', see *E. populifolium* Mart. above. Holotype: BR; isotype: K. Note: this collection is likely to have been widely distributed, however, the original collector and collecting locality should be identified by examining material in BR bearing both the original collector's label and the Herb. Fl. Bras. 139 label.

Coelestina cordata Pohl ex Baker in Mart., Fl. Bras. 6(2): 345 (1876), nom. nud. pro syn.

Ageratum coeruleum Sieber ex Baker in Mart., Fl. Bras. 6(2): 245 (1876), nom. nud. pro syn.

Argentina, Bolivia (La Paz, Santa Cruz), Brazil, Colombia, Ecuador, Guayana, Jamaica, Mexico, Paraguay, Peru, Venezuela, West Indies.

Humid evergreen forest, disturbed areas, Chaco forest remnants, cultivated areas, mata alta de terra firme. 0–2000 m.

October–July; probably flowering throughout the year.

La Paz: Franz Tamayo, 750 m, 5 Diciembre 2005, *Araujo-M*, et al. 2670 (K, MO).

Vernacular name: EUPATÓRIO (Cabrera & Klein, 1991).

Hebeclinium urolepis DC., Prodr. 5: 136 (1836) = **Urolepis hecatantha** (DC.) R. M. King & H. Rob.

Hebeclinium DC. sect. *Urolepis* DC., Prodr. 5: 136 (1836) = **Urolepis** (DC.) R. M. King & H. Rob.

Helenoimium Willd. ex DC., Prodr. 5: 551 (1836), nom. nud. pro syn. = **Heliopsis** Pers.

Helepta Raf., Neogenyton : 3 (1825) = **Heliopsis** Pers.

Helianthopsis H. Rob., Phytologia 44: 258 (1979) = **Pappobolus** S. F. Blake

Helianthus L. subg. *Viguieriopsis* Heiser, Brittonia 8: 284 (1957), nom. nud. = **Pappobolus** S. F. Blake

Helianthus L., Sp. Pl.: 904 (1753); Gen. Pl., ed. 5: (1754)

Type: **Helianthus annuus** L.

References

Heiser, C. B. (1957). A revision of South American species of *Helianthus*. *Brittonia* 8(4): 283–295.

Heiser, C. B., Smith, D. M., Clevenger, S. B., & W. C. Martin, Jr. (1969). The North American sunflowers (Heliantheae). Mem. Torrey Bot. Club 22: 1-218.

Helianthus annuus L., Sp. Pl.: 904 (1753). Type: 'Habitat in Peru, Mexico. 1.' Lectotype (selected by Watson, Pap. Michigan Acad. Sci. 9: 358, 1929); Herb. Linn. No. 1024.1 (LINN); see comments by Jarvis, 2007: 563. Widely cultivated throughout the world and in many areas escaping and becoming naturalized. Bolivia (Santa Cruz).

Roadside weed around old sunflower fields.

250-2300 m.

February-April; potentially flowering throughout the year.

Helianthus angustifolius Spreng. ex Baker in Mart., Fl. Bras. 6(3): 221 (1884), nom. nud. pro syn. (sub. *V. stenophylla* (Hook. & Arn.) Griseb.) = **Viguiera anchusifolia** (DC.) Baker

Helianthus atacamensis Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 48 (1891) = **Viguiera pazensis** Rusby

Helianthus calvus Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 528 (Feb. 1866), nom. nud. (based on *Mandon* 34) = **Viguiera pazensis** Rusby

Helianthus esculentus Warsz. ex Otto & Dietr. Allg. Gartenz. (Otto & Dietrich) 20: 293 (1852), nom. illegit., later homonym, non Rottb. (1778) = **Smallanthus sonchifolius** (Poepp.) H. Rob.

Helianthus floribundus E. Watson, Pap. Michigan Acad. Sci. 9: 405 (1929) = **Viguiera australis** S. F. Blake

Helianthus mandonii Sch.Bip. Linnaea, 34: 525 (Feb. 1866), nom. nud. (based on *Mandon* 37; together with 'var.' *Mandon* 36) = **Oyedaea boliviana** Britton

Helianthus membranifolius Poir., Encycl. Suppl. 3: 18 (1813) = **Tilesia baccata** (L.) Pruski

Helianthus montevidensis Spreng. ex Baker in Mart., Fl. Bras. 6(3): 221 (1884), nom. nud. pro syn. (sub. *V. stenophylla* (Hook. & Arn.) Griseb.) = **Viguiera anchusifolia** (DC.) Baker

Helianthus procumbens Pers., Syn. Pl. 2: 475 (1807), nom. illegit. pro *S. helianthoides* Rich. ex Willd. = **Viguiera pazensis** Rusby

Helianthus sarmentosus Rich., Act. Soc. Hist. Nat. Paris 1: 112 (1792) = **Tilesia baccata** (L.) Pruski

Helianthus speciosus Hook., Curtis's Bot. Mag., ser. 2, 3 [vol 61 of whole]: t. 3295 (1834) = **Tithonia rotundifolia** (Mill.) S. F. Blake

Helianthus szyszylowiczii Hieron., Bot. Jahrb. Syst. 36(5): 491 (1905) = **Viguiera lanceolata** Britton

Helichrysum Mill., Gardn. Dict., ed. 4 (1754).

Helichrysum gnaphalioides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4(ed. folio): 68 (1818) = **Pseudognaphium antennarioides** (DC.) Anderb.

Helichrysum montevidense Spreng., Syst. Veg., ed. 16, 3: 485 (1826) = **Lucilia acutifolia** (Poir.) Cass.

Helichrysum retusum (Lam.) Spreng., Syst. Veg., ed. 16, 3: 484 (1826) = **Facelis retusa** (Lam.) Sch.Bip.

Heliogenes Benth., Pl. Hartw. : 42 (1840) = **Jaegeria** Kunth

Heliopsis subgen. *Kallias* Cass., Dict. Sci. Nat. 24: 326 (1822) = **Heliopsis** Pers.

Heliopsis Pers., Syn. Pl. 2: 473 (1807).

Heliopsis subgen. *Kallias* Cass., Dict. Sci. Nat. 24: 326 (1822). Type: *Anthemis buphthalmoides* Jacq. = **Heliopsis buphthalmoides** (Jacq.) Dunal

Kallias (Cass.) Cass., Dict. Sci. Nat. 38: 17 (1825).

Helepta Raf., Neogenyton : 3 (1825). Type: not designated.

Helenoium Willd. ex DC., Prodr. 5: 551 (1836), nom. nud. pro syn. (*Heliopsis canescens* Kunth)

Andrieuxia DC., Prodr. 5: 559 (1836). Type: *Andrieuxia mexicana* DC. = **Heliopsis buphthalmoides** (Jacq.) Dunal

Type: *Heliopsis laevis* (L.) Pers. = *Heliopsis helianthoides* (L.) Sw.

References

Diaz-Piedrahita, S. (1990). Acerca de la validez de dos nombres Asteráceas Colombianas y de su correcta tipificación. Revista Acad. Colomb. Ci. Exact. 17: 645-648.

Fisher, T. R. (1957). Taxonomy of the genus *Heliopsis* (Compositae). *Ohio J. Sci.* 57: 171–191.

Robinson, H. (2006). *Heliopsis*. In: G. Harling & L. Andersson (eds), *Flora of Ecuador*, No. 77(1): 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 181–186.

Note: Following the recognition (cf. Robinson, 2006) that *Acmella oppositifolia* (Lam.) R. K. Jansen is conspecific with *Heliopsis buphthalmoides*, the expanded synonymy is reflected in the listing below.

Heliopsis buphthalmoides (Jacq.) Dunal, *Mém. Mus. Hist. Nat. Paris* 5: 57 (1819).

Anthemis americana L.f., *Suppl. Pl.* : 378 (1782), non L. (1753)[= *Chrysanthellum americanum* (L.) Vatke].

Type: 'Habitat in America meridionali, Mutis.' Holotype: Herb. LINN 1016.32; isotype: MA-MUT (4785).

Anthemis oppositifolia Lam., *Encycl.* 1: 576 (1785), nom. illegit. superfl., based on *Anthemis americana* L.f.

Anthemis buphthalmoides Jacq., *Pl. Hort. Schoenbr.* 2: 13, t. 151 (1797). Type: 'Ex patria ignota. Floret aestate. ...'

Holotype: ?

Anthemis occidentalis Willd., *Sp. Pl.* 3: 2185 (1804), nom. nud.

Acmella occidentalis Willd. ex Rich. in Pers., *Syn. Pl.* 2: 473 (1807), nom. nud.

Heliopsis canescens Kunth in Humb. Bonpl. & Kunth, *Nov. Gen. Sp. Pl.* 4 (ed. folio): 166 (1818). Type:

[Ecuador:] 'Crescit in temperatis prope Loxa, alt. 1050 hex. (Regno Quitensi.)' [B: 'no. 3405. Loxa'].

Holotype: P-Bonpl.

Andreuxia mexicana DC., *Prodr.* 5: 559 (1836). Type: '·? in Mexico ad montem San-Felipe prope Oaxacam julio floridam legit cl. Andrieux. Gymnolomia? Andr.! pl. exs. n. 303. ... (v.s.)'. Holotype: G-DC.

**Stemodontia* [sic!](*Wedelia*) *elongata* Rusby, *Mem. Torrey Bot. Club*, 3(3): 58 (1893). Type: [Bolivia:] 'Yungas, 1890 ([Bang] 685)'. Holotype: NY (00260037); isotypes: NY (00260038), US (00042383).

Spilanthes phaneractis (Greenm.) A. H. Moore, *Proc. Amer. Acad. Arts* 42(No. 20): 543 (1907).

Spilanthes americana (L.f.) Hieron. var. *parvula* (B. L. Rob.) A. H. Moore f. *lanitecta* A. H. Moore, *Proc. Amer. Acad. Arts* 42(No. 20): 547 (1907). Type: 'Guatemala: QUICHÉ: H. T. Heyde et E. Lux, 3381, San Sguanu, alt. ca. 1770 m. (in Herb. Gray) (specimen cum oedem lectum in Herb. J. S. Sm.)'. Holotype: GH (12610).

Spilanthes oppositifolia (Lam.) D'Arcy, *Ann. Missouri Bot. Gard.* 62(4): 1143 (1975)[1976], comb. illegit.

Wedelia annua Gilli, *Feddes Repert.* 94(5): 314 (1983). Type: [Ecuador] 'Wald bei Tandapi, 1400 m, 21. 6. 1975, fl., fr. [Gilli] 165'. Holotype: W.

Acmella oppositifolia (Lam.) R. K. Jansen, *Syst. Bot. Monogr.* 8: 30 (1985).

Heliopsis oppositifolia (Lam.) S. Díaz, *Rev. Acad. Colomb. Cienc.* 17: 647 (1990), comb. illegit. non *H. oppositifolia* (L.) Druce

Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí, Santa Cruz), Colombia, Cuba, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela. Note: The distribution according to Jansen (1985) is 'throughout most of tropical Latin America.', although that was based on the assumption that, as *Acmella oppositifolia* – which included *Heliopsis buphthalmoides* and *Acmella repens* – it had a broader distribution.

Fields, roadsides, disturbed areas, riversides, mountain slopes.

1000–3200 (–4000) m.

December–May.

Chuquisaca: Wood 12001 (K), Wood et al. 22006 (K).

Cochabamba: Wood et al. 20403 (K).

La Paz: Wood & Goyder 15440 (K).

Potosí: Wood et al. 21976 (K).

Santa Cruz: Wood 13626 (K), Wood et al. 22952 (K).

Heliopsis canescens Kunth in Humb. Bonpl. & Kunth, *Nov. Gen. Sp. Pl.* 4 (ed. folio): 166 (1818) = **Heliopsis buphthalmoides** (Jacq.) Dunal

Heliopsis oppositifolia (Lam.) S. Díaz, *Rev. Acad. Colomb. Cienc.* 17: 647 (1990), comb. illegit. non *H. oppositifolia* (L.) Druce = **Heliopsis buphthalmoides** (Jacq.) Dunal

Helioreos Raf., *Atlantic J.* 1: 145 (1832) = **Pectis** L.

Helogyne Nutt., *Trans. Amer. Philos. Soc.*, n.s. 7: 449 (1841).

Brachyandra Phil., *Fl. Atacam.* : 34 (1860); *Reise Atacama*: 208 (1860). Type: *Brachyandra macrogyne* Phil. = *Helogyne macrogyne* (Phil.) B. L. Rob.

Leo Phil., Ann. Mus. Nac. Chile, Sect. 2, Bot. 8: 33 (1891). Type: *Leto tenuifolia* Phil. = *Helogyne apaloidea* Nutt.

Addisonia Rusby, Bull. Torrey Bot. Club 20: 432 (1893). Type: *Addisonia virgata* Rusby = ***Helogyne virgata*** (Rusby) B. L. Rob.

Helogyne Nutt. sect. *Brachyandra* (Phil.) B. L. Rob., Proc. Amer. Acad. Arts 42: 31 (1906).

Helogyne Nutt. sect. *Addisonia* (Rusby) B. L. Rob., Proc. Amer. Acad. Arts 42: 31 (1906).

Type: *Helogyne apaloidea* Nutt.

Reference

Robinson, B. L. (1906). Studies in the Eupatorieae. III. The genus *Helogyne* and its synonyms. Proc. Amer. Acad. Arts 42: 27–32.

Rusby, H. H. (1893). New genera of plants from Bolivia. Bull. Torrey Bot. Club 20: 429–434 & plates CLXVII–CLXX.

Key to species

- | | | |
|----|--|-------------------------|
| 1. | Florets 4–5 per capitulum | 2 |
| | Florets 9–12 per capitulum | <i>H. tacaquirensis</i> |
| 2. | Corollas c. 7 mm long; leaf margins stipitate-glandular | <i>H. straminea</i> |
| | Corollas c. 5.5 mm long; leaf margins glandular-punctate | <i>H. virgata</i> |

Helogyne fiebrigii* Hieron., Bot. Jahrb. Syst. 40(3): 368 (1908) = *Helogyne straminea*** (DC.) B. L. Rob.

Helogyne straminea (DC.) B. L. Rob., Proc. Amer. Acad. Arts 55: 88 (1919).

Eupatorium stramineum DC., Prodr. 5: 150 (1836). Type: '■ in Peruvia legit cl. Haenke. (v.s. in h. Haenk. â cl. de Sternberg. comm.)'. Holotype: G-DC. Note: It is also likely that isotype material exists in PR.

**Addisonia boliviana* Rusby, Descr. New Sp. S. Amer. Pl. : 147 (1920). Type: 'Specimen unique, collected by Miguel Bang in Bolivia, without number, locality or date.' Holotype: ?NY. Note: The location of Rusby's type is unknown but presumed to be in NY.

Helogyne fiebrigii Hieron., Bot. Jahrb. Syst. 40(3): 368 (1908). Types: 'Bolivia: habitat in declivibus lapidosis prope Camataqui, alt. s. m. 2500 m, ubi nomine vernaculo »T'h'ola Pinchana« ab incolis dicitur (K. FIEBRIG n. 2931, 2980 et 3066; m. Febr. 1904).' Syntypes: B†, K. Isosyntypes: *Fiebrig* 2931, GH (8931, 8932).

Isosyntype: *Fiebrig* 3066, S. Photo of *Fiebrig* 2931 in F – originally annotated as '*Addisonia fiebrigii* Hieron. n. sp.'. Note: There is an interesting discrepancy amongst the numbers and collecting dates for the syntypes at K – *Fiebrig* 2931 was collected '23.III.04'; *Fiebrig* 2980 was collected '18.II.04'; *Fiebrig* 3066 was collected '9.II.04'.

Helogyne weberbaueri B. L. Rob., Proc. Amer. Acad. Arts 42: 32 (1906). Type: 'PERU: in arenosis subdesertis, Yura, alt. 2400 m., 31 Aug. 1902, *Weberbauer*, n. 1416.' Holotype: B†; isotype: GH (8936).

Bolivia (Chuquisaca), Peru.

Rocky slopes, open scrub.

1800–3350 m.

October–August.

Chuquisaca: Wood et al. 22295 (K).

Helogyne tacaquirensis Hieron., Bot. Jahrb. Syst. 40(3): 369 (1908). Type: 'Bolivia: habitat in declivibus rupestribus prope Tacaquiri haud procul ab urbe Tarija, alt. s. m. 3100 m (K. FIEBRIG, n. 3885^a[sic!]; 16. m. Febr. 1904).' Holotype: B†. Note: The photograph in F of the type sheet clearly indicates that the collection number is 3085^a, and not 3885^a cited by Hieronymus – the sheet was annotated by Hieronymus (as both *Addisonia tacaquirensis* Hieron. n. sp. m. and *Helogyne tacaquirensis* Hieron.).

**Eupatorium dejectum* B. L. Rob., Contr. Gray Herb. 77: 12 (1926). Type: 'BOLIVIA or ARGENTINA: "Mirafior," A. d'Orbigny, no. 1331'. Holotype: P; isotype: GH (fragment).

Eupatorium tacaquirensis (Hieron.) B. L. Rob., Contr. Gray Herb. 90: 31 (1930).

Eupatorium huambutiensis Cabrera, Revista Univ. Cuzco 33(No. 87): 117 (1945). Type: [Original publication not seen].

Argentina, Bolivia (Chuquisaca, Potosí), Peru.

Rocky slopes, Puna, Prepuna.

2800–4000 m.
January–April.

***Helogyne virgata** (Rusby) B. L. Rob., Proc. Amer. Acad. Arts 42: 31 (1906).

Addisonia virgata Rusby, Bull. Torrey Bot. Club 20: 432 (1893). Types: 'Specimens of the same plant, collected by Pearce, in the Kew herbarium are marked by Mr. Bentham "*Eupatorium*," but no species is named. ... [Following the species description the following material is cited] Collected in Southern Bolivia by Mr. Miguel Bang (No. 868).' Isosyntype: Pearce s.n., K. Isosyntype: Bang 868, B† (photo F), GH (247268), K, NY (00158063, 00158064), PA, US(00200642). Note: When described, *Addisonia* was monospecific, and Rusby also mentioned the Pearce collection in K in the discussion following the generic description. The Pearce s.n. collection is from 'Ayacucho, Ap. 1867' The Bang collection is from 'Songo [La Paz], November 1890'. The isosyntypes in K are accompanied by a sheet on which is mounted plate CLXIX from Rusby's paper together with the original line drawings (from the Pearce collection), by Matilda Smith, of the dissections she made of the capitula which formed part of the final plate.

Bolivia (Cochabamba, La Paz), Peru.

Almost bare shaley soils, dry valleys.

2100 m.

October–May.

Cochabamba: Wood 22051 (K), Wood & Gutiérrez 23367 (K).

Helogyne weberbaueri B. L. Rob., Proc. Amer. Acad. Arts 42: 32 (1906) = **Helogyne straminea** (DC.) B. L. Rob.

Hemiachyris DC., Prodr. 5: 33 (1836) = **Gutierrezia** Lag.

Hemiambrrosia Delpino, Studi Lign. Anem. Comp. Artem. : 16 (1871) = **Ambrosia** L.

Hemixanthidium Delpino, Studi Lign. Anem. Comp. Artem. : 17 (1871) = **Ambrosia** L.

Heteranthus Cass., Dict. Sci. Nat. 21: 110 (1821), nom. illegit. et superfl. pro *Homoianthus* Bonpl. ex DC. = **Perezia** Lag.

Heterochaeta DC., Prodr. 5: 282 (1836) = **Erigeron** L.

Heterocondylus R. M. King & H. Rob., Phytologia 24: 389 (1972) 11/12.

Eupatorium sect. *Heterocondylus* (R. M. King & H. Rob.) Cabrera, Fl. Il. Catarinense 4 tribo Eupatorieae : 565 (1991).

Type: *Eupatorium vitalbae* DC. = **Heterocondylus vitalbae** (DC.) R. M. King & H. Rob.

Heterocondylus vitalbae (DC.) R. M. King & H. Rob., Phytologia 24: 391 (1972).

**Eupatorium vitalbae* DC., Prodr. 5: 163 (1836). Type: '■ in Brasiliã prope Rio-Janeiro legit cl. Lund. ... (v.s. comm. à cl. Lund).'

Campuloclinium surinamense Miq., Linnaea 17: 69 (1843). Type: 'Crescit prope flumen Commewyne, Octobri fructifera.' [Focke 662]. Holotype: U.

Bulbostylis [sub *Bolbostylis*] *scandens* Gardner, London J. Bot. 5: 470 (1846). Type: 'Hab. in woods near Cocaës, Province of Minas Geraes, Brazil. Fl. in August.' [Gardner 4842]. Types: BM, K,

Eupatorium ecuadorae Klatt, Ann. K. K. Naturhist. Hofmus. 9: 356 (1894). Type: 'Hab.: Ecuador, leg. Jameson.' Holotype: W; isotype: GH (sketch & fragm., q.v. King & Robinson, 1975: 955).

Eupatorium vitalbae DC. var. *serratifolium* Chodat, Bull. Herb. Boissier, ser. 2, 2(3): 306 (1902). Types: 'Suffrutex, 0,5-1 m., petala rosea, in dumeto pr. Ipé-hu, Sierra Maracayu, Oct. [Hassler] 5110; in dumetis p. fl. Tapiraguay, [Hassler] 4128./Tiges un peu grimpantes, fleurs jaunes, Villa Rica, dans les halliers, 876, B. Balansa.' Syntypes: G. Isosyntype: Hassler 4128, K.

Bolivia (Bení, La Paz, Santa Cruz), Brazil, Colombia, Costa Rica, Ecuador, Honduras, Nicaragua, Panama, Paraguay, Peru, Surinam, Venezuela.

Scrub, semi-deciduous forest, gallery forest, roadsides, rainforest.
0–2000 m.

July–October; probably flowering throughout the year.

Bení: Wood & Wasshausen 13845 (K).

La Paz: Wood & Wasshausen 13900 (K).

Santa Cruz: Wood 12422 (K), Wood 12519 (K).

Heterolaena Sch.Bip. ex Benth. & Hook. f., Gen. Pl. 2: 245 (1873), nom. superfl. = **Chromolaena** DC.

Heterosperma Cav., Icon. 3: 34 (1794).

Heterospermum Willd., Sp. Pl. 3: 2129 (1803), orth. var.

Microdonta Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 369 (1841) Type: *Microdonta nana* Nutt. = **Heterosperma nanum** (Nutt.) Sherff

Type: **Heterosperma pinnatum** Cav. [published as *pinnata* but since *Heterosperma* is considered neuter the epithet spelling is corrected]

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Cabrera, A. L. (1978). *Heterosperma* Cav. In: A. L. Cabrera, Flora de la Provincia de Jujuy, Republica Argentina. Parte X – Compositae. pp. 399–404.

Robinson, H. (2006). *Heterosperma*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 186–189.

Note: Robinson (2006) mentioned '*H. obtusifolium* Cav.' although I can find no record of this name in Cabrera, *Index Kewensis* nor the *International Plant Name Index*. It is probable he was referring to *H. ovatifolium* Cav.

Key to species (modified from Cabrera, 1978)

- | | | |
|----|---|------------------------|
| 1. | Leaves markedly pinnatisect, bipinnatisect or tripinnatisect, with narrow linear segments | 2 |
| | Leaves entire (with serrate margins) or pinnatisect but with wide lanceolate segments | 3 |
| 2. | Plants diminutive, procumbent; leaves glabrous, or almost so | <i>H. nanum</i> |
| | Plants medium sized, erect or ascending; leaves hirsute | <i>H. tenuisectum</i> |
| 3. | All leaves oblanceolate or obovate, margins distally serrate | <i>H. ovatifolia</i> |
| | All or some of the leaves pinnatisect with broad lanceolate segments | <i>H. diversifolia</i> |

Heterosperma depressum Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 187 (1874); Pl. Lorentz.: 139 (1874)
= **Heterosperma diversifolium** Kunth

***Heterosperma diversifolium** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 193 (1818).

Type: 'Crescit in aridis, prope urbem Quito et in convalli Guallagambensi, alt. 1150 – 1500 hex. † Floret Januario, Februario.' Holotype: P-Bonpl.

Heterosperma depressum Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 187 (1874); Pl. Lorentz.: 139 (1874).

Type: 'Tucuman, formationem alpinam herbaceam pr. Cienega ex magna parte constituens.' Holotype: Lorentz 135, GOET.

Heterosperma pinnatum Cav. var. δ *depressum* (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 158 (1898).

Heterosperma pinnatum Cav. var. ϵ *diversifolium* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 158 (1898).

Heterosperma spathulatum S. F. Blake, J. Bot. 53: 323 (1915). Type: 'ECUADOR: sandy fields, Riobamba, November, 1858, Spruce, 5788'. Syntypes: BM, K, NY (00179297, 00179298).

Argentina, Bolivia (Chuquisaca), Ecuador, Peru.

Scrub, roadsides, rocky slopes, grassy banks adjacent streams.

0–3000 m.

March–April.

Note: Robinson (2006: 187) was of the opinion that *H. maritimum* Kunth was also a synonym of *H. diversifolium*. Robinson (2006: 189) likened his concept of *H. diversifolium* to 'the Peruvian, Bolivian and Argentinian *H. obtusifolium* Cav., ...'

Heterosperma diversifolium Kunth var. *tenuisectum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 198 (March-April 1879); Symb. Fl. Argent. : 198 (1879) = **Heterosperma tenuisectum** (Griseb.) Cabrera
Heterosperma involucreatum (Phil.) Reiche, Anales Univ. Chile 112: 150 (1903) = **Heterosperma nanum** (Nutt.) Sherff

**Heterosperma maritimum* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 193 (1818) =
?Heterosperma ovatifolium Cav. – see also comment under **H. diversifolium**!

Heterosperma nanum (Nutt.) Sherff, Bot. Gaz. 91: 312 (1931). [corrected to *nanum*]

Microdonta nana Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 370 (1841). Type: 'HAB. Near Arequipa, Peru. (Mr. Curson.) ... I have described from two specimens.'

Bidens involucreatum Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 49 (1891). Type: [Chile:] 'Calcalhuay in provincia Tarapacá.' Holotype: SGO.

Heterosperma pinnatum Cav. var. β *involucreatum* (Phil.) Kuntze, Revis. Gen. Pl. 3(3): 158 (1898).

Heterosperma involucreatum (Phil.) Reiche, Anales Univ. Chile 112: 150 (1903).
Argentina, Bolivia (?), Chile, Peru.

Heterosperma ovatifolium Cav., Descr. Pl. : 204 (1802). [published as *ovatifolia* but corrected to *ovatifolium*]

Heterospermum ovatum Willd., Sp. Pl. 3, pt. 3: 2129 (1804). Type: 'Habitat in Peru.'

**Heterosperma maritimum* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 193 (1818). Type: 'Crescit in maritimis Peruviae, prope Truxillo. † Floret Septembri.' Holotype: P-Bonpl.

Bidens (Heterospermum) rhombifolium Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud. (based on *Lechler* 1576).

**Heterospermum rhombifolium* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 186 (1874); Pl. Lorentz.: 138 (1874). Types: 'Tucuman, ad vias regionis subtropicae pr. Siambon. (Peruvia).'

Heterosperma pinnatum Cav. var. ζ *ovatifolium* (Cav.) Kuntze, Revis. Gen. Pl. 3(3): 158 (1898).

Heterosperma pinnatum Cav. var. η *maritimum* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 158 (1898).

Argentina, Bolivia (?), Ecuador, Peru.

Disturbed soils, damp soils.

1350 m.

October–June.

Note: See comment under *H. diversifolium* vide *H. maritimum*

***Heterosperma pinnatum** Cav., Icon. 3: 34 (1795). Type: 'Habitat in Nova-Hispania. † Florebat in Regio horto Matritense mense Octobri 1794. Note: There is much material in MA corresponding to this species – seven sheets. MA (475793 – Fiche 38/A6) with two almost identical handwritten labels "Heterosperma pinnata/Cav. Ic. 2a 267/Heterospermum pinnatum Willd. Syng. pa. 2120/ex Hort. Reg. Matr./anno 1808', and one typewritten label 'Heterosperma pinnata Cav.'; MA (475793 [sic!] – a duplicate sheet – Fiche 38/A7), with only a typewritten label as 'Heterosperma pinnata Cav.'; MA (475798 – Fiche 38/A8), with only a typewritten label as 'Heterospermum pinnatum Cav.'; MA (475794 – Fiche 38/B1) has a handwritten label 'Heterosperma pinnata/Icon./Queretaro in Nova-Hispan./Née dedit.' and one typewritten label 'Heterosperma pinnata Cav./Nueva España'; MA (475795 – Fiche 38/B2) has a handwritten label 'Heterosperma pinnata Cav./Née Iter.' and a typewritten label identifying the species; MA (475796 – Fiche 38/B3) has two handwritten labels, the upper 'Heterosperma pinnata/Icon. t. 267/Sept. 1794 ex H. R. M.' the lower 'Heterosperma/ex Queretaro in Nova-Hisp./Née dedit.' and one typewritten label (Heterosperma pinnata Cav./Nueva España'; MA (475797 – Fiche 38/B4) has one handwritten label 'Heterosperma/Ixmiquilooan in Nova-hispania/Née dedit.'

Note: Foster (1958: 211) recorded this species, a native of Mexico and the USA, but it remains to be seen if the species does occur in Bolivia, if this refers to another, or refers to a variety of *H. pinnatum* now referred to the synonymy of *H. diversifolium*.

Heterosperma pinnatum* Cav. [var.] γ *biternatum* Kuntze, Revis. Gen. Pl. 3(3): 158 (1894) = **H. tenuisectum (Griseb.) Cabrera

Heterosperma pinnatum Cav. var. δ *depressum* (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 158 (1898) = **H. diversifolium** Kunth

Heterosperma pinnatum Cav. var. ϵ *diversifolium* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 158 (1898) = **H. diversifolium** Kunth

Heterosperma pinnatum Cav. var. β *involutratum* (Phil.) Kuntze, Revis. Gen. Pl. 3(3): 158 (1898) = **Heterosperma nanum** (Nutt.) Sherff

Heterosperma pinnatum Cav. var. η *maritimum* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 158 (1898) = **Heterosperma ovatifolium** Cav.

Heterosperma pinnatum Cav. var. ζ *ovatifolium* (Cav.) Kuntze, Revis. Gen. Pl. 3(3): 158 (1898) = **Heterosperma ovatifolium** Cav.

Heterosperma rhombifolium* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 187 (1874) = **H. ovatifolia Cav.

Heterosperma spathulatum S. F. Blake, J. Bot. 53: 323 (1915) = **H. diversifolium** (according to Robinson, 2006: 187).

Heterosperma tenuisectum (Griseb.) Cabrera, Fl. Prov. Jujuy 10: 404 (1978). [published as *tenuisecta* but corrected to *tenuisectum*]

Heterosperma diversifolium Kunth var. *tenuisectum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 198 (March-April 1879); Symb. Fl. Argent. : 198 (1879). Types: [Argentina] 'Ct.' Syntypes: Lorentz 562, Schickendantz 93, GOET. According to Ariza Espinar (2000: 62) the isosyntype (Lorentz 562) in CORD is a species of *Bidens*.

Heterosperma pinnatum Cav. [var.] γ *biternatum* Kuntze, Revis. Gen. Pl. 3(3): 158 (1898). Type: 'Bolivia: Tiraqui.' ['BOLIVIA. Tiraqui, 3600 m, 1-4 Apr 1892, Kuntze s.n. (2 sheets).'] – according to Wetter & Zanoni, 1985: 333] NY (00179296)

Argentina, Bolivia (Cochabamba, Tarija).

Dry stony hillsides, cultivated areas.

2100–3500 m.

January–May.

Heterospermum Willd., Sp. Pl. 3: 2129 (1803), orth. var. = **Heterosperma** Cav.

Heterothalamulopsis Deble, A. S. Oliveira & Marchiori, Ci. Florest. (Santa Maria) 14(1): 1 (2004) = **Baccharis** L.

Heterothalamus Less., Linnaea 5(1): 145 (1830). Note: Lessing (1830) mentioned the genus as a footnote to his description of 'Subtrib. 2. Baccharideae.' as '*Heterothalamus*, novum genus Brasiliense, singulare, subdioicum, *Bruniae* facie, *Melanthera aliena* sprg.!' Nesom & Robinson (2006: 311–312) indicated that the genus is still recognized and with two species in southern Brazil and Uruguay.

Heterothalamus acaulis Wedd. ex R. E. Fr., Nova Acta Regiae Soc. Sci. Upsal., ser. 4, 1: 79 (1905) = **Baccharis acaulis** (Wedd. ex R. E. Fr.) Cabrera

Heterothalamus boliviensis Wedd., Chloris Andina 1: 179 (1856) = **Baccharis boliviensis** (Wedd.) Cabrera

Heterothalamus boliviensis Wedd. var. *latifolius* R. E. Fr., Nova Acta Regiae Soc. Sci. Upsal., ser. 4, 1: 78 (1905) = **Baccharis boliviensis** (Wedd.) Cabrera

Heterothalamus trinervis (Pers.) Hook. & Arn., J. Bot. (Hooker) 3(No. 17): 43 (Oct. 1840) = **Baccharis trinervis** Pers.

Heterotheca deltoidea* Klatt, Ann. Naturh. Hofmus. Wien 9: 359 (1894) = **Munnozia hastifolia (Poepp.) H. Rob. & Brettell

Hieracium L., Sp.Pl. : 799 (1753).

Mandonia Sch.Bip., Linnaea 33(6): (1865), nom. illegit. superfl.

Type: *Hieracium murorum* L.

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Key to species (modified and adapted from Sleumer, 1956)

Note: In Sleumer's key a number of very specific terms, pertinent to the habit and form of hieracia, were used. These included:

Aphyllopodous = lacking leaves at flowering time.

Hypophyllopodous = 'radical leaves present when flowering, but not numerous; used of certain Hieracia' (Jackson, 1928).

Phyllopodous = 'used of the genus *Hieracium* when the radical leaves are in full vigour' at flowering time (Jackson, 1928).

Subhypophyllopodous = few radical leaves present at flowering time scarcely forming a rosette (possibly a very loose rosette discernible).

1. Ligule apices markedly ciliate and involucre never or laxly scarcely pilose; leaves usually ± densely floccose beneath (Sect. *Hypocheoridiformia*) *H. fimbriatum*
Ligule apices ± obviously ciliate and involucre densely pilose to lanate, or ligules never ciliate; leaves not floccose beneath 2
2. (1) Inflorescence scapiform, rarely 2 or 3 headed, axillary from basal, middle or upper leaves; involucre large, 12–13 (–14) mm tall, 8–10 mm diam., (densely long-pilose or pilose, never glandular-pilose) (Sect. '*Mandonia*') *H. stachyoideum*
Inflorescence many- to densely-headed, with fewer from upper leaf axils or usually from reduced bracts; involucre small to large 3
3. (2) Involucre ± densely long-pilose to villose (lanate), otherwise never obviously long glandular-pilose, occasionally sparsely, rarely moderately short-glandular, that is short (to 0.5 mm long) glandular-pilose, occasionally sparsely to densely floccose (Sect. *Aurelliformia*)
Involucre densely (rarely sparsely) long glandular-pilose, occasionally pilose, occasionally floccose or involucre floccose, occasionally glandular 4
4. (3) Rosette leaves absent at flowering; inflorescence many- to densely-headed[; involucre small, subcylindrical, floccose, rarely occasionally laxly glandular-pilose (Sect. *Acceipitriniformia*)] *H. microcephalum*
Rosette leaves present and green at flowering or present and few; inflorescence few- to many-headed 5
5. (4) Involucre never or moderately glandular-pilose, always ± densely floccose; style ± yellow (rosette leaves always present) (Sect. *Piloselliformia*) 14
Involucre densely to very densely glandular-pilose, otherwise ± densely pilose, otherwise floccose; style usually dark (rosette leaves present or relatively few) (Sect. *Adenothyrsa*) 16
- 6 (3). Leaves distinctly rosetiform in flower; cauline leaves 1–3, rapidly falling, lower forming a rosette 7
Basal leaves few, scarcely forming a rosette when plant in flower; cauline leaves 3–6–8 (12, rarely to 15), gradually falling 11

7. (6) Inflorescence laxly ± markedly branched or continuously to median leaves (rarely markedly) branches remote, 2-5, slender, 1 or 2 (-3)-headed; [leaves densely whitish-cinereous-villose or -lanate on both surfaces; involucre short-cinereous-lanate and densely floccose (Cochabamba)] *H. herzogianum*
- Inflorescence ± compact, branches short, 1-3 headed 8
8. (7) Involucre clearly (sparsely or densely) short-glandular 9
- Involucre never or rarely laxely short-glandular 10
9. (8) Involucre subovate-cylindrical, 7-8 mm × c. 5 mm diam., ± pilose throughout; delicate, subscapose, 6-12 (-15) cm tall, ± densely pilose (Cochabamba, La Paz) *H. mandonii*
- Involucre ovate, 8-9 mm × 6-7 mm diam., blackish-tangled villose in lower half, long-pilose above; stem 15-25 cm tall (rarely shorter), usually sublanate-short pilose (Cochabamba, La Paz) *H. trichodontum*
10. (8) Involucre narrowly ovate-cylindrical, ± densely floccose, 6-7 mm tall *H. argentinense* (delicate plants)
- Involucre ovate-cylindrical, sparsely or scarcely floccose at base, 8-10 mm tall (Chuquisaca) *H. eriocephalum*
11. (6) Few radical leaves present at flowering time, scarcely rosetiform; stems slender or robust; cauline leaves not very or strongly clasping *H. argentinense*
- Radical leaves distinctly rosetiform at flowering time; stems robust; cauline leaves markedly amplexicaul, 8-12 (-15), few or none remaining at flowering 12
12. (11) Leaves oblong-ovate, subobtuse, 5-6(-7) cm long; involucre 7-8 mm tall, moderately blackish-pilose; stem hairs dense, setiform, patent (5-6 mm long) 13
- Leaves (subobovate) oblong to elongate-oblong, acuminate, (8) 10 to 15 cm long; involucre 8-10 (-12) mm tall, densely long blackish-pilose (Cochabamba, La Paz) *H. tacense* (? incl. *H. trollii*)
13. (12) Phyllaries densely short-glandular pubescent beneath pilose hairs, dense at base and floccose towards apex (Chuquisaca) *H. boliviense*
- Phyllaries sparsely short-glandular beneath pilose hairs, floccose almost throughout (Tarija) *H. padcayense*
14. (5) Involucre laxly or moderately glandular-pilose, densely floccose; involucre small, 4-5 mm tall (La Paz) *H. apoloense*
- Involucre ± densely glandular-pilose, scarcely to moderately floccose 15
15. (14) Involucre 6-8 mm tall; inflorescence many-headed, subcorymbose-paniculate (Chuquisaca, Tarija) *H. fulvipes*
- Involucres (8-) 9 (-10) mm tall; inflorescence few-headed, ± corymbose, branches markedly forked and single-headed (La Paz) *H. mapireense*
16. (5) Involucre ± black glandular-pilose, rarely subsetulose, rarely subfloccose towards base (Sect. *Adenothyrsa* s.s.) 17
- Involucre black-glandular-pilose and also distinctly pilose (setose), frequently somewhat floccose or black-glandular-pilose and also ± densely floccose or never pilose, or black (rarely yellowish)- glandular-pilose and also pilose (setose) and floccose 20
17. (16) Inflorescence branches (to 8) short, ± erect few-headed, lowermost remotely thyrsoid or subpaniculate; radical leaves present at flowering time; cauline leaves smaller; (stems often softly patent setose-pilose) 18
- Inflorescence branches ± elongate and thyrsoid towards apex, paniculate below; cauline leaves moderately abruptly smaller 19
18. (17) Stem base densely setose-pilose, upwards laxly setose-pilose; involucre 6-7.5 mm tall; cauline leaves to 12 *H. dasychaetocomum*
- Stem ± patent setose-pilose throughout; involucre (9-) 10-11 mm tall; cauline leaves 5-7 *H. asplundii*
19. (17) Involucre 4-5 mm tall; inflorescence diffuse or strongly intermediate, with 6-8 terminal branches, remaining strongly remote and long-squarrose and corymbiform with many heads; rosette leaves and stem base floccose; cauline leaves 3-4, remote, ± oblong, never or hardly amplexicaul *H. hauthalianum*
- Involucre 6- (rarely -9) mm, subfloccose beneath; inflorescence thyrsoid-paniculate, many- (to 35)-headed, branches ± elongate arcuate-ascending with final subracemose-branching;

- radical leaves present at flowering time, stems not floccose, lowermost leaves persistent until flowering; basal leaves obovate or oblong-ovate, just as in amplexicaul cauline leaves
H. adenocephalum
20. (16) Stem (and involucre) as far as/up to apex laxly to densely long (hairs 5–8, rarely 10 mm) patent-setose or –setose-pilose or pilose 21
 Stem ± softly to short (never obviously, or in lower part barely patent) setose or pilose (hairs 2–4 mm) *H. pazense*
21. (20) Involucre densely floccose, ± densely glandular-pilose, ± densely long-setose *H. megalochaetum*
 Involucre moderately or sparsely floccose 22
22. (21) Inflorescence compact, few-headed 23
 Inflorescence lax, several-headed 24
23. (22) Inflorescence and involucre moderately pilose and densely glandular-pilose (La Paz) *H. pongoense*
 Inflorescence and involucre densely subsetose-pilose and sparsely to moderately short subdensely glandular-pilose (Oruro) *H. schreiteri*
24. (22) Involucre ovate-cylindrical, densely to moderately long soft-pilose and moderately short subdensely glandular-pilose (La Paz) *H. psychroadenium*
 Involucre ovate, subdensely subsetose-pilose and densely long glandular-pilose (La Paz) *H. pazense*

Note: Schuhwerk determined material of *Wood & Goyder 16774* as *Hieracium* aff. *neufurcatum* Sleumer, an Argentinian species from Salta. It remains to be seen if this species can be added to the Bolivian Compositae flora. Similarly, *Wood 18895* has been determined by Schuhwerk as *H. cf. vervoorstii* Sleumer – an Argentinian species from Catamarca.

****Hieracium adenocephalum*** (Sch.Bip.) Arv.-Touv., Spicil. Rar. Hierac.: 8 (1881).

Pilosella adenocephala Sch.Bip., *Linnaea* 33(6): 759 (1865). Type: ‘Bolivia, prov. Larecaja, vicinis Soratae, ad rivum Chalasuyo etc. undique in regione temperata, alt. 9100–10500 ped. (2600–3000 met.), a m. Sept. in Januarium an. 1858 mixta cum *Pilosella Mandonii*. G. Mandon! pl. and. boliv. n. 272.’ Holotype: P (as ‘272 p.p. maiore’ (Sleumer, 1956: 137); isotypes: BM, G, K, NY (00231240, 00231241, 00231242), US. Note: some authorities have cited the combination as ‘(Sch.Bip.) Britton’ from Bull. Torrey Bot. Club. 19(12): 371 (1891). Clearly, that combination was made much later than that of Arvet-Touvet.

Hieracium chilense Less. var. *adenocephalum* (Sch.Bip.) Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 218 (March–April 1879); *Symb. Fl. Argent.*: 218 (1879).

Hieracium adenocephalum (Sch.Bip.) Britton, Bull. Torrey Bot. Club 19(12): 371 (1891), comb. illegit. superfl. Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz).

Rough grassland.

1800–3800 m.

September–January.

Chuquisaca: Azurdüy. 2500 m, *Wood et al.* 15332 (K, LPB). La Paz: Sorata, 3300 m, *Rusby* 1651 (BM, K, NY, P); Murillo, La Paz, 3600 m *Hammarlund* 556 (S); La Paz, 3800 m, *Buchtien* 4129 (HBG, US); N. Yungas, Undiavi, 3300 m, *Buchtien* 3098 (NY); *Buchtien* 3099 (NY, US); *Buchtien* 3100 (NY); *Buchtien* 3101 p.p. (HBG); Pongo, 3600 m, *Tate* 250 p.p. (NY). Santa Cruz: Vallegrande, 2600 m, *Wood & Goyder* 15591 (K, LPB, M)

Hieracium adenocephalum (Sch.Bip.) Britton, Bull. Torrey Bot. Club 19(12): 371 (1891), comb. illegit. superfl. =

Hieracium adenocephalum (Sch.Bip.) Arv.-Touv.

****Hieracium apoloense*** Rusby, Bull. New York Bot. Gard. 8(No. 28): 135 (1912). Types: [Bolivia:] ‘ “Hills near Apolo, 6000 ft. alt., Feb. 20, 1902” ([R.S. Williams] No. 130). [R. S. Williams] No. 1466, from the same place, Aug. 31, 1902, is a smaller form of the same.’ Syntypes: NY. Lectotype (selected by Sleumer, 1956: 128): *Williams* 130 – NY (00180067). Syntype (*R. S. Williams* 1466): NY (00621794).

Bolivia (Chuquisaca, La Paz).

Crevices on sandstone hillsides.

1800–2200 m.

January–February.

Hieracium argentinense Zahn, Compositae-Hieracium: 1140 (1923). Types: 'Argentinien: La Ciénega in der Sierra de Tucuman (Lorentz u. Hieronymus n. 682 pp.!, n. 648 pp.!, n. 649 pp.!), Catamarca, Nevado de Castillo, im Hochtal Granadillas bei Yukutula. Auf Alpenwiesen bei 2700–3300 m.' Syntypes: ?
Argentina, Bolivia (Santa Cruz).

Relict Tucuman forest, steep stony slopes.

2400–4000 m.

December–January.

Note: Sleumer (1956: 110) cited 'Bang, s.n. s.loc. (NY)' and 'auf dem Calvario, 3900 m, Buchtien 566 (HBG)' in discussion of this taxon, but queried the presence of the species in Bolivia in the key. Sleumer also equated this name with '*Hieracium frigidum* sensu Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 199 (1874); Pl. Lorentz.: 151 (1874)'.

Santa Cruz: Valleggrande. 2700 m, Wood & Goyder 15603 (K); Wood & Huaylla 18627 (K).

Hieracium asplundii Sleumer, Bot. Jahrb. Syst. 77(1): 137 (1956). Type: 'Bolivien: La Paz: Ingavi, Guaqui, c. 3900 m, fl. 2-II-21, E. ASPLUND 2306'. Holotype: S.

Bolivia (Chuquisaca, La Paz).

Sandstone cliffs.

3600–3900 m.

December–April.

?Chuquisaca: Chataquilla (Punilla-Chanauca), 3600 m, Wood 7761 (K, LPB). La Paz: 'Ingavi, Guaqui, c. 3850 m, *Asplund* (Herb. Buchtien 4881)' (US); Murillo, Challapampa, c. 3800 m, fl. 26-IV-21, *Asplund* 3797 (US).

Hieracium bangii* Rusby, Mem. Torrey Bot. Club 3(3): 66 (1893) = **Hieracium microcephalum Sch.Bip. var. **microcephalum**

Hieracium bangii* Rusby ssp. *austroboliviense* Zahn, Compositae-Hieracium: 1099 (1923) = **Hieracium microcephalum Sch.Bip. var. **subglandulosum** Sleumer

Hieracium bangii Rusby ssp. *bangii* var. *siambonicum* Zahn, Compositae-Hieracium: 1099 (1923) = **Hieracium microcephalum** Sch.Bip. var. **microcephalum**

***Hieracium boliviense** (Wedd.) Sch.Bip., Bonplandia 9(12): 173 (1861).

Crepis boliviensis Wedd., Chloris Andina 1: 226 (1857). Type: 'Hab. BOLIVIE: Région alpestre du mont Curil, dans la province de Tomina (Wedd.) [3738]'. Holotype: P; isotype: S (as holotype fragment)

Pilosella boliviensis (Wedd.) Sch.Bip., Flora 45: 436 (1862).

Hieracium sordidum Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 199 (1874); Pl. Lorentz.: 151 (1874).

Type/s: [Argentina:] 'Catamarca, in convalle alpina Granadillas pr. Belen. (H. sordidum Gill.:

»Mendoza«).' Holotype (lectotype, according to the GOET database): Lorentz 547, GOET.

Hieracium boliviense (Wedd.) Arv.-Touv., Spicil. Rar. Hierac.: 97 (1881), comb. superfl.

Bolivia (Chuquisaca).

Hieracium boliviense (Wedd.) Arv.-Touv., Spicil. Rar. Hierac.: 97 (1881), comb. superfl. = **Hieracium boliviense** (Wedd.) Sch.Bip.

Hieracium chilense Ball, J. Linn. Soc. Bot. 22: 47 (1885) = **Hieracium mandonii** (Sch.Bip.) Arv.-Touv.

Hieracium chilense Less. var. *adenocaphalum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 218 (March–April 1879); Symb. Fl. Argent.: 218 (1879) = **Hieracium adenocephalum** (Sch.Bip.) Arv.-Touv.

Hieracium dasychaetocomum Zahn, Compositae-Hieracium: 1093 (1923). Types: 'Argentinien: La Ciénega in der Sierra de Tucuman (Lorentz u. Hieronymus n. 646–647 pp.!, n. 679 pp.! usw.). – Januar.' Lectotype (selected by Sleumer, 1956: 136): Lorentz & Hieronymus 646 p.p. – B; isolectotype: GOET.

Hieracium frigidum Willd. var. *elatius* Griseb., Symb. Fl. Argent. 218 (1879), Abh. Königl. Ges. Wiss. Göttingen 24(1): 218 (1879), p.p. Types: 'T.' Syntypes: Lorentz & Hieronymus 646 p.p., Lorentz & Hieronymus 680 p.p., GOET. Other syntype material is apparently referrable to *H. megalochaetum* Zahn (Lorentz & Hieronymus 646 p.p.), *H. lorentzianum* Zahn (Lorentz & Hieronymus 147, Lorentz & Hieronymus 646 p.p., Lorentz & Hieronymus 680 p.p.) and *H. niederleinii* (Zahn) Sleumer (Lorentz & Hieronymus 680 p.p.) – all in GOET.

Argentina, Bolivia (Tarija).

2000–3400 m.

December–January.

Tarija: Cuesta de Sama, 3000 m, Meyer 17294 (LIL, M).

***Hieracium eriocephalum** Wedd., *Chloris Andina* 1: 226 (1857). Types: 'Hab. ÉQUATEUR: environs de la ferme d'Isco! sur le mont Antisana (*Hartweg*, exsicc., n. 1177). – BOLIVIE: environs de Chuquisaca!, dans le région alpestre (*d'Orbigny*, n. 1192).' Note: Var. β *nanum* was mentioned but no material pertinent to this variety was mentioned. Lectotype (selected by Sleumer, 1956: 110): *d'Orbigny* 1192 – P.

Hieracium erianthum Kunth var. *eriocephalum* (Wedd.) Zahn, *Compositae-Hieracium*: 1140 (1923).

Bolivia (Chuquisaca).

Steep slopes, shaley soil.

2800–3100 m.

December–January.

Hieracium erianthum Kunth var. *eriocephalum* (Wedd.) Zahn, *Compositae-Hieracium*: 1140 (1923) = **Hieracium eriocephalum** Wedd.

Hieracium fiebrigianum* Zahn, *Compositae-Hieracium*: 1098 (1923) = **Hieracium fulvipes Wedd.

***Hieracium fimbriatum** Arv.-Touv., *Spicil. Rar. Hierac.*: 6 (1881). Type: 'Hab. in prov. boliviensis Larecaja, vicinis Soratae undique e. g. ad rivum Challasyo, alt. 9100–10,500 ped. (2600–3000 met.), Sept.–Jan. 1858.

Mandon n. 272, p.p. [CITATION TAKEN FROM *Pilosella mandonii*, q.v.] Holotype: G (Herb. Boissier) (mixed with *Hieracium adenocephalum*); isotypes: K, P, S (apparently as holotype fragment).

Bolivia (?Chuquisaca, La Paz, Tarija).

Sandstone cliffs.

2600–3000 m.

September–January.

Hieracium frigidum sensu Griseb., *Pl. Lorentz.*: 151 (1874) = **Hieracium argentinense** Zahn

Hieracium fulvipes Wedd., *Chloris Andina* 1: 224 (1857). Type: 'Hab. BOLIVIE: province de Tomina!, dans la région alpestre (*Wedd.*).' Holotype: P.

Pilosella fulvipes (Wedd.) Sch.Bip., *Flora* 45: 436 (1862).

**Hieracium fiebrigianum* Zahn, *Compositae-Hieracium*: 1098 (1923). Types: 'Süd-Bolivia: Toldos bei Bermejo, 1900–2200 m, in Felsspalten (*K. Fiebrig* n. 2341 pp.!, n. 2379a pp.!). – Dezember.' Lectotype (selected by Sleumer, 1956: 132): *Fiebrig* 2341 p.p. – B. Note: This is given as 'Argentinien: Salta: Sta. Victoria: Toldos, 1900–2200 m, in Felsspalten, fl. 9-XII-03' by Sleumer (1956: 132).

Hieracium lagopus sensu van Soest in J. Koster, *Blumea* 5(3): 661 (1945), non D. Don (1830).

Argentina, Bolivia (Chuquisaca, Santa Cruz, Tarija).

1500–3200 m.

December–February.

Chuquisaca: Prov. d'Acero, *Weddell* 3673 (P).

Santa Cruz: 'an steinigen Abhängen der Buschregion von Tres Cruces, 1500 m, II-1911, *Herzog* 1951 (L – det. Beauverd).

Tarija: Cuesta de Sama, 2500 m, fl. 26-I-53, *Meyer* 17543 (LIL, M).

***Hieracium hauthalianum** Zahn, *Compositae-Hieracium*: 1090 (1922). Type: 'Bolivia: Im unteren Teil des Tales Chuquiaguillo, östlich der Stadt La Paz, 3500–4000 m (*Hauthal* n. 185)! – Dezember, Januar.' Holotype: B.

Bolivia (La Paz).

3500–4000 m.

December–January.

Hieracium herzogianum Beauverd ex Sleumer, *Bot. Jahrb. Syst.* 77(1): 106 (1956). Type: 'Bolivien: Cochabamba: An Felsen des Cerro Sipascocoya bei Pojo, 3300 m, fl. 4-1911, *HERZOG* 2046b'. Holotype: L.

Hieracium herzogianum Herzog, *Pflanzenw. Bolivischen Anden.*: 165 (1923), nom. nud.

Bolivia (Cochabamba).

Grassy slopes, rocky areas, sometimes on peaty soil.

3300–3800 m.

January–April.

Cochabamba: Quirusillanni-Totora, 3800 m, on grassy slopes, fl. 4-1943, *Cárdenas* 2350 (US); Chapare, 25 Jan 1997, *Wood* 11687 (K); Chapare, 2 Febrero 2003, *Wood* 18918 (K).

Note: Schuhwerk has also determined *Wood* et al. 15271 (K, M) as this species but it is too different in stature, pubescence and especially capitulum characters to be this species and requires closer examination.

Hieracium herzogianum Herzog, Pflanzenw. Bolivischen Anden. : 165 (1923), nom. nud. = **Hieracium herzogianum** Beauverd ex Sleumer

Hieracium lagopus* D. Don, Trans. Linn. Soc. London 16(2): 176 (1830). Foster (1958: 211) cited this taxon but it was based on *H. lagopus* sensu van Soest in J. Koster (1945) = **Hieracium fulvipes Wedd.

Hieracium leptcephalum* Benth. var. *microcephalum* Zahn, Compositae-Hieracium: 1096 (1922) = **Hieracium microcephalum Sch.Bip.

***Hieracium mandonii** (Sch.Bip.) Arv.-Touv., Spicil. Rar. Hierac.: 16 (1881).

Pilosella mandonii Sch.Bip., Linnaea 33(6): 760 (1865). Type(s?): 'Hab. in prov. boliviensis Larecaja, vicinis Soratae undique e. g. ad rivum Challasyo, alt. 9100-10,500 ped. (2600-3000 met.), Sept.-Jan. 1858. *Mandon!* n. 272. mixta cum *P. adenocephala*; via ad Lacatia, in locis petrosis, reg. subalp., alt. 11,900 ped. (3400 met.), Nov. 1857: *Mandon!* n. 272 ter ...'

Hieracium orthotrichum R. E. Fr., Epicris. Hierac.: 144 (1862). Type: 'In Chili. Legit. *Eschschooltz* (v. s. sp.)'

Pilosella mandonii Sch.Bip. var. β *soratae* Sch.Bip., Linnaea 33(6): 760 (1865). Type: '... et Var. *Soratae*, vicinis Soratae, Cabegeras de Chilcani, reg. alp., alt. 12,950-14,000 ped. (3700-4000 met.) Oct. 1858: *G. Mandon!* n. 271.' Holotype: P; isotypes: BM, G, K, NY (00231243), S, V.

Hieracium chicleense Ball, J. Linn. Soc. Bot. 22: 47 (1885). Type: 'Chicla!' [Ex rupestribus Andium Peruviae juxta pagum Chicla, 12-13000' s. m. Aprili 21-23. *J. Ball.*] Holotype: K (ex herb. *J. Ball.*); isotypes: K \times 2.

Argentina, Bolivia (Cochabamba, La Paz), ?Chile, Peru.

Rocky areas, alpine pastures.

2000-4200 m.

September-April.

Cochabamba: Ayopaya, Sailapata, 3800 m, *Cardenas* 3265 (US).

La Paz: Omasuyos, vic. Achacachi, Paychani, in collibus, 3950 m, *Mandon* 273 (K).

Hieracium mandonii Hieron. ex Zahn, Compositae-Hieracium: 1099 (1923), nom. nud. pro syn. = **Hieracium microcephalum** Sch.Bip. var. **subglandulosum** Sleumer

***Hieracium mapireense** Britton, Bull. Torrey Bot. Club 19: 371 (1892). Type: 'Mapiri, 10,000 ft. ([*Rusby*] 1694).'

Holotype: NY (00180071); isotypes: BM, GH (9082), NY (00180072) - ex College of Pharmacy Herbarium, (00180073) - ex Princeton University Herbarium, P, S (apparently as isotype fragment), US (00600271).

Bolivia (La Paz).

3050 m.

Note: Schuhwerk determined material of *Wood & Goyder* 16774 from Tarija (*O'Connor*) as *Hieracium* cf. *mapireense*; it remains to be seen if the species distribution can be extended further south.

***Hieracium megalochaetum** Zahn, Compositae-Hieracium: 1144 (1923). Types: 'Süd-Bolivia: Toldos bei Bermujo u. bei Padcaya, 2200 m (*Fiebrig* n. 2376 pp.)! Argentinien: An den Minen Jareta und El Oro in der Sierra Famatina der Provinz Rioja (*Hieronymus* u. *Niederlein* n. 422 usw.!), La Ciénega in der Sierra de Tucuman (*Lorentz* u. *Hieronymus* n. 646 pp.!, 681!). - Dezember-Februar.' Note: Sleumer (1956: 145) merely mentioned 'Typus' against reference to the *Fiebrig* 2376 p.p. collection, noting also B verbrannt, ...; BM (1 Exempl. zusammen mit 2 Exempl. von *H. padcayense*), K (1 Exempl.)' Isosytype: *Fiebrig* 2376, US (see marking on sheet 01098425).

Argentina, Bolivia (Tarija).

2200-3000 m.

December-February.

Tarija: Cuesta de Sama, 3000 m, *Meyer* 17373 (LIL, M).

Hieracium microcephalum Sch.Bip., Bonplandia 4(4): 53 (1856), nom. nud. = **Hieracium microcephalum** Sch.Bip.

Hieracium microcephalum Sch.Bip., Bonplandia 9(21): 326 (1861). Type: 'Peru, in dumetis pr. Agapata Junio 1854 leg. C. Lechler! [1820]'

Hieracium microcephalum Sch.Bip., Bonplandia 4(4): 53 (1856), nom. nud.

**Hieracium bangii* Rusby, Mem. Torrey Bot. Club 3(3): 66 (1893). Type: [Bolivia:] 'Yungas, 1890 ([Bang] 271).'
Holotype: NY (00180068); isotypes: BM, CORD, GH (9079), L(900316136), LD, US (01417594).

**Hieracium leptcephalum* Benth. var. *microcephalum* Zahn, Compositae-Hieracium: 1096 (1923). Types: 'Peru: Agapata (Lechler, Pl. Peruv. ed. Hohenacker n. 1820)!, Cutervo (Jelski n. 704)!, Mapiri (Rusby).'
?B†.

Hieracium bangii Rusby ssp. *bangii* var. *siambonicum* Zahn, Compositae-Hieracium: 1099 (1923). Type: 'Siambon am Berg Cuesta del Garrapatal (Lorentz u. Hieronymus)!' Holotype: B†; isotype: CORD.

var. **microcephalum**

Argentina, Bolivia (La Paz, Tarija), Peru.

Woodland margins, clearings, pasture

900–3000 m.

La Paz: Tipuani valley, 1400 m, *Buchtien* 7599 (US); Yungas Norte, Polo-Polo, Coroico, 1100 m, *Buchtien* 4129, p.p. (HBG); Sur Yungas, Sirupaya bei Yanacachi, 2200 m, *Buchtien* 271 (HBG); Sirupaya bei Yanacachi, 2100 m, *Buchtien* 272 (US); Sur Yungas, La Florida, 1900 m, *Asplund* 1565 (S); Sur Yungas, El Chaco, 1900 m, *Asplund* 1127 (s); Larecacha, vicinias Sorata, ad rivum Chalassuyo, 2600 ad 3000 m, *Mandon* 272 p.p. (P); Tarija: Rincón de la Victoria, 2200 m, *Meyer* 17469 (LIL). (Sleumer, 1956: 124).

var. **subglandulosum** Sleumer, Bot. Jahrb. Syst. 77(1): 125 (1956). [Sleumer (1956: 125) cited the following collection as the type of this name, along with the following synonym, for which he also recognized the types cited! 'Argentinien: Tucumán: Tafí: La Angostura, pr. Tafí del Valle, 1850 m, fl. 24-I-50, selten zwischen typischen drüsenhaarfreien Exemplaren, SLEUMER 2020'. Holotype: LIL; isotype: S.]

**Hieracium bangii* Rusby ssp. *austroboliviense* Zahn, Compositae-Hieracium: 1099 (1923). Type: 'Südbolivia: Toldos bei Bermejo u. bei Padcaya, 2200 m (K. Fiebrig n. 2376 pp.)!' Holotype: B†; isotypes: L, S, U, US (see marking on sheet 01098425).

Hieracium mandonii Hieron. ex Zahn, Compositae-Hieracium: 1099 (1923), nom. nud. pro syn.

Argentina, Bolivia (La Paz, Tarija).

1300–2800 m.

La Paz: Yungas Sur, Yanacachi, 2100 m, *Buchtien* 172 (NY); Yungas Sur, El Chaco, c. 1900 m, *Asplund* 1194 (S); Yungas Sur, S. Felipe, c. 2800 m, *Asplund* 1094 (S); Yungas Norte, Milluguaya, 1300 m, *Buchtien* 4129 p.p. (HBG); Hac. Casana, Tipuani, 1400 m, *Buchtien* 7599 (HBG); Coripata, Hac. „El Choro“, 1700 m, *Buchtien* 8245 (NY); Yungas, Bang 271 (US). Tarija: - see type of *H. bangii* ssp. *austroboliviense*.

Hieracium orthotrichum R. E. Fr., Epicris. Hierac. : 144 (1862) = **Hieracium mandonii** (Sch.Bip.) Arv.-Touv.

var. **mandonii**

Hieracium padcayense Sleumer, Bot. Jahrb. Syst. 77(1): 112 (1956). Type: 'Bolivien: Tarija: Toldos-(Bermejo)-Padcaya, 2200 m, fl. 9-XII-03, FIEBRIG 2376 p.p.' Holotype: S; isotypes: BM, G, GH (9084, 9085), L(907135254), P, U.

Bolivia (Tarija).

2200 m.

December–January.

Note: Sleumer (1956: 113) noted that the *Fiebrig* collection was mixed and included material of *Hieracium megalochaetum* Zahn.

***Hieracium pazense** S. F. Blake, Bot. Gaz. 74: 429 (1922). Type: 'BOLIVIA. - La Paz, March 19, 1920, E.W.D. and M.M. Holway 425'. Holotype: US (01058601); isotype: GH (9087), S (as holotype fragment and photograph).

Bolivia (Chuquisaca, La Paz).

Steep rocky slopes.

1000–4200 m.

December–March.

La Paz: La Paz, cerros, 3750 m, *Buchtien* 3097 (NY, pp. US).

Hieracium pongoense Sleumer, Bot. Jahrb. Syst. 77(1): 146 (1956). Type: 'Bolivien: La Paz: Pongo, c. 3650 m, fl. 17-II./1-III-26, TATE 250 p.p.' Holotype: NY ('pars altera *H. adenocephalum*)
Bolivia (La Paz).
3500–3650 m.
February–March.
La Paz: Pongo, c. 3650 m, fl. 17-II./1-III-26, Tate 250 p.p. (NY) ('pars altera *H. tacense*); near La Paz, c. 3500 m, Rusby 1653 (NY). (as *H. adenocephalum* in Britton).

Hieracium psychroadenium Sleumer, Bot. Jahrb. Syst. 77(1): 148 (1956). Type: 'Bolivien: La Paz: vicinity o La Paz, IV-19, CLAUDE JOSEPH 1144'. Holotype: US; isotype: S (as holotype fragment and photograph). Note: The US holotype is not, as yet, imaged for its virtual herbarium.
Bolivia (La Paz).
4000 m.
April.

Hieracium schreiteri Sleumer, Bot. Jahrb. Syst. 77(1): 147 (1956). Type: 'Argentinien: Catamarca: Sta. Maria: Negro-ara, „4960“ m, despeñaderos, peñas, fl. 10-III-14, RODRIGUEZ 20'. Holotype: LIL; isotype: SI.
Argentina, Bolivia (Oruro).
3000–4960 m.
February–March.
Oruro: Carangas, d'Orbigny 1427 (P).

Hieracium sordidum Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 199 (1874); Pl. Lorentz. : 151 (1874) =
Hieracium boliviense (Wedd.) Sch.Bip.

***Hieracium stachyoideum** Arv.-Touv., Spicil. Rar. Hierac.: 21 (1881). Type: 'Larecaja, in scopulosis mont. Sorata et Yani, alto del ingenio Marcamacanni, 3600–3900 m, Mandon [274]'. Holotype: G; isotypes: BM, G, GH (14302), K, NY (00215001), P, S. Note: Arvet-Touvet's name was based on the same type as Schultz Bipontinus' *Mandonia pilosella*.

Mandonia pilosella Sch.Bip., Linnaea 33(6): 758 (1865). Type: 'Habitat in andium boliviensium regione alpina, alt. 12,600-13,650 ped. (3600-3900 met.), prov. Larecaja, in scopulosis m., Sorata et Fani, alto del Ingenio, Marcamacau, Mart. et Apr. 1858: G. Mandon! n. 274.' Holotype: P; isotypes: BM, G, GH (14302), K, NY (00215001), S. The validating genero-specific description begins on p. 757, the name of the species provided on p. 758.

Argentina, Bolivia (La Paz).
Rocky mountain slopes.
3600–4050 m.
February–April.

La Paz: Omasuyos, Copacabana, 3850 m, Asplund 3507 (S); 4882 (US); entre Sorata y Tacacoma, 4050 m, Petersen & Hjertling 1604 (L).

***Hieracium strigosum** D. Don, Trans. Linn. Soc. London 16(2): 175 (1830). Listed by Foster (1958: 211), but almost certainly in error for another *Hieracium*.

***Hieracium tacense** Hieron., Bot. Jahrb. Syst. 21(4): 375 (1896). Type: 'Bolivia: crescit supra Taca in valle Yungas, alt. s. m. 3200 m, ubi floret mense Decembri ([Stübel] coll. boliv. n. 50).'

Bolivia (Cochabamba, La Paz).
Cliffs and steep slopes.
2000–3900 m.
November–December.

Note: Sleumer (1956: 113) included, with a query, *Hieracium trollii* Sleumer in the synonymy of *H. tacense*, noting that the only comparison he could make was with a photograph of the original B holotype and could only confirm that they were conspecific when material from the type locality of *H. tacense* was collected and compared with his later name.

Cochabamba: Rio Juntas, 2000–3000 m, O. Kuntze s.n. (NY – as *H. eriocephalum*, q.v. Revis. Gen. Pl. 3: 159 (1893))

La Paz: Unduavi, 3200 m, *Buchtien* 477 (BM, G, HBR, K, NY, SI); *Buchtien* 3102 (NY, US); Unduavi, 3250 m, *Buchtien* 9123, 9124, 9125 (HBG 'forma glabrescens' - Sleumer, 1956: 113); Pongo, *Tate* 251 p.p. (NY); Inquivisi, 3900 m, *Wood & Goyder* 15556 (K, LPB, M).

***Hieracium trichodontum** (Sch.Bip.) Arv.-Touv., *Spicil. Rar. Hierac.*: 16 (1881).

Pilosella trichodonta Sch.Bip., *Linnaea* 33(6): 761 (1865). Lectotype (selected by ?Sleumer, 1956: 109): *Mandon* 270 - P; isolectotypes: BM, G, K, S.

Pilosella trichodonta Sch.Bip. f. *major* Sch.Bip., *Linnaea* 33(6): 761 (1865). Type: 'Hab. in prov. boliviensi Larecaja, vicinis Soratae, via ad Locatia et quidem forma *major* prope Nascara, in graminosis collinum, reg. alp., alt. 12,750 ped. (3700 met.) Apr. 1857: *Mandon!* n. 270; ...' - see under species for type.

Pilosella trichodonta Sch.Bip. f. *minor* Sch.Bip., *Linnaea* 33(6): 761 (1865). Type: '... et forma *minor* Moyabaya-Capanata in locis siccis, reg. temper. et subalpinae, alt. 9540-11,900' (2800-3400? met.). Oct.-Nov. 1857: *Mandon!* pl. and. boliv. n. 272 bis.' (BM, G, GH (264206), K, S).

**Hieracium trichodontum* Rusby, *Bull. New York Bot. Gard.* 4(14): 402 (1907), nom. illegit., later homonym. Type: [Bolivia:] '([Bang] No. 2035.) Holotype: ?NY; isotype: ?US. Note: It is not at all clear where Rusby saw this collection and where duplicates exist.

Bolivia (Cochabamba, La Paz).

Grassy hillsides, moist banks.

2400-3900 m.

October-April.

Cochabamba: Ayopaya, Sailapata, 3800 m, *Cárdenas* 3281 (L, US).

La Paz: Murillo Chuquiaguillo, 3900 m, *Asplund* 1993 (S); Unduavi, c. 2400 m, *Rusby* 1654 (?); s.l., *Bang* 2035 (US).

Hieracium trichodontum* Rusby, *Bull. New York Bot. Gard.* 4(14): 402 (1907), nom. illegit., later homonym = **Hieracium trichodontum (Sch.Bip.) Arv.-Tov.

***Hieracium trollii** Sleumer, *Repert. Spec. Nov. Regni Veg.* 41: 119 (1936). Type: 'Bolivien: Andine Matte über der Grenze des Ceja-Waldes bei Sillutincara (Yungas), 3700 m ü. M., blühend am 20.III.1928 (*C. Troll*, *Iter andinum* n. 1525, Typus in Herb. Berol.)' Holotype: B.

Bolivia (La Paz).

Alpine pastures, rough grassland at bases of cliffs.

3000-3700 m.

February-June.

Note: See comments under *Hieracium tacense* Hieron., which is where *H. trollii* might be placed in synonymy. [La Paz:] Unduavi, Nord-Yungas, 3200 m ü. M., blühend im Februar 1914 (*O. Buchtien* n. 477). [Paratype].

Hingtsha Roxb., *Fl. Indica*, ed. 2, 3: 448 (1832) = **Enydra** Lour.

Hingtsha repens Roxb., *Fl. Indica*, ed. 2, 3: 448 (1832) = **Enydra fluctuans** Lour.

Hingstonia Raf., *Med. Repos. N. York* 5: 352 (1808) = **Verbesina** L.

Hinterhubera Sch.Bip., *Flora* 25(2): 419 (1842), nom. nud., non Sch.Bip. ex Wedd. (1857) = **Chrysanthellum** Rich. ex Pers.

Hinterhubera kotschyi Sch.Bip. ex Hochst., *Flora* 24(1, *Intelligenzblatt*, I. Nro. 3): 42 (1841), nom. nud., illegit. = **Chrysanthellum indicum** DC. ssp. **afroamericanum** B. L. Turner

Hippia L.f., *Suppl.* : 389 (1781), p.p. = **Cotula** L.

Hippia minuta L.f., *Suppl.* : 389 (1781), p.p. = **Cotula mexicana** (DC.) Cabrera

Hippia stolonifera Brot., *Fl. Lusit.* 1: 372, Pl. 61, f. 2. (Nov. 1804) = **Soliva stolonifera** (Brot.) Sweet

Hipposeris Cass., *Dict. Sci. Nat.* 33: 464 (1824) = **Onoseris** Willd.

Holocheilus Cass., *Bull. Sci. Soc. Philom. Paris* 1818: 73 (1818).

Platycheilus Cass., *Dict. Sci. Nat.* 34: 212 (1825), nom. illegit. superfl. based on *Holocheilus* Cass.

Castra Vell., Fl. Flum. : 242 (1825)[1829], p.p.

Cleanthes D. Don, Trans. Linn. Soc. London 16: 194 (1830). Type: not stated. Note: Cabrera (1968) commented that the genus was based on *Perdicium brasiliense* L., which is not supported by any comments provided by Don; neither *Cleanthes brasiliensis* (L.) D. Don, nor *C. hieracioides* D. Don were favoured.

Perezia Lag. sect. *Platycheilus* (Cass.) Less., Linnaea 5(1): 22 (1830).

Perezia Lag. subgen. *Platycheilus* (Cass.) Less., Syn. Gen. Comp. : 413 (1832).

Trixis P. Browne subgen. *Cleanthes* (D. Don) Less., Syn. Gen. Comp. : 413 (1832).

Trixis P. Browne sect. *Cleanthes* (D. Don) DC., Prodr. 7: 71 (1838).

Type: *Holocheilus ochroleucus* Cass. = *Holocheilus brasiliensis* (L.) Cabrera

Reference

Cabrera, A. L. (1968). Rehabilitacion del genero «*Holocheilus*» Cassini (Compositae). Revista Mus. La Plata, n.s., Secc. Bot. 11(No. 50): 1–15.

Holocheilus fabrisii Cabrera, Revista Mus. La Plata, Secc. Bot. 11(No. 50): 9 (1968). Type: 'Argentina. Prov. Jujuy, Dep. Santa Bárbara, Cerro Centinela, 2650 m s.m., leg. H. A. Fabris 5145, II-1964'. Holotype: LP. Argentina, Bolivia (Chuquisaca).

Montane grassland, damp path margins.

2000–2700 m.

December–February.

Homanthis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4(ed. quarto): 10 (1818), nom. superfl. = ***Perezia*** Lag.

Homanthis multiflorus (Humb. & Bonpl.) Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 11 (1818) = ***Perezia multiflora*** (Humb. & Bonpl.) Less.

Homanthis pinnatifidus (Humb. & Bonpl.) Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 243 (1818) = ***Perezia pinnatifida*** (Humb. & Bonp.) Wedd.

Homoeanthus Spreng., Syst. Veg., ed. 16, 3: 503 (1826), orth. var. = ***Perezia*** Lag.

Homoeanthus nivalis Phil., Anales Univ. Chile 87: 308 (1894) = ***Perezia ciliaris*** D. Don ex Kook. & Arn.

Homoeanthus pinnatifidus (Humb. & Bonpl.) Spreng., Syst. Veg., ed. 16, 3: 503 (1826) = ***Perezia pinnatifida*** (Humb. & Bonp.) Wedd.

Homoianthus Bonpl. ex DC., Ann. Mus. Natl. Hist. Nat. 19: 65 (1812), p.p. = ***Perezia*** Lag.

Homoianthus multiflorus (Humb. & Bonpl.) DC., Prodr. 7: 64 (1838) = ***Perezia multiflora*** (Humb. & Bonpl.) Less.

Homoianthus pinnatifidus (Humb. & Bonpl.) D. Don, Trans. Linn. Soc. London 16(2): 209 (1830) = ***Perezia pinnatifida*** (Humb. & Bonp.) Wedd.

Homoianthus scaber Benth., Pl. Hartweg. : 136 (1844) = ***Perezia pungens*** (Humb. & Bonpl.) Less.

Hopkirkia Spreng., Novi Provent. : 23 (1819) = ***Salmea*** DC.

Hopkirkia eupatoria (DC.) Spreng., Novi Provent. : 23 (1819) = ***Salmea scandens*** (L.) DC.

Hopkirkia DC., Prodr. 5: 660 (1836), non *Hopkirkia* Spreng. (1819) = ***Schkuhria*** Roth

Hopkirkia anthemioidea DC., Prodr. 5: 660 (1836) = ***Schkuhria pinnata*** (Lam.) Kuntze ex Thell.

Hunteria Moc. & Sessé ex DC., Prodr. 5: 649 (1836), nom. nud. pro syn., non *Hunteria* Roxb. (1824) = ***Porophyllum*** Guett.

Hyalis D. Don ex Hook. & Arn., Companion Bot. Mag. 1(No. 4): 108 (1835).

Type: ***Hyalis argentea*** D. Don ex Hook. & Arn.

References

Cabrera, A. L. (1951). Notas sobre Compuestas de la América Austral. I. – Los géneros afines a “*Plazia*”. *Darwiniana* 9(3–4): 363–373.

Cabrera, A. L. (1978). *Hyalis*. In: Cabrera, A. L. (ed.), Flora de la Provincia de Jujuy, Republica Argentina. Parte X Compositae. Coeccion Cientifica de INTA, Buenos Aires. pp. 582–584.

Key to species

| | |
|---|----------------------|
| Leaves linear, surfaces silvery-tomentose; involucre 5–7 mm tall | <i>H. argentea</i> |
| Leaves lanceolate, surfaces glabrous and green; involucre (6–) 8–10 mm tall | <i>H. lancifolia</i> |

****Hyalis argentea*** D. Don ex Hook. & Arn., Companion Bot. Mag. 1(No. 4): 108 (1835). Types: ‘ α . Mendoza, Dr. Gillies. – β . Rio Cuarto, Province of San Luis; and Villa del Rio Cuarto, Pampas of Codova, Dr. Gillies. – Salt Plains of Bahia Blanca, North Patagonia, growing in patches, to the extent of acres, to the exclusion of almost every thing else, *Tweedie*.’ Isosyntyne (Gillies s.n., s.l.): GH (9266).

Vernonia argentea Gillies ex Hook. & Arn., Companion Bot. Mag. 1(No. 4): 108 (1835), nom. nud. pro syn., non Less. (1831: 672)

Hyalis argentea D. Don ex Hook. & Arn. var. *latisquama* Cabrera, Darwiniana 9(3–4): 366 (1951). Type/s: not stated but referable to ‘ β ’ (Hooker & Arnott, 1835: 108) – q.v. ‘ β . Rio Cuarto, Province of San Luis; and Villa del Rio Cuarto, Pampas of Codova, Dr. Gillies. – Salt Plains of Bahia Blanca, North Patagonia, growing in patches, to the extent of acres, to the exclusion of almost every thing else, *Tweedie*.’ Syntypes: K.

Plazia argentea (D. Don) Kuntze, Revis. Gen. Pl. 3(3): 167 (1898).

Argentina, Bolivia (?).

Sand banks.

0–3000 m.

Hyalis argentea D. Don ex Hook. & Arn. var. *latisquama* Cabrera, Darwiniana 9(3–4): 366 (1951) = ***Hyalis argentea*** D. Don ex Hook. & Arn.

****Hyalis lancifolia*** Baker in Mart., Fl. Bras. 6(3): 368 (1884). Type: ‘Habitat in Argentinae prov. Salta in campis apertis: *Pearce!*’ Holotype: K.

Hyalis lorentzii Hieron., Icon. Descr. Pl.: 32, tab. 5 (1885) [ex Actas Acad. Nac. Ci. Córdoba 2: 41, tab. 5 (1886)].

Types: ‘Habitat in campis gramineis, qui dicuntur „pampas”, provinciarum septentrionalium Reipublicae Argentinae (coll. *Hieronymus et Lorentz*, n. 550: prope urbem Salta, d. III. 1873; et n. 596, prope vicum Dragones [Fuerte Sarmiento], territ. Oran, d. VIII. 1873).’ Syntypes: ?CORD.

Plazia acaciifolia J. Koster, Blumea 5(3): 665 (1945). Type: ‘Hab.: auf dem aufgetrockneten Boden einer Sumpfbagune bei Ipaguazu, 540 m alt., 6 Nov. 1910, [*Herzog*] n. 1608.’ Holotype: L(94437124); isotypes: S, Z (000003800). Note: Koster cite ‘*Herzog* 1608’, yet it is quite clear from the holotype in L that the specimen is labelled as ‘1068’ on two labels on the sheet.

Argentina, Bolivia (?), Paraguay.

Dry soils, forests of ‘Quebracho colorado’ (*Schinopsis lorentzii* (Griseb.) Engl.) and palm groves (*Copernicia australis* Becc.).

0–1000 m.

September–March.

Vernacular name: CLAVEL DE LAS TRINCHERAS (Cabrera, 1951: 366).

Note: Cabrera (1951: 366) placed *Plazia acaciifolia* here on the basis of Koster’s description.

Hyalis lorentzii Hieron., Icon. Descr. Pl. : 32, tab. 5 (1885) = ***Hyalis lancifolia*** Baker

Hyalis spartioides [Benth. & Hook.f. ex] Hieron., Pl. Diaph. : 164/5 (18xx) = ***Aphyllclados spartioides*** Wedd.

Hyaloseris Griseb. sect. *Grapheioseris* J. Koster, Blumea 5(3): 667 [validated p. 668] (1945) = ***Hyaloseris*** Griseb.

Hyaloseris Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 212 (March–April 1879), Symb. Fl. Argent. : 212 (1879).

Dinoseris Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 214 (March-April 1879); Symb. Fl. Argent. : 214 (1879). Type: *Dinoseris salicifolia* Griseb. = **Hyaloseris salicifolia** (Griseb.) Hieron.

Hyaloseris Griseb. sect. *Grapheioseris* J. Koster, Blumea 5(3): 667 [validated p. 668] (1945). Type: not cited.

Hyaloseris Griseb. sect. *Dinoseris* (Griseb.) J. Koster, Blumea 5(3): 668 (1945).

Lectotype (selected by Espinar, 1973: 197) : *Gochmatia cinerea* Griseb. = *Hyaloseris cinerea* (Griseb.) Griseb.

References

Ariza Espinar, L. (1973). Revision del genero *Hyloseris* (Compositae). Kurtziana 7: 195–211.

Turner, B. L. (1986). A new species of *Hyaloseris* (Asteraceae-Mutisieae) from Bolivia. Phytologia 59(5): 317–318.

Key to species

1. Capitula cylindrical-turbinate or tetragonous; florets 3–6 (Sect. *Hyaloseris*) 2
Capitula campanulate; florets 20–60 (Sect. *Dinoseris*) *H. salicifolia*
2. (1) Corollas pink or reddish; phyllaries forming 4-sided involucre, dark wine-coloured
H. camataquiensis
Corollas white or cream; phyllaries forming cylindrical-turbinate involucre, straw-coloured 3
3. (2) Leaves lanuginous or glabrous above, tomentose beneath; involucre c. 16 mm long;
phyllaries 4–5-seriate; achenes glabrous (Cochabamba) *H. quadriflora*
Leaves flocculose above and beneath; involucre 25–35 mm long; phyllaries 6–8-seriate;
achenes short-setuliferous (Chuquisaca) *H. longicephala*

Hyaloseris boliviensis* J. Koster, Blumea 5(3): 668 (1945) = **Hyaloseris salicifolia (Griseb.) Hieron.

***Hyaloseris camataquiensis** Fiebrig, Bot. Jahrb. Syst. 45(1): 43 (1910). Type: not cited. Undoubtedly based on Fiebrig 3067, and cited by Koster (1945: 668) as 'Camataqui, 2500 m alt., 10 Febr. 1904, Fiebrig n. 3067'. Holotype: ?B†; isotypes: GH (9268, 257194), GOET, K × 2, US (01098563). Note: The publication dates provided for this volume of the Botanische Jahrbücher ... gave 'Heft 1' as '9. August 1910.'

Argentina, Bolivia (Chuquisaca, Potosí).

Rocky areas, shale hills, Puna.

2200–3600 m.

August–January.

Potosí: Wood 15016 (K), Wood 11324 (K).

Notes: Koster (1945: 667) ascribed the name to 'Hieron.', and Espinar (1973: 206) to 'Hieron. ex Koster'.

Fiebrig (1910: 43) provided a German 'description' in the prose, thus validating the name provided, but cited the name as 'Hyaloseris camataquiensis Hieron'. The locality cited by Koster, Camataqui, is now known as Villa Abecia, Depto. Chuquisaca, Prov. Sud Cinti.

Hyaloseris longicephala B. L. Turner, Phytologia, 59(5): 317 (1986). Type: 'BOLIVIA. Chuquisaca: Prov.

Oropeza, an der strasse von Sucre Richtung Cochabamba, vor Surima; ca 2000 m, 27 Jun 1980, T. Feuerer & N. Hohne 45762'. Holotype: TEX; isotypes HBG.

Bolivia (Chuquisaca).

Gravelly slopes and hillsides.

2000–2800 m.

June–July.

***Hyaloseris quadriflora** J. Koster, Blumea 5(3): 667 (1945). Type: 'Hab.: an sonnigen Felsabhängen des Cerro San Pedro bei Cochabamba, 2700 m alt., Aug. 1911, [Herzog] n. 2461'. Holotype: L(94437128); isotypes: CONC, LP (fragment of holotype), S, Z (000003570).

Bolivia (Chuquisaca, Cochabamba, Potosí).

Rocky slopes, loose shaley slopes.

2200–2700 m.

February–August.

Chuquisaca: Wood 11479 (K), Wood et al. 22050 (K).

Cochabamba: Wood 11849 (K), Wood 17723 (K), Wood & Gutiérrez 23370 (K).
Potosí: Wood 8197 (K).

Hyaloseris salicifolia (Griseb.) Hieron., Act. Acad. Nac. Ci. Córdoba 2(1): 45 (1886).

Dinoseris salicifolia Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 214 (March-April 1879); Symb. Fl.

Argent. : 214 (1879). Types: 'T.: Sierra de Tucuman, pr. el Sauciliaco. J.O.: Tarija, Valle del Tambo.'

Syntypes: Lorentz & Hieronymus 862 (GOET 6312), 950 (GOET 6313), 1006 (GOET 6311). Isosyntype: Lorentz & Hieronymus 862, NY (00168193). Note: Ariza Espinar (1973: 207) mentioned that the 'isocotipos' were in CORD and had seen the 'cotipos', but did not lectotypify this name.

Dinoseris salicifolia Griseb. [var.] α *normalis* Kuntze, Revis. Gen. Pl. 3(3): 144 (1898).

Dinoseris salicifolia Griseb. [var.] β *araneosa* Kuntze, Revis. Gen. Pl. 3(3): 144 (1898). Type: 'Bolivia: 2600 m Sierra de Sa. Cruz.' ?Holotype: US (00701881). Note: Wetter & Zanoni (1985: 339) listed this taxon as one for which no type material had then been found in NY, where most Kuntze holotypes are to be found. There is an isosyntype of *Dinoseris salicifolia* in NY annotated by Kuntze as ' α *normalis*'. This somewhat suggests that the material of [var.] β *araneosa* in US may well be the holotype of the variety, especially since it is ex herb. Kuntze.

**Hyaloseris boliviensis* J. Koster, Blumea 5(3): 668 (1945). Type: 'Hab.: Strauch in der Dornbuschsteppe zwischen Pulquina arriba und Comarapa, 1800 m alt., April 1911, Bl. hellgelb, [Herzog] n. 1798.' Holotype: L(9443799); isotypes: LP, S.

Argentina, Bolivia (Cochabamba, Tarija).

Yungas, dry valleys, hill slopes.

1500–2800 m.

February–September.

Hymenopholis Gardner, London J. Bot. 7: 88 (1848) = **Lucilia** Cass.

Hymenopholis imbricata Gardner, London J. Bot. 7: 88 (1848) = **Lucilia lycopodioides** (Less.) S. E. Freire

Hymenostephium Benth. & Hook.f., Gen. Pl. 2(1): 382 (1873).

Haplocalymma S. F. Blake, Proc. Amer. Acad. Arts 51: 517 (1916). Type: *Viguiera microcephala* Greenm. = *Hymenostephium uniseriatum* E. E. Schilling & Panero.

Viguiera Kunth sect. *Diplostichis* S. F. Blake, Contr. Gray Herb. n.s. 18: 101 (1918). Type: *Viguiera tenuis* A. Gray = *Hymenostephium tenue* (A. Gray) E. E. Schilling & Panero

Type: *Hymenostephium mexicanum* Benth. & Hook.

Hymenostephium debile (Cabrera) Cabrera, Fl. Prov. Jujuy, INTA 13(10): 352 (1978).

Wulffia debilis Cabrera, Notas Mus. La Plata, Bot. 2(No. 16): 178 (1937). Type: 'ARGENTINA. – Salta: Cerro San Bernardo, leg. A.L. Cabrera, n° 3017, 27-V-1933'. Syntypes: C, LP. Note: Ariza Espinar (2000: 93) clearly considered the the material in LP was the holotype.

Viguiera cabreræ H. Rob., Phytologia 36(3): 207 (1977). Type: 'ARGENTINA: Salta: Dep. Candelaria, Rio del Potrero, en la orilla del rio, alt. 1420 m. Flor amarillo. Abril 8, 1925. S. Venturi 3675'. Holotype: US.

Viguiera debilis (Cabrera) Ariza Espinar, Kurtziana 21: 284 (1991).

Argentina, Bolivia (Chuquisaca, Santa Cruz, Tarija).

Chaco, woodland.

500–2000 m.

April–May.

Hymenostephium rivulare (Poepp.) E. E. Schilling & J. Panero, Bot. J. Linn. Soc. 140(2): 74 (2002) = **Garcilassa rivularis** Poepp.

Hymenoxys Cass., Dict. Sci. Nat. 55: 278 (1828).

Dugaldia Cass., Dict. Sci. Nat. 55: 270 (1828). Type: *Actinea integrifolia* Kunth = *Hymenoxys integrifolia* (Kunth) Bierner

Oxylepis Benth., Pl. Hartweg. : 87 (1841). Type: *Oxylepis lanata* Benth. = *Hymenoxys integrifolia* (Kunth) Bierner

Plummera A. Gray, Proc. Amer. Acad. Arts 17: 215 (1882). Type: *Plummera floribunda* S. F. Blake = *Hymenoxys ambigens* (S. F. Blake) Bierner var. *floribunda* (A. Gray) W. L. Wagner

Type: *Hymenopappus anthemoides* Juss. = *Hymenoxys anthemoides* (Juss.) DC. [Note: This combination was clearly not made by Cassini in the generic protologue, as cited in numerous works, but appears to have been made by de Candolle (1836: 661).

Reference

Parker, K. F. (1962). The South American species of *Hymenoxys* (Compositae). Leaflet. Western Bot. 9(Nos 13 & 14): 197-224.

Hymenoxys robusta (Rusby) K. F. Parker, Leaflet. Western Bot. 9(Nos 13 & 14): 207 (1962).

**Cephalophora robusta* Rusby, Mem. Torrey Bot. Club 3(3): 63 (1893). Type: [Bolivia:] 'Vic. Cochabamba, 1891 ([Bang] 925).' Holotype: NY (00163259); isotypes: BM, G, GH (4645), K, M, NY (00163260), US (01417454), Z (000003477).

Argentina, Bolivia (Chuquisaca, Cochabamba, Oruro, Potosí), Peru.

Riversides, adjacent to water channels, seasonally flooded grassland.

3000-3500 m.

December-February.

Potosí: Wood 9022 (K).

Hypelichrysum Kirp., Acta Inst. Bot. Acad. Sci. URSS, Ser. 1, Fasc. 9 : 33 (1950) = ***Pseudognaphalium*** Kirp.

Hypochaeris L., Sp. Pl. : 810 (1753).

Achyrophorus Adans., Fam. Pl. 2: 112 (1763). Type: not stated.

Seriola L., Sp. Pl., ed. 2, 2: 1139 (1763). Type: *Seriola aethnensis* L. = *Hypochaeris aethnensis* (L.) Ball = *Hypochaeris achyrophorus* L.]

Trommsdorffia Bernh., Syst. Verz. Erf. : 102 (1800). Type: *Trommsdorffia maculata* (L.) Bernh. = *Hypochaeris maculata* L.

Robertia DC. in Lam. & DC., Fl. Franç., ed. 3, 6: 453 (1815), non Spreng. (1826). Type: *Robertia taraxacoides* (Loisel.) DC. = *Hypochaeris robertia* Fiori]

Porcellites Cass., Dict. Sci. Nat. 25: 64 (1822). Type: not originally stated, but later in Dict. Sci. Nat. 43: 42 (1826) Cassini actually stated the [lecto]type was *Porcellites radicata* (L.) Cass., based on *Hypochaeris radicata* L.

Oreophila D. Don, Trans. Linn. Soc. London 16(2): 178 (1830). Type: *Oreophila sessiliflora* (Kunth) D. Don = ***Hypochaeris sessiliflora*** Kunth

Amblachaenium Turcz. ex DC., Prodr. 7: 93 (1838), nom. nud. pro syn. based on *Oreophila* D. Don

Achyrophorus Adans. sect. II. *Oreophila* (D. Don) DC., Prodr. 7: 93 (1838).

Metabasis DC., Prodr. 7: 97 (1838). Type: *Metabasis hymettia* DC. = *Hypochaeris cretensis* (L.) Bory & Chaub.

Fabera Sch.Bip., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 21: 129 (1845). Type: *Fabera cretensis* (L.) Sch.Bip. = *Hypochaeris cretensis* (L.) Bory & Chaub.

Distoecha Phil., Anales Mus. Nac. Chile 1: 36 (1891). Type: *Distoecha taraxacoides* Phil. = *Hypochaeris eremophila* Cabrera

Type: *Hypochaeris radicata* L.

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Azevêdo-Gonçalves, C. F. & N. I. Matzenbacher. (2005). Taxonomic notes in *Hypochaeris* L. (Asteraceae). Compositae Newslett. 42: 1-4.

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Bortiri, E. (1997). Novedades en *Hypochoeris* (Compositae, Cichorieae) de la Argentina. Hickenia 2(No. 46): 223-232.

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Cabrera, A. L. (1963). Estudios sobre el genero *Hypochoeris*. Bol. Soc. Argent. Bot. 10(2-3): 166-195.

Cabrera, A. L. (1976). Materiales para una revision del genero *Hypochoeris*. I. *Hypochoeris chillensis* (H. B. K.) Hieron. Darwiniana 20: 312-322.

Philippi, R. A. (1891). Catalogus praevious plantarum in itinere ad Tarapaca a Friderico Philippi lectarum. Anales Mus. Nac. Chile, sec. 2, Bot. 1: i-viii, 1-96 + tabs I & II.

Schultz Bipontinus, C. H. (1859). Revisio critica generis Achyrophori. Jahresber. Pollichia 16-17: 45-73. [Note: This formed part of Schultz bipontinus' 'Commentatines botanicae' and, together with a paper on *Veronica*, was published as a repaginated and reprinted separate which, in the Kew volume of the *Jahresbericht*, is paginated pp. 9-44, and bound as part of the journal; its date is identical to that of the journal volume.]

Tremetsberger, K., Stuessy, T. F., Kadlec, G., Urtubey, E., Baeza, C. M., Beck, S. G., Valdebenito, H. A., Fatima Ruas, C. de, & N. I. Matzenbacher. (2006). AFLP phylogeny of South American species of *Hypochoeris* (Asteraceae, Lactuceae). Syst. Bot. 31(3): 610-626.

Urtubey, E., Stuessy, T. F. & K. Tremetsberger (2009). Systematics of the South American *Hypochoeris sessiliflora* complex (Asteraceae, Cichorieae). Ann. Missouri Bot. Gard. 96(4): 685-714.

Note: Bortiri's species concepts (1997) are much broader than most and were clearly not followed by Tremetsberger et al. (2006).

Key to species (modified from Urtubey et al., 2009)

1. Capitula solitary (sessile or pedicellate, pedicels shorter than leaves); ligules equalling phyllaries 2
Capitula several, in corymbiform cymes; ligules conspicuously exceeding phyllaries 8
2. Outer phyllaries broadly ovate; achenes rostrate, [proximally scaly] *H. acaulis*
Outer phyllaries usually longer than wide; achenes beakless or narrower towards apices, scaly or smooth 3
3. Involucre cylindrical; ligules white *H. stenocephala* [*taraxacoides*]
Involucres campanulate-cylindrical, campanulate to hemispherical; ligules yellow (rarely white) 4
4. Plants 1.5 cm tall; phyllaries with both whip and shaggy hairs *H. mucida*
Plants 3-13 cm tall; phyllaries glabrous or with only one hair type 5
5. Leaves undivided, margins entire or dentate 6
Leaves pinnatifid to pinnatisect *H. echeagarayi*
6. Outer phyllaries lanuginous (whip hairs) towards apex *H. eriolaena*
Outer phyllaries glabrous or setulose (shaggy hairs) 7
7. Leaves linear-lanceolate or elliptic-lanceolate *H. sessiliflora*
Leaves oblong *H. hohenackeri*
8. Ligules white *H. albiflora*
Ligules yellow 9
9. Capitula sessile; involucre campanulate *H. meyeniana*
Capitula usually pedicellate; involucre cylindrical-campanulate *H. eremophila*
10. Cauline leaves lobed or pinnatisect *H. chillensis*
Cauline leaves linear *H. elata*

****Hypochoeris acaulis*** (J. Rémy) Britton, Bull. Torrey Bot. Club 19(12): 371 (1892).

Achyrophorus acaulis J. Rémy in Gay, Fl. Chil. 3: 448 (late 1848 or early 1849). Type: 'Se cria en los prados pantanosos de las altas cordilleras de Talcalegua, provincia de Colchagua. Florece en febrero.' Type material presumably in P; isotype: K (q.v. Urtubey et al., 2009: 710).

Argentina, ?Bolivia (?), Chile. Note: Although cited by Foster (1958) Bortiri (1999: 7-8) indicated that this species was only native in Argentina and Chile, further confirmed by Urtubey et al. (2009). It remains to be seen whether this species is present in Bolivia.

Marshy areas, damp meadows, stream banks, *Araucaria* woodland.

1400-3000 m.

December-March.

Hypochaeris albiflora (Kuntze) C. F. Azevêdo-Gonçalves & Matzenb., *Compositae Newsl.* 42: 3 (2005).
Hypochaeris brasiliensis (Less.) Griseb. var. *albiflora* Kuntze, *Revis. Gen. Pl.* 3(3): 159 (1898). Types: 'Argentina: Ceres, Provinz Santa Fé. Paraguay: Concepcion.'
Hypochaeris microcephala (Sch.Bip.) Cabrera var. *albiflora* (Kuntze) Cabrera, *Notas Mus. La Plata* 2: 201 (1937). Argentina, Bolivia (?), Brazil.
Cultivated areas, disturbed ground, roadsides.
September–December.

Hypochaeris argentina Cabrera, *Bol. Soc. Argent. Bot.* 15(4): 337 (1974) = **Hypochaeris elata** (Wedd.) Griseb.
Hypochaeris brasiliensis (Less.) Griseb. var. *albiflora* Kuntze, *Revis. Gen. Pl.* 3(3): 159 (1898) = **Hypochaeris albiflora** C. F. Azevêdo-Gonçalves & Matzenb.
Hypochaeris brasiliensis (Less.) Griseb. var. *chacoensis* Hassl., *Repert. Spec. Nov. Regni Veg.* 12: 371 (1913) = **Hypochaeris chillensis** (Kunth) Hieron.
Hypochaeris brasiliensis* (Less.) Griseb. [var.] *α sulfurea* Kuntze, *Revis. Gen.* 3(2): 159 (1898) = **Hypochaeris chillensis (Kunth) Hieron.
Hypochaeris brasiliensis (Less.) Griseb. var. *tweediei* (Hook. & Arn.) Baker in *Mart., Fl. Bras.* 6(3): 334 (1884) = **Hypochaeris chillensis** (Kunth) Hieron.
Hypochaeris chilensis (Sch.Bip.) Britton, *Bull. Torrey Bot. Club* 19: 371 (1892) = **Hypochaeris chillensis** (Kunth) Hieron.

Hypochaeris chillensis (Kunth) Hieron., *Bot. Jahrb. Syst.* 29(1): 84 (1900*). [*Note: See Reference section concerning problem with date of publication]

Apargia chillensis Kunth in *Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 3 (1818). Type: [Ecuador:] 'Crescit in Regno Quitensi prope pagum Chillo, alt. 1430 hex. ■ Floret Martio.' [*Humboldt & Bonpland* no. 3005]. Holotype: P-Bonpl.

Porcellites brasiliensis Less., *Linnaea* 6(1): 103 (1831), p.p. Types: 'Beyrich ad Rio Paquaquer pr. Emanuel Munis Jan. 1823; Chamisso ad frelum St. Catharinae Dcbr. 1815; Sellow in Brasilia meridionali ad Rio Pardo Octbr. et Novbr. 1823.' Syntypes: probably B†. Note: Azevêdo-Gonçalves & Matzenbacher (2007: 61) apparently selected the lectotype as 'BRASIL, sem local, s.d., Sellow 3079 (K).'

Seriola brasiliensis Less. subvar. *c. hirsutula* Hook. & Arn., *Companion Bot. Mag.* 1(No. 1): 31 (1835). Type: 'Buenos Ayres, Tweedie.', although this appears after 'Subvar. *c. hirsutula*, Less. l.c.'

Seriola tweediei Hook. & Arn., *Companion Bot. Mag.* 1(No. 1): 31 (1835). Type: 'Buenos Ayres, where it is frequently employed as Endive. Tweedie.' Holotype (cited by Azevêdo-Gonçalves & Matzenbacher (2007: 61) as in K.

Leontodon chilense (Kunth) DC., *Prodr.* 7: 105 (1838), based on *Apargia chillensis* Kunth

Achyrophorus chilensis [sic!] (Kunth) Sch.Bip., *Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur.* 21: 104 (1845).

Achyrophorus brasiliensis (Less.) Sch.Bip., *Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur.* 21: 106 (1845).

Achyrophorus chillensis (Kunth) Sch.Bip., *Jahresber. Pollichia* 16–17: 57 (1859). [p. 25 in separate]

Achyrophorus sagittatus Phil., *Anales Univ. Chile* 36: 178 (1870). Type: [Chile:] 'Mendoza.' Pizarro (1960: 131) cited SGO 44701.

Hypochaeris brasiliensis (Less.) Griseb., *Abhand. Königl. Ges. Wiss. Göttingen* 24: 217 (1879).

Hypochaeris brasiliensis (Less.) Griseb. var. *tweediei* (Hook. & Arn.) Baker in *Mart., Fl. Bras.* 6(3): 334 (1884).

Hypochaeris chilensis (Sch.Bip.) Britton, *Bull. Torrey Bot. Club* 19: 371 (1892).

**Hypochaeris brasiliensis* (Less.) Griseb. *α sulphurea* Kuntze, *Revis. Gen. Pl.* 3(): 159 (1898). Types: 'Argentina: Cordoba. Bolivia: Tunarigebirge. Brasilia: Itatiaia. Paraguay. Uruguay.' ['BOLIVIA. Tunarigebirge, 1400 m, Apr-May 1892, Kuntze s.n. BRAZIL. Itatiaia, 1200 m, Dec 1892, Kuntze s.n. PARAGUAY. Südparaguay, Sep 1892, Kuntze s.n. URUGUAY. Rio Santa Lucia, nov 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 333]. Syntype (Kuntze s.n. ex Bolivia. Tunarigebirge, 1400 m): NY (00180221). Syntype (Kuntze s.n. Brazil. Itatiaia): NY (00180222). Syntype (Kuntze s.n. Uruguay. Rio Santa Lucia): NY (00180223). Syntype (Kuntze s.n. ex Paraguay, Südparaguay, IX 92): NY (00180224).

Hypochaeris brasiliensis (Less.) Griseb. var. *chacoensis* Hassl., *Repert. Spec. Nov. Regni Veg.* 12: 371 (1913).

Type: [Paraguay:] 'Gran Chaco: In campis Loma Clavel, fruct. mens. Nov.; Hassler no. 2603.' Holotype: G.

Hypochaeris tweediei (Hook. & Arn.) Cabrera, *Notas Mus. La Plata, Bot.* 2(No. 16): 203 (1937).

Hypochaeris (Achyrophorus) parodii Cabrera, *Bol. Soc. Argent. Bot.* 10(2–3): 183 (1963). Type: 'ARGENTINA. – CATAMARCA: Sierra de Ambato, Loma Larga, 1900 m s.m., leg. L. R. Parodi, 14267, II-1941'. Holotype: LP.

Argentina, Bolivia (Cochabamba, La Paz), Brazil, Colombia, Ecuador, Paraguay, Peru, Uruguay. Also naturalized in USA and South Africa.

Open grassland, disturbed ground, cultivated areas, roadsides.

1000–1900 m.

October–March.

Notes: Borteri (1999: 9) placed *H. parodii* into a slightly broader concept of this species; Borteri (1999: 10) also said nothing about the involucral distinctions mapped by Cabrera (Cabrera, 1976: 318). Cabrera's original distinction (Cabrera 1963: 185) was on the basis of the relative length of the ligules, well exceeding the involucre, however, later he (Cabrera 1976: 321) included paratype material of his earlier species under *H. chillensis*. '*Seriola brasiliensis* Less., Syn. Gen. Comp. : 131 (1832)' is often cited but no such combination was made by Lessing in this work, merely that his species of *Porcellites* should be placed in *Seriola*.

Vernacular names: ACHICORIA, ACHICORIA DEL CAMPO, CERRAJA (Freire et al., 2006).

Hypochaeris chilensis* (Sch.Bip.) Britton, Bull. Torrey Bot. Club 19: 371 (1892) = **Hypochaeris chillensis (Kunth) Hieron.

Hypochaeris cryptocephala (as *cryptocephalus*) Sch.Bip. Domke, Notizbl. Bot. Gart. Berlin-Dahlem 13: 251 (1936) = **Hypochaeris eriolaena** (Sch.Bip.) Reiche

Hypochaeris echegarayi Hieron., Bol. Acad. Nac. Ci. Córdoba 4(1): 51 (1881). Type: 'Se halla en los Barriales del Leoncito, en Diciembre y Enero, con flores y frutos. [*Echegarayi*]' Holotype: CORD (apparently not located by Urtubey et al., 2009: 707); isotype: LP.

Achyrophorus setosus Wedd., Chloris Andina 1: 220 (1857). Types: 'Hab. PÉROU: lieux marécageux des hautes Cordillères du département de Lima, au Cerro de Pasco!, etc. (*Mac Lean*). – BOLIVIE: environs de Potosí! (*d'Orbigny*) et parties élevées de la province de Cinti! (*Wedd.*).' Syntypes: P. Lectotype (selected by Cabrera, 1978: 674): *D'Orbigny* 1425, P; isolectotypes: MO, P, W.

**Hypochaeris setosa* (Wedd.) Rusby, Bull. New York Bot. Gard. 4(14): 402 (1907), comb. illegit. non *Hypochaeris setosa* Formánek, (1897).

Hypochaeris taraxacoides (Meyen & Walp.) Britton var. *lanuginosa* Beauverd ex Herzog, Pflanzenw. Bolivischen Anden : 228 (1923), nom. nud., based on Herzog 2522 c.

**Hypochaeris ornata* J. Koster, Blumea 5(3): 660 (1945). Type: 'Hab.: am Cerro de Oruro auf steinigem trockenem Boden, 3800 m alt., Nov. 1911, [*Herzog*] n. 2522 c.' Holotype: L(944234259).

Hypochaeris meyeniana (Walp.) Griseb. var. *leucantha* Cabrera, Revista Invest. Agric. 11(4): 410 (1957). Type: 'Argentina: Jujuy, Dep. Yavi, Quebrada de Cajas, 4000 m s. m., leg. A. L. Cabrera 7837, i-II-1943'. Holotype: LP.

Argentina, Bolivia (Cochabamba, La Paz, Oruro, Potosí), Peru.

Bogs, dry areas.

3100–4950 m.

December–March.

Vernacular name: Q'AUASILLA (Bolivia) (Urtubey et al., 2009).

***Hypochaeris elata** (Wedd.) Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 218 (March–April 1879); Symb. Fl. Argent.: 218 (1879).

Achyrophorus elatus Wedd., Chloris Andina 1: 223 (1857). Type: 'Hab. BOLIVIE: province de Carangas! (*d'Orbigny*).' Holotype: P.

Hypochaeris argentina Cabrera, Bol. Soc. Argent. Bot. 15(4): 337 (1974). Type: 'ARGENTINA: Prov. Jujuy, Depto. Capital, Cerro de Zapla, leg. H. A. Fabris 8255'. Holotype: LP.

Argentina, Bolivia (La Paz), Peru.

Alpine pastures, Puna, rocky areas.

1800–4000 m.

March–April.

Hypochaeris eremophila Cabrera, Notas Mus. La Plata 13: 22 (1948), as nom. nov. pro *Distoecha taraxacoides* Phil.

Distoecha taraxacoides Phil., Anales Mus. Nac. Santiago de Chile 8: 37, tab. 2, fig. 2 (1891), non Ball (1885).

Type: [Descubierta cerca de Colorados, a 3.600 m. s. m. 44708, 65208] (Pizarro, 1960: 139). Lectotype (selected by Urtubey et al., 2009: 708): SGO (65208); isolectotype: SGO (44708).

Argentina, Bolivia (Cochabamba), Chile, Peru.

Dry areas, bogs, 'mallines'.

2800–4700 m.

November–April.

Vernacular names: ACHICORIA (Argentina), CÓNDROR SIKI (Bolivia) (Urtubey et al., 2009).

Hypochaeris eriolaena (Sch.Bip.) Reiche, *Anales Univ. Chile* 116: 589 (1905).

Achyrophorus eriolaenus Sch.Bip., *Bonplandia* 3(15 & 16): 236 (1855), nom. nud.

Achyrophorus eriolaenus Sch.Bip., *Bonplandia* 4(4): 54 (1856). Type: [Peru.] '[Lechler] Nr. 1754 [‘ex parte’ – cf. Schultz Bipontinus, 1855]. Lectotype (selected by Bortiri, 1997: 228): P; isolectotypes: K, P. Note: Bortiri (1997: 228) cited Schultz-Bipontinus (1859) for the type locality. Schultz-Bipontinus (1859: 47) cited 'In Peruviae Cordiller. pascuis sterilibus pr. Azangaro cum A. Meyeniano Walp. leg. b. Lechler! n. 1754', Bortiri (1997: 228) 'PERÚ: PROV. AZANGARO, Enero 1854, Lechler 1754' although Urtubey et al. (2009: 702) noted the collection was made in June 1854.

Achyrophorus cryptocephalus Sch.Bip. *Bonplandia* 4(4): 54 (1856). Type: [Peru:] 'Agapata in sum. Cor. cacumine. Juni 1854: Lechler! Nr. 1963.' Lectotype (selected by Urtubey et al., 2009: 704): P; isolectotypes: P, W.

Hypochaeris eriolaena (Sch.Bip.) Reiche var. *hispida* Beauverd ex Herzog, *Pflanzenw. Bolivischen Anden* : 210 (1923), nom. nud.

Hypochaeris spinneri Beauverd, *Bull. Soc. Bot. Genève, ser. 2, 14: 177, f. XIII. (1922)[1923].* Type: [Peru. Huancavelica: Huancavelica, above Huancavelica "in pascuis petrosis," 4700 m, 1915, E. Godet 38] (Urtubey et al., 2009: 704). Holotype (presumably, according to Urtubey et al., 2009: 704): NEU.

Hypochaeris cryptocephala (as *cryptocephalus*) Sch.Bip) Domke, *Notizbl. Bot. Gart. Berlin-Dahlem* 13: 251 (1936).

Hypochaeris meyeniana (Walp.) Griseb. var. *eriolaenoides* Cabrera, *Revista Invest. Agric.* 11(4): 410 (1957). Type: 'Argentina: Jujuy, Sierra de Zenta, 4500 m s. m., leg. Budin, II-1931'. Holotype: LP; isotype: LP.

Argentina, Bolivia (Cochabamba, La Paz), Chile, Peru.

Dry Andean ridges.

2200–5100 m.

May–November.

Vernacular names: CEBOLLANA (Peru), QACHI TIKA (Bolivia) (Urtubey et al., 2009: 704).

Hypochaeris eriolaena (Sch.Bip.) Reiche var. *hispida* Beauverd ex Herzog, *Pflanzenw. Bolivischen Anden* : 210 (1923), nom. nud. = **Hypochaeris eriolaena** (Sch.Bip.) Reiche, cf. Urtubey et al. (2009: 704).

Hypochaeris hohenackeri Beauverd ex Herzog, *Pflanzenw. Bolivischen Anden* : 211 (1923), nom. nud. = **Hypochaeris hohenackri** (Sch.Bip.) Domke

Hypochaeris hohenackeri (Sch.Bip.) Domke, *Notizbl. Bot. Gart. Mus. Berlin-Dahlem* 13(117): 251 (1936).

Achyrophorus hohenackeri Sch.Bip., *Bonplandia* 4(4): 54 (1856). Type: [Peru:] 'Tobina in Cordill. sum. jug. Juli 1854. [Lechler 2111a].' Holotype: P.

Hypochaeris hohenackeri Beauverd ex Herzog, *Pflanzenw. Bolivischen Anden* : 211 (1923), nom. nud. Note: The binomial as it appeared in Herzog's account may be based on Schultz Bipontinus's binomial.

**Hypochaeris parvifolia* J. Koster, *Blumea* 5(3): 661 (1945). Type: [Bolivia:] 'Hab.: Rosettenpolster auf Alpenwiesen im Tcacota-Thal, 4300 m alt., Okt. 1911, [Herzog] n. 2425 c.' Holotype: L(944234280).

Bolivia (Cochabamba, La Paz), Peru.

Damp grassland, mountain pastures, riverbanks, bogs and marshes.

3200–4500 m.

January–September.

***Hypochaeris meyeniana** (Walp.) Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19([1]): 199 (1974).

Oreophila meyeniana Walp., *Nov. Actorum Caes. Leop.-Carol. Nat. Cur.* 19, Suppl. 1: 292 (1843). Type:

'Peruvia: in planitie circa Tacoram, altitudine 14–17,000 pedum. (v.s.)'. Holotype: B†. Note: Urtubey et al. (2009: 704) noted the type collection as *Meyen* 22, most probably collected in April 1831.

Achyrophorus meyenianus (Walp.) Walp., *Rep.* 6: 336 (1846–47)

Hypochaeris meyeniana (Walp.) Griseb. var. *brachylepis* Cabrera, *Fl. Prov. Jujuy* 10: 677 (1978). Type:

[Argentina:] 'Jujuy: Dep. Yavi, alrededores de La Quiaca, T. Meyer et al. 21270'. Holotype: LP (908963); isotype: LP.

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Oruro, Potosí, Tarija), Peru.
Puna Peruana, rocky slopes.
(1700–) 4200–5200 m.
Flowering throughout the year.

Note: See comments by Bortiri (1997: 227–228) over concept and synonymy of *H. sessiliflora* Kunth.

**Hypochaeris meyeniana* (Walp.) Griseb. var. *ciliata* (Wedd.) Perkins, Bot. Jahrb. Syst. 49: 232 (1913) =

***Hypochaeris sessiliflora* Kunth**

Hypochaeris meyeniana (Walp.) Griseb. var. *eriolaeoides* Cabrera, Revista Invest. Agric. 11(4): 410 (1957)

***Hypochaeris eriolaeana* (Sch.Bip.) Reiche**

Hypochaeris meyeniana (Walp.) Griseb. var. *leucantha* Cabrera, Revista Invest. Agric. 11(4): 410 (1957) =

***Hypochaeris echegarayi* Hieron.**

Hypochaeris microcephala (Sch.Bip.) Cabrera var. *albiflora* (Kuntze) Cabrera, Notas Mus. La Plata 2: 201 (1937) =

***Hypochaeris albiflora* (Kuntze) C. F. Azevêdo-Gonçalves & Matzenb.**

***Hypochaeris mucida* Domke**, Notizbl. Bot. Gart. Berlin-Dahlem 13(117): 250 (1936). Type: 'Mittlere Anden: Südlich des Titicaca-Sees über Ancoraima, 13500 ft. „Wolly leaves löss hill“ (blühend am 12. Februar 1903 – A. W. Hill n. 299).' Holotype: K. Note: Urtubey et al. (2009: 702) unnecessarily lectotypified the name, albeit based on the K specimen.

Hypochaeris mucida Domke var. *integrifolia* Cuatrec., Proc. Biol. Soc. Washington 77: 156 (1974). Type: 'PERU.

Puno: 5–7° WSW Checayani, NE of Azangaro, 4150 m.alt., 29-III-1957, *Ellenberg* 495.' Holotype: U; isotypes: US (02405179).

Bolivia (La Paz), Peru.

Andean steppe.

4150–4700 m.

February–April.

Hypochaeris ornata* J. Koster, Blumea 5(3): 660 (1945) = *Hypochaeris echegarayi* Hieron.**

Hypochaeris (Achyrophorus) parodii Cabrera, Bol. Soc. Argent. Bot. 10(2–3): 183 (1963) = ***Hypochaeris chillensis* (Kunth) Hieron.**

Hypochaeris parvifolia* J. Koster, Blumea 5(3): 661 (1945) = *Hypochaeris hohenackeri* (Sch.Bip.) Domke**

****Hypochaeris sessiliflora* Kunth** in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 1 (1818). Type: [Ecuador:] 'Crescit in alta convalli Quitensi, juxta montem ignivomum Pichincha, alt. 1500 hex. ■ Floret Aprili.'

Hypochaeris sonchoides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 2 (1818). Type: [Ecuador:] 'Crescit cum praecedente. ■ [*Hypochaeris sessiliflora* Kunth – 'Crescit in alta convalli Quitensi, juxta montem ignivomum Pichincha, alt. 1500 hex. ■ Floret Aprili.]' Holotype: P-Bonpl.

Oreophila sessiliflora (Kunth) D. Don, Trans. Linn. Soc. London 16(2): 178 (1830).

Achyrophorus sessiliflorus (Kunth) DC., Prodr. 7: 95 (1838).

Achyrophorus quitensis Sch.Bip., Nova Actorum Caes. Leop.-Carol. Nat. Cur. 21: 100 (1845), nom. nud.

Achyrophorus quitensis Sch.Bip. ex Wedd., Chloris Andina 1: 219 (1957), nom. illegit. superfl.

Achyrophorus meyenianus Walp. var. β *ciliata* Wedd., Chloris Andina 1: 220 (1857). Type: 'Hab. PÉROU:

pâturages des hautes Cordillères des départements de Puno!, d'Arequipa! et de Tacna! (*Meyen, Wedd.*). – BOLIVIE: dans les régions élevées des départements de Potosi!, de Chuquisaca! et de Tarija! (*d'Orbigny, Wedd.*).' Note: This material was cited regardless of whether it was a representative of the species or the new variety. Lectotype (selected by Bortiri, 1997: 227): 'BOLIVIA. PROV. TARIJA: en monte Calama, *Weddell*

4017, I-1846', P; isolectotype: P.

Achyrophorus quitensis Sch.Bip. var. β *sonchoides* (Kunth) Wedd., Chloris Andina 1: 219 (1857).

Achyrophorus humboldtii Sch.Bip., Jahresber. Pollichia 16/17: 52 (1859). Types: 'Hab. Columbia, prov. Bogota, Monserrate, 5000'. Martio 1843: *Linden!* n. 1292; Bogota (nomen incol. Cichoria) *Karsten!*' Lectotype (selected by Bortiri, 1997: 227): 'COLOMBIA. DPTO. CUNDINAMARCA: Nueva Granada, Bogotá, *Linden* 1292', P.

Achyrophorus albiflorus Sch.Bip., Jahresber. Pollichia 16/17: 52 (1859). Types: 'Hab. in Columbiae Paramo de Mucuchieci, ubi Oct. – Dec. leg. cl. *Moritz!* n. 1402 (*Chicoria Inc.*); Venezuela, prov. Merida Sa. Nevada alt.

10,500', Sept. 1846. *Funk et Schlimm* n. 1166; Bogota: *Karsten!* Lectotype (selected by Bortiri, 1997: 227): 'VENEZUELA. PROV. MÉRIDA: Sa Nevada, 1846, *Funck y Schlim* 1166', P.

**Hypochaeris meyeniana* (Walp.) Griseb. var. *ciliata* (Wedd.) Perkins, Bot. Jahrb. Syst. 49: 232 (1913). Argentina, Bolivia (Chuquisaca, La Paz, Potosí, Tarija), Chile, Colombia, Ecuador, Peru, Venezuela. 2000–4500 m.

Flowering throughout the year.

Vernacular names: ACHICORIA (Ecuador), CACHU-CACHU (Peru), CHICOREA (Colombia), CHICORIA, CHICORIA BLANCA (Venezuela) (Urtubey et al., 2009: 693).

Note: Bortiri (1997: 227) clearly considered that *H. sessiliflora* should be a broader concept than Cabrera's, rather dramatically widening the distribution.

Hypochaeris setosa* (Wedd.) Rusby, Bull. New York Bot. Gard. 4(14): 402 (1907) = **Hypochaeris echegarayi Hieron.

Hypochaeris sonchoides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 2 (1818) =

Hypochaeris sessiliflora Kunth

Hypochaeris spinneri Beauverd, Bull. Soc. Bot. Genève, ser. 2, 14: 177, f. XIII. (1922)[1923] = **Hypochaeris eriolaena** (Sch.Bip.) Reiche

***Hypochaeris stenocephala** Kuntze, Revis. Gen. Pl. 3(3): 160 (1898), as nom. nov. pro *Achyrophorus taraxacifolius* (Meyen & Walp.) Walp.

Oreophila taraxacifolia Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 291 (1843). Type: 'Peruvia: in planitie circa Tacoram, altitudine 14–17,000 pedum. (v.s.)'. Holotype: B†.

Achyrophorus taraxacifolius (as *taraxacoides* [sic!]) (Meyen & Walp.) Walp., Repert. Bot. Syst. 6: 336 (1846/47), orth. error in comb. pro *Oreophila taraxacifolia* Meyen & Walp., non (Salzm.) Sch.Bip. (1845)(= *Hypochaeris cretensis* (L.) Bory & Chaub., a plant from Corsica)

Achyrophorus stenocephalus A. Gray ex Wedd., Chloris Andina 1: 221 (1857), nom. nud. [based on herbarium *name of A. Gray applied to Weddell's var. β of '*Achyropappus taraxacoides*']

Hypochaeris taraxacifolia (as *taraxacoides* [sic!]) (Meyen & Walp.) Ball, J. Linn. Soc., Bot. 22: 48 (1885), comb. illegit. et superfl., non (Salzm.) Loisel. (1827) [= *Hypochaeris cretensis* (L.) Bory & Chaub.]

Hypochaeris taraxacoides [sic!] (Meyen & Walp.) Britton, Bull. Torrey Bot. Club 19: 371 (1892) comb. illegit. & superfl., non Pourr. ex Steud. (1821).

Hypochaeris taraxacoides [sic!] (Meyen & Walp.) B. D. Jacks., Index Kewensis : 2: 1196 (1893), comb. illegit. & superfl., non Pourr. ex Steud. (1821).

**Hypochaeris stenocephala* Kuntze var. α *integrifolia* Kuntze, Revis. Gen. Pl. 3(3): 160 (1898). Type: 'Bolivia: Oruro.' Note: Location of type material unknown; Wetter & Zanoni (1985: 340) noted that no material was found in NY.

Hypochaeris stenocephala Kuntze var. β *taraxacifolia* (as *taraxacodes* [sic!]) (Meyen & Walp.) Kuntze, Revis. Gen. Pl. 3(3): 169 (1898), nom. inval., based on *Oreophila taraxacifolia* Meyen & Walp. non D. Don (1832).

[*Hypochaeris taraxacoides* (Walp.) Benth. & Hook.f., Gen. Pl. 2(1): 519 (1873) – is often cited but this combination was certainly not made in *Genera Plantarum* and might only be attributed to Jackson, in *Index Kewensis*, q.v., if necessary to cite another superfluous combination]

Argentina, Bolivia (La Paz, Potosí), Peru.

Puna Peruana – 'Pajonales higrófilos de las vegas altoandinas de la Provincia Puneño Peruana' [Peruvian Puna Province altoandean hygrophilous meadows].

3900–4600 m.

Flowering throughout the year.

Hypochaeris stenocephala* Kuntze var. α *integrifolia* Kuntze, Revis. Gen. Pl. 3(3): 160 (1898) = **Hypochaeris stenocephala Kuntze

Hypochaeris stenocephala Kuntze var. β *taraxacifolia* (as *taraxacodes* [sic!]) (Meyen & Walp.) Kuntze, Revis. Gen. Pl. 3(3): 169 (1898), nom. inval., (based on *Oreophila taraxacifolia* Meyen & Walp.) non D. Don (1832) =

Hypochaeris stenocephala Kuntze

Hypochaeris taraxacoides (Meyen & Walp.) Ball, J. Linn. Soc., Bot. 22: 48 (1885), comb. illegit. et superfl. = **Hypochaeris stenocephala** Kuntze

Hypochaeris taraxacoides [sic!] (Meyen & Walp.) Britton, Bull. Torrey Bot. Club 19: 371 (1892) comb. illegit. et superfl., non Pourr. ex Steud. (1821) = **Hypochaeris stenocephala** Kuntze

Hypochoeris taraxacoides [sic!] (Meyen & Walp.) B. D. Jacks., Index Kewensis : 2: 1196 (1893), comb. illegit. et superfl., non Pourr. ex Steud. (1821) = **Hypochoeris stenocephala** Kuntze
'*Hypochoeris taraxacoides*' var. *lanuginosa* Beauverd ex Herzog, Pflanzenw. Bolivischen Anden : 228 (1923), nom. nud. = **Hypochoeris echegarayi** Hieron.

Hysterionica Willd., Gesell. Naturf. Freunde Berlin Mag. 1: 140 (1807).

Type: *Hysterionica jasionoides* Willd.

References

Ariza Espinar, L. (1980). Las especies centroargentinas de *Hysterionica* (Compositae). Darwiniana 22(4): 537–549.

Cabrera, A. L. (1946). El genero *Hysterionica* en el Uruguay en y la república Argentina. Notas Mus. La Plata, Bot. 11(No. 53): 349–359.

Nesom, G. L. (1994). Separation of *Neja* (Asteraceae: Astereae) from *Hysterionica*. Phytologia 76(2): 168–175.

Hysterionica bakeri Hicken, Darwiniana 1(3–4): 149 (1924). Types: 'República Argentina: Catamarca (Andagalá, colecc. JOERGENSEN, n° 1756), Tucumán (colecc. LIZER, n° 105; colecc. VENTURI, n° 110, en Tafí del Valle). Syntypes: SI.

Hysterionica bakeri Hicken f. *decumbens* Hicken, Darwiniana 1(3–4): 149 (1924). Type: 'República Argentina: Tucumán (colecc. v. BAER, n° 139; colecc. RODRÍGUEZ, n° 303, «Lara»). Syntypes: SI.

Hysterionica subvillosa sensu Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 172 (1874); Pl. Lorentz. : 124 (1874), non *Neja subvillosa* DC.

Hysterionica caurina I. M. Johnst., Contr. Gray Herb. 95: 54 (1931). Type: 'ARGENTINA: common along roads, Perico, Prov. Jujuy, Jan. 19, 1930, L. R. Parodi 9052'. Holotype: GH (9374).

Argentina, ?Bolivia (?). Note: The presence in Bolivia was considered probable by Cabrera (1946: 352), but no locality was provided.

Woodland, dry river valleys, roadsides.

500–2500 m.

January.

Hysterionica caurina I. M. Johnst., Contr. Gray Herb. 95: 54 (1931) = **Hysterionica bakeri** Hicken

Hysterionica nidorelloides* (DC.) Baker in Mart., Fl. Bras. 6(3): 12 (1882) = **Neja nidorelloides DC.

Hysterionica subvillosa sensu Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 172 (1874); Pl. Lorentz. : 124 (1874), non *Neja subvillosa* DC. = **Hysterionica bakeri** Hicken

Hysterophorus, Adans., Fam. 2: 128 (1763) = **Parthenium** L.

Ichthyothere Mart., Repert. Pharm. 35: 195 (1830).

Torrentia Vell., Fl. Flum. Icones 8: tab. 149 (1831). Type: *Torrentia quinquenervis* Vell. = ?**Ichthyothere cunabi** Mart. (according to Sampaio & Peckolt, 1943: 390).

Type: *Ichthyothere cunabi* Mart.

References

Pereira, R. de C. A. (2001). Revisão taxonômica do gênero *Ichthyothere* Mart. (Heliantheae-Asteraceae). PhD Thesis, unpublished. Universidade Federal Rural de Pernambuco, Recife.

Robinson, H. (1995). Two new species of *Ichthyothere* (Heliantheae: Asteraceae) from Ecuador and Peru. *Sida* 16: 731–736.

Ichthyothere cearensis Gardner in Fielding, Sertum Pl. pt. 1: tab. 9 (1843) = **Ichthyothere terminalis** (Spreng.) S. F. Blake

Ichthyothere curvifolia Moricand, Pl. Nouv. d'Amérique : 150 & tab. 89 (1840) = **Ichthyothere terminalis** (Spreng.) S. F. Blake

Ichthyothere davidsei H. Rob., Phytologia 49(1): 11 (1981). Type: 'BRAZIL: Pará: Município ceonzeição do Araguaia. Range of low hills ca. 20 km west of Redenção, near Córrego São João and Troncamento Santa Teresa. Approx. 8°03'S., 50°10'W. Alt. 350–620 m. Erect herb on open rock outcrop on steep hillside. Florets white. [8 Feb 1980] T. Plowman, G. Davidse, N. A. Rosa, C. S. Roasrio & M.R. dos Santos 8511'. Holotype: MG; isotypes NY (00180226), US (2831000).

Bolivia (Santa Cruz), Brazil (Pará).

350–620 m.

February–April.

Ichthyothere rufa Gardner, in Fielding's Sert. Pl. pt. 1: tab. 9 (1843). Type: 'Gardn. Herb. Bras. n. 3275. HAB. In upland grassy Campos, Province of Goyaz, Brasil. October 1839.' Holotype: OXF; isotypes: BM, K, NY (00345486, 00345487).

Ichthyothere suffruticosa Gardner in Fielding, Sert. Pl. pt. t. 8 (1843). Type: [Brazil:] Gardn[er]. Herb. Bras. n. 3276. Hab. In marshes near Duro, in the Province of Goyaz, Brasil.' Holotype: OXF; isotypes: BM, GH (9376), K.

Bolivia (La Paz, Santa Cruz), Brazil.

Ichthyothere terminalis (Spreng.) S. F. Blake, J. Wash. Acad. Sci. 11(13): 301 (1921).

Rolandra terminalis Spreng., Syst. Veg., ed. 16, 3: 673 (1826). Type: 'Brasil. Sello.' Holotype: P. Note: Perreira (2001) suggested that the holotype was in B, and based on the material in K, 'Sello 1017', that the Kew material is a duplicate; this would need to be confirmed with the photograph collection in F.

Ichthyothere curvifolia Moricand, Pl. Nouv. d'Amérique : 150 & tab. 89 (1840). Type: 'Hab. in Brasilia ad Jgregia [= Igreja] velha. Blanchet exsic. No. 3318.' Note: This locality is known to be the site of the old church, once the church of the Missão de Nossa Senhora das Neves do Saí at the original site of the town of Jacobina. Holotype: G; isotype: K.

Ichthyothere cearensis Gardner in Fielding, Sertum Pl. pt. 1: tab. 9 (1843). 'Gardn. Herb. Fl. Bras. n. 1732. ...

Hab. in Prov. of Goyaz.' Holotype: OXF; isotypes: BM, K × 2.

Ichthyothere terminalis (Spreng.) Malme, Arkiv Bot. 24 A, 8: 39 (1932), comb. superfl.

Bolivia (Santa Cruz), Brazil.

Cerrado, grassland especially around woodland margins, campos rupestes.

220–1000 m.

November–May.

Ichthyothere terminalis (Spreng.) Malme, Arkiv Bot. 24 A, 8: 39 (1932), comb. superfl. = **Ichthyothere terminalis** (Spreng.) S. F. Blake

Inula primulifolia (as *primulaefolia*) Lam., Encycl. 3: 261 (1789) = **Conyza primulifolia** (Lam.) Cuatrec. & Lorteg

Inulopsis (DC.) O. Hoffm. in Engler & Prantl, Naturl. Pflanzenfam. 4(5): 149 (1890).

Haplopappus sect. *Inulopsis* DC., Prodr. 5: 349 (1836). Type: not stated.

Lectotype (selected by Hoffmann, 1890): *Inulopsis scaposa* (DC.) O. Hoffm.

Reference

Nesom, G. L. (1994). *Inulopsis* synopsis (Asteraceae: Astereae). Phytologia 76(2): 115–124.

Inulopsis camporum (Gardner) G. L. Nesom, Phytologia 76(2): 120

Aster (Apligeni) camporum Gardner, London J. Bot. 7: 79 (1848). Type: Type: 'HAB. Open Campos near Nossa Senhora d'Abadia, Serra Geral, Province of Goyaz. May, 1840.' [Gardner] 4237. Lectotype (selected by Nesom, 1994): BM; isolectotype: K.

Erigeron camporum (Gardner) Sch.Bip. ex Benth. & Hook.f., Gen. Pl. 2: 273 (1873), nom. nud. pro syn. Bolivia (Santa Cruz), Brazil. Note: Nesom (1994) mapped this species from Bolivia but did not cite any material to support this.

Cerrado, grassland.

1100 m.

August–May.

Ismaria Raf., Sylva Tellur. : 117 (1838) = **Brickellia** Elliott

Isanthus DC., Prodr. 7: 63 (1838), nom. nud. pro syn. sub *Homoianthus* Bonpl. ex DC. = **Perezia** Lag.

Isocarpha Less., Linnaea 5(1): 141 (1830), p.p. = **Ageratum** L.

Isonema Cass., Bull. Sci. Soc. Philom. Paris 1817: 152 (1817), nom. illegit. = **Vernonia** Schreb.

Isostigma Less., Linnaea 6(3): 513 (1831).

Type: not selected. Lectotype (vide L. K. G. Pfeiffer, Nom. 1: 1771. 11 Jun 1875): *I. simplicifolium* Less.

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Peter, G. (2009). Systematic revision of the genus *Isostigma* Less. (Asteraceae, Coreopsideae). Candollea 64(1): 5–30.

Sherff, E. E. (1926). Revision of the genus *Isostigma* Less. (Contr. Hull Bot. Lab. 346) Bot. Gaz. 81(3): 241–257 + pl. 23 & 24.

Sherff, E. E. (1927). *Isostigma peucedanifolium* (Spreng.) Less., a valid name. Bot. Gaz. 83(4): 425.

Key to species

- | | | |
|--------|--|---------------------------|
| 1. | Leaves simple | 2 |
| | Leaves divided, bipinnatisect | 3 |
| 2. (1) | Capitula in 3–4-headed corymbs; leaf apices entire | <i>I. herzogii</i> |
| | Capitula solitary; leaf apices 3–7-dentate | <i>I. acaule</i> |
| 3. (1) | Ray limb 6–9 mm long; capitula 25–35 mm diam.; leaf segments 0.5–3 mm wide | <i>I. hoffmannii</i> |
| | Ray limb 18–25 mm long; capitula 30–50 mm diam.; leaf segments 0.2–0.7 mm wide | <i>I. peucedanifolium</i> |

Isostigma acaule (Baker) Chodat, Bull. Herb. Boissier, ser. 2, 1(4): 417 (1901).

Bidens acaulis Baker in Mart., Fl. Bras. 6(3): 247 (1884). Type: 'Habitat in Paraguay, ad Aréguá locis argillosis: *Balansa* n. 913!'. [Fleurs d'un pourpre foncé./Plaine d'Aréguá, dans les terrains argileux. Janvier 1875.] Holotype: K (divided into two sheets post-description!); isotype: LE. Note: There are two sheets of this collection at Kew, one separate from the other after the name was published. One has the original *Balansa* printed label mounted on it (with Baker's addition of the species name), with a large cut out portion, the sheet subsequently remounted onto a full herbarium sheet. The other specimen was clearly separated from this sheet (the profile of the cut edges matches exactly) and mounted onto a full herbarium sheet. The smaller portion has had a 'Herb. Hort. Bot. Reg. Kew' label added, with essentially all of the information (except the collector's number) found on the 'holotype'; the label is also marked 'Half sheet of *Bidens acaulis*, Baker'. Both sheets have been determined by Sherff, although he mentioned nothing about the two sheets in his revision of the genus (Sherff, 1926). Rather oddly, Peter (2009: 23) has stated that Sherff (1926: 246) lectotypified this name based on the Kew material; Sherff merely mentioned 'type in Herb. Kew; cotype, Herb. Hort. Petrop.'.

Isostigma vailianum [as *vailiana*] Britton, Ann. New York Acad. Sci 7(1–5): 149 (1893). Type: [Paraguay:] 'Limpio, ([Morong] 734). May.' Holotype: NY (00180263); isotypes: BM, F (18057), GH, K, US (00049958). Bolivia (Santa Cruz), Paraguay.

Cerrado, cerradão, grassland, swampy areas, disturbed ground.

225 m

August–May.

Santa Cruz: Wood et al. 25663 (K, USZ).

Isostigma crithmifolium Less., Linnaea 6(3): 515 (1831) = **Isostigma peucedanifolium** (Spreng.) Less.

***Isostigma herzogii** Hassl., Repert. Spec. Nov. Regni Veg. 7: 358 (1909). Type: 'Bolivia: Häufig im Kamp von Santiago de Chuquitos, wie *Nigritella* duftend, Bl. schwarz-rot, ca. 600 m, Mai 1907. Herzog no. 617.' Holotype: Z (000003585); isotype: G. Note: The material in Z has been annotated by Hassler. Bolivia (Chuquisaca, Santa Cruz, Tarija), Paraguay.

Rocky slopes, loose shaley slopes, cerrado, Chaco forest, shrubby areas, pasture, often in dry, frequently burnt grassland [sand dunes].

400–1900 m.

February–May.

Chuquisaca: Wood 9611 (K).

Santa Cruz: Wood et al. 21807 (K).

***Isostigma hoffmannii** Kuntze, Revis. Gen. Pl. 3(3): 160 (1898). Type: 'Bolivia: 400 m Rio Yapacani.'

['BOLIVIA. Rio Yapacani, 400 m, Jun 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 333] Holotype: ?NY (00180261); isotype B × 2†; US (00701982). Note: Sherff (1926: 250) merely mentioned the 'Type specimen' as being 2 sheets in B. This has been interpreted by Peter (2009: 25) as a lectotypification; Peter went on to lectotypify the name again based on the specimen in NY. However, the sheet in NY is clearly marked as both as lectotype (on a determinavit label by Peter) and as an isolectotype (on a verification label by T. Zanoni).

Isostigma lorentzii Hieron. ex Sherff, Bot. Gaz. 81(3): 250 (1926), nom. nud. pro syn.

Argentina, Bolivia (Santa Cruz), Paraguay.

Cerrado, grassland (often subject to frequent fires), swampy areas, riverbanks, open forest [stabilized dunes]. 0–500 m.

October – July.

Santa Cruz: Wood 12753 (K), Wood et al. 26627 (K, USZ).

Isostigma lorentzii Hieron. ex Sherff, Bot. Gaz. 81(3): 250 (1926), nom. nud. pro syn. = ***Isostigma hoffmannii***
Kuntze

Isostigma peucedanifolium (Spreng.) Less., Linnaea 6(3): 514 (1831).

Trajoceras peucedanifolium Spreng., Syst. Veg. ed. 16, 3: 576 (1826). Type: 'Ad fl. magnum. Amer. austr. (Rio grande.) Sello.' Note: Peter (2005: 234) suggested that the 'type' of this name was 'Sellow s.n., ex Herb. Reg. Berolinense 1859'; if this date is correct it is the distribution date of the material found on the K specimen. Peter also designated as lectotype the duplicate in K. Sherff (1926: 254) indicated he had not been able to find any 'SELLO sheets with the original label of *Trajoceras peucedanifolium* Spreng.' even though Lessing (1831: 514) suggested there were several Sellow collections – as 'Sellow in Brasilia (v. sp. s. ∞)' – (presumably in B). This is significant since Sherff had clearly not considered the K specimen a type, but certainly listed numbered Sellow collections ('Sello 1723 pro parte, 3327 and 5179 (8 sheets of type material, Herb. Berl.; 3327 also in Herb. Gray)') but strangely did not indicate of what they were types (q.v. Sherff, 1926: 253)!

Isostigma speciosum Less., Linnaea 6(3): 515 (1831). Types: 'Sellow cum praecedente [*Isostigma peucedanifolium*] (v. sp. s. plura).' Syntypes: B†. Note: Sherff (1926: 256) indicated there were six sheets of 'original material', 'three sheets without number and, of the remaining three, one each bears SELLO'S number 243, 1112, and 1723. All six lack the locality, other than Brasilia.' Nothing indicated by Sherff constituted lectotypification contrary to Peter's comments (2009: 18). Peter (2004b: 212) neotypified Lessing's name based on *Krapovickas & Cristóbal* 40922, CTES; isoneotypes: F (2080625), GH (139893).

Isostigma crithmifolium Less., Linnaea 6(3): 515 (1831). Types: 'Cum praecedentibus [*Isostigma speciosum* and *I. peucedanifolium* – suggesting both were apparently collected in Brazil] Sellow (v. sp. s. plura)'. Syntypes: B†. Note: Sherff (1926: 250) indicated that there were four sheets in B 'from Brasilia (as then bounded)'; 'Two sheets are labeled "Salto, Febr., 23" and one is labeled "S. José del Uruguay, Febr., 23" whence it is seen that SELLO collected the types in what is now Uruguay.' None of Sherff's statements constitute lectotypification, contrary to Peter's comments (2009: 17). In view that the B material is now destroyed Peter lectotypified the name based on a presumed duplicate in P.

Isostigma peucedanifolium (Spreng.) Less. f. *radiata* Hassl., Repert. Spec. Nov. Regni Veg. 14(16–20): 277 (1916). Types: 'Paraguay: Hassler 5586, Pl. Hassl., I, 165; *I. speciosum* Chod. haud Less. id. in campis Punta-Pará, Hassler no. 10366.' Syntypes: G. Lectotype (selected by Peter, 2004b: 212): Hassler 5586, G.

Isostigma peucedanifolium (Spreng.) Less. f. *discoidea* Hassl., Repert. Spec. Nov. Regni Veg. 14(16–20): 277 (1916). Type: 'Paraguay: Cerros de Tobaty, Fiebrig 810 in Herb. Hassler.' Holotype: G; isotypes: AS, BM, F (165566), GH, RSA.

Isostigma peucedanifolium (Spreng.) Less. var. *crithmifolium* (Less.) G. Peter, Candollea 64(1): 17 (2009).

Isostigma peucedanifolium (Spreng.) Less. var. *speciosum* (Less.) G. Peter, Candollea 64(1): 18 (2009).

Isostigma peucedanifolium (Spreng.) Less. var. *strictum* G. Peter, Candollea 64(1): 19 (2009). Type: 'Brazil. Edo Minas Gerais: Municipio de Jaboticatubas, Serra do Cipó (the highest part of the long narrow Serra do Espinha), along road at km 112.4 (1.4 km along road N of "Chapeu do Sol"), 19°19'S 43°46'W, 22.XI.1965, Eiten & Eiten 6767'. Holotype: US; isotype: SP.

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay, Uruguay.

Cerrado, campos rupestres, on rocky and sandy soils.

140–960 m.

August – May.

Vernacular names: CRAVO DO CAMPO, SAUDADES DO CAMPO (Brazil), CLAVEL DEL CAMPO (Argentina) (Peter, 2009).

Note: In his lengthy discussion under *Isostigma megapotamicum* Sherff provided a superfluous combination (Sherff 1926: 253–254). Peter (2005, 2009: 28) has dismissed Sherff's commentary and considered that the plant referred to by Sprengel (1826) should remain in *Bidens*. This overlooked Sherff's later commentary (Sherff, 1937: various) that Sprengel's plant was in fact *Thelesperma megapotamicum* (Spreng.) Kuntze, a native of Argentina, southern Brazil and Uruguay.

Of the four varieties recognized by Peter (2009) only the type is found in Bolivia; use of Peter's key will easily separate the concepts of the other varieties.

Isostigma peucedanifolium (Spreng.) Less. var. *crithmifolium* (Less.) G. Peter, *Candollea* 64(1): 17 (2009) = **Isostigma peucedanifolium** (Spreng.) Less.
Isostigma peucedanifolium (Spreng.) Less. f. *discoidea* Hassl., *Repert. Spec. Nov. Regni Veg.* 14(16–20): 277 (1916) = **Isostigma peucedanifolium** (Spreng.) Less.
Isostigma peucedanifolium (Spreng.) Less. f. *radiata* Hassl., *Repert. Spec. Nov. Regni Veg.* 14(16–20): 277 (1916) = **Isostigma peucedanifolium** (Spreng.) Less.
Isostigma peucedanifolium (Spreng.) Less. var. *speciosum* (Less.) G. Peter, *Candollea* 64(1): 18 (2009) = **Isostigma peucedanifolium** (Spreng.) Less.
Isostigma peucedanifolium (Spreng.) Less. var. *strictum* G. Peter, *Candollea* 64(1): 19 (2009) = **Isostigma peucedanifolium** (Spreng.) Less.
Isostigma speciosum Less., *Linnaea* 6(3): 515 (1831) = **Isostigma peucedanifolium** (Spreng.) Less.
Isostigma vailiana Britton, *Ann. New York Acad. Sci* 7(1–5): 149 (1893) = **Isostigma acaulis** (Baker) Chodat

Isotypus Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 8 (1818) = **Onoseris** Willd.

Iva monophylla Walter, *Fl. Carol.* : 232 (1788) = **Ambrosia artemisiifolia** L.

Ixine Hill, *Veg. Syst.* 4: 17 (1762), nom. illegit. non Loevl. (1758)[POLYGALACEAE] = **Cirsium** Mill.

J

Jaegeria Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 218 (1818).

Aganippea Moc. ex Sessé ex DC., Prodr. 6: 3 (1838). Type: not stated. Lectotype (selected by Blake, 1930):

Aganippea bellidiflora DC. = *Jaegeria bellidiflora* (DC.) Torres & Beaman

Heliogenes Benth., Pl. Hartw. : 42 (1840). Type: *Heliogenes reglae* Benth. = *Jaegeria pedunculata* Hook. & Arn.

Macella C. Koch, App. Ind. Sem. Hort. Berol. 1855, App.: 13 (1856). Type: *Macella hirta* (Lag.) C. Koch =

Jaegeria hirta (Lag.) Less..

Type: *Jaegeria mnioides* Kunth = ***Jaegeria hirta*** (Lag.) Less.

References

Robinson, H. (2006). *Jaegeria*. In: G. Harling & L. Andersson (eds.), Flora of Ecuador No. 77(1). 190(6). Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, University of Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 211–215.

Torres, A. M. (1968). Revision of *Jaegeria* (Compositae-Heliantheae). Brittonia 20(1): 52–73.

Jaegeria bellidioides Spreng., Syst. Veg., ed. 16, 3: 591 (1826) = ***Jaegeria hirta*** (Lag.) Less.

Jaegeria discoidea Klatt, Jahrb. Hamb. Wiss. Anst. 102: 126 (1893) = ***Jaegeria hirta*** (Lag.) Less.

****Jaegeria hirta*** (Lag.) Less., Syn. Comp. : 223 (1832).

Acmella hirta Lag., Gen. Sp. Pl. Nov. 31, n. 383 (1816). Type: ‘Hab. in America. cel. Lud. Neé legit.’ Holotype: ? probably MA. Neotype (selected by Torres, 1968: 64): ‘Pine covered slopes and meadows ca. 18 mi S of Pátzcuaro, Michoacán, Mexico, 8900–9000 ft, 20–25 Nov 1961, King & Soderstrom 5154, n = 18’. US (2367198); isoneotypes MICH, NY (00180289), SMU, TEX, UC.

Jaegeria mnioides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 218 (1818). Type: ‘Crescit locis temperatis prope Ario Mexicanorum, alt. 1000 hex. † Floret Septembri.’ Holotype: P-Bonpl.

Jaegeria bellidioides Spreng., Syst. Veg., ed. 16, 3: 591 (1826). Type: ‘Monte Video. Sello.’ Holotype: P.

Jaegeria parviflora DC., Prodr. 5: 544 (1836). Type: ‘• in Brasiliae prov. Sancti-Pauli, ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 433 miss.)’. Holotype: P.

Jaegeria repens DC., Prodr. 5: 544 (1836). Type: ‘■ in Brasiliae prov. Rio de Janeiro ad Serra dos Orgaos legit cl. Vauthier (pl. exs. n. 323!). ... (v.s.)’. Holotype: G-DC; isotypes: GH, fragm. US.

Spilanthes karvinskiana DC., Prodr. 5: 623 (1836). Type: ‘■ inter plantas Mexicanas Karvinskii sine loci indicatione hanc video. ... (v.s. in h. acad. reg. Monac.)’. Holotype: M; isotype: G-DC.

Spilanthes mariannae DC., Prodr. 5: 623 (1836). Type: ‘? in Brasiliae prov. Minarum-Generalium ad Mariannam legit cl. Vauthier (pl. exs. n. 322). ... (v.s.)’. Holotype: G-DC.

Spilanthes eclipioides Gardner, London J. Bot. 7: 407 (1848). Type: ‘Hab. Near Perna de Paó, on the confines of the Province of Goyaz. with that of Rio de Janeiro. Oct. 1840.’ [Gardner] 4922. [Robinson (2006: 214) gave the holotype as K!]

Macella hirta (Lag.) C. Koch, App. Ind. Sem. Hort. Berol. 1855, App.: 13 (1856).

Spilanthes sessilifolia Hemsl., Biol. Centr. Amer. Bot. 2: 193 (1881). Type: ‘SOUTH MEXICO, Orizaba (Sallé, 41). Hb. Kew.’ Holotype: K.

Jaegeria hirta (Lag.) Less. var. *glabra* Baker in Mart., Fl. Bras. 6(3): 167 (1884). Types: ‘in prov. S. Paulo: Wier n. 503; praeterea in Bolivia: Mandon n. 62!, 80!’ Lectotype (apparently selected by Robinson, 1900: 318): Mandon 80 – K. Syntypes: K.

Galinsoga calva Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 167 (188), nom. nud. pro syn. (*Jaegeria hirta* (Lag.) Less. var. *glabra* Baker)

Galinsoga mandonii Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 167 (18), nom. nud. pro syn. (*Jaegeria hirta* (Lag.) Less. var. *glabra* Baker)

Jaegeria discoidea Klatt, Jahrb. Hamb. Wiss. Anst. 102: 126 (1893). Type: ‘Hab. State of Mexico, Sierra de las Cruces, leg. C. G. Pringle d. 1. October 1892. Unter No. 4279 als *Jaegeria hirta* Less. herausgegeben.’ Holotype: HAM; isotypes: GH, GOET, MO, MSC, US. H. Torres (1968: 65) incorrectly stated that the holotype was in US, with isotypes in MO and MSC. Robinson (2006: 214) later cited ‘Lectotype: GH; isolectotypes: MO, MSC, US’ which was an unnecessary lectotypification. Note: In his paper

'Berichtigungen zu einigene von C. G. Pringle in Mexiko gesammelten Compositen' Klatt most certainly did not indicate a holotype in US (the material there being three small plants mounted on one sheet), rather that the material he was basing his descriptions was in the Hamburgischen Botanischen Museum – HAM. Argentina, Bolivia (Cochabamba, La Paz, Tarija), Brazil, Colombia, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay, Venezuela.

Scrub, cloud forest, roadsides, open areas.

300–3300 m.

Flowering throughout the year.

La Paz: Wood et al. 23113 (K).

Jaegeria hirta (Lag.) Less. var. *glabra* Baker in Mart., Fl. Bras. 6(3): 167 (1884) = **Jaegeria hirta** (Lag.) Less.

Jaegeria mniodes Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 218 (1818) = **Jaegeria hirta** (Lag.) Less.

Jaegeria parviflora DC., Prodr. 5: 544 (1836) = **Jaegeria hirta** (Lag.) Less.

Jaegeria repens DC., Prodr. 5: 544 (1836) = **Jaegeria hirta** (Lag.) Less.

Jaegeria uliginosa (Sw.) Spreng., Syst. Veg., ed. 16, 3: 590 (1826) = **Acmella uliginosa** (Sw.) Cass.

Jaegeria urticifolia (Kunth) Spreng., Syst. Veg., ed. 16, 3: 590 (1826) = **Galinsoga quadriradiata** Ruiz & Pav.

Jalcophila M. O. Dillon & Sagást., Brittonia 38(2): 162 (1986).

Type: *Jalcophila peruviana* M. O. Dillon & Sagást.

References

Dillon, M. O. (2003). New combinations in *Luciliocline* with notes on South American Gnaphalieae (Asteraceae). *Arnaldoa* 10(1): 45–60.

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Anderberg, A. A. & S. E. Freire. (1990). *Jalcophila boliviensis*, a new species of South American Asteraceae (Gnaphalieae). *Brittonia* 42(2): 138–141.

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Jalcophila boliviensis Anderb. & S. E. Freire, *Brittonia* 42(2): 139 (1990). Type: 'Bolivia. Larecaja: Vicinis Sorata adscensu al Aniloya ad Lacum Juriguana et ad culmen Monticulae Chumbriru, 4100–4500 m, Jan-Feb 1859, Mandon 179'. Holotype: S; isotypes: K, NY (00804135).

Luculia hypoleuca Wedd. ex Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); *Linnaea* 34(5): 532 (Feb. 1866), nom. nud. (based on Mandon 179).

Gamochoeta boliviensis (Anderb. & S. E. Freire) M. O. Dillon & Sagást., *Arnaldoa* 10(1): 52 (2003).

Bolivia (La Paz).

4100–4500 m.

January–February.

Note: Dillon & Sagástegui (1991) noted that *Jalcophila boliviensis* had 'posiblemente tiene relaciones con *Belloa* s.l. o *Gamochoeta*.' , providing a further commentary under *Belloa* noting the plants apparently anomalous position within *Jalcophila*. The formal transfer, to *Gamochoeta*, was made by Dillon (2003) noting, once again, the characters by which it differed from *Jalcophila*. However, the 'single, large capitulum on an elongate pedicel, with over 40 florets, ...' is also quite anomalous within *Gamochoeta* – excepting *Gamochoeta longepedicellata* Cabrera. Whilst *Jalcophila boliviensis* certainly does not show any relationship to *Stuckertiella* or *Rauoliopsis* on a number of characters, it would not key to *Gamochoeta*, and only with some difficulty to *Jalcophila* in their earlier key (Dillon & Sagástegui, 1986). It does show some affinity with their concept of *Belloa* s.l. (q.v. Dillon & Sagástegui, 1986: 163, 1991: 16). *Solomon* 4925 is cited as the same taxon by Dillon, 2003: 50.

Jaumea Pers., Syn. Pl. 2: 397 (1807).

Jaumea mimuloides Hieron., Bot. Jahrb. Syst. 29(1): 52 (1900) = **Philoglossa mimuloides** (Hieron.) H. Rob. & Cuatrec.

Jaumeopsis Hieron., Bot. Jahrb. Syst. 29(1): 53 (1900), nom. nud. = **Philoglossa** DC.

Jaumeopsis mimuloides Hieron., Bot. Jahrb. Syst. 28(5): 619 (1901), nom. nud. = **Philoglossa mimuloides** (Hieron.) H. Rob. & Cuatrec.

Jaumeopsis mimuloides Hieron. var. *subintegrifolia* Hieron., Bot. Jahrb. Syst. 28(5): 619 (1901), nom. inval. = **Philoglossa mimuloides** (Hieron.) H. Rob. & Cuatrec.

Joannea Spreng., Anleit. ed. 2, 2(2): 535 (1818), orth var. pro *Johannia* Willd. = **Chuquiraga** Juss.

Joannea brasiliensis Spreng., Neue Entdeck. 2: 132 (1821) = **Dasyphyllum brasiliense** (Spreng.) Cabrera

Joannesia Pers., Syn. Pl. 2: 383 (1807), orth. var. pro *Johannia* Willd. = **Chuquiraga** Juss.

Jobaphes Phil., Fl. Atacam.: 27, t. 4 (1860); Reise Atacama : 201 (1860) = **Aphyllocladus** Wedd.

Johannia Willd., Sp. Pl. 3: 1705 (1803) = **Chuquiraga** Juss.

Johannia insignis Willd., Sp. Pl. 3: 1705 (1804) = **Chuquiraga jussieui** J. F. Gmel.

Jungia L.f., Suppl. Pl. : 58 (1782), nom. cons.

Trinacte Gaertn., Fruct. Sem. Pl. 2: 415 (1791). Type: *Jungia ferruginea* L.f.

Rhinactina Willd., Ges. Naturf. Freunde Berl. Mag. 1: 139 (1807). Type: [given by Harling] *Rhinactina cinerarioides* Willd. ex Less. (1830), nom. nud. = *Jungia paniculata* (DC.) A. Gray

Martrasia Lag., Amen. Nat. Españas 1: 36 (1811). Type: not designated, as all names provided nomina nuda.

Dumerilia Lag. ex DC., Ann. Mus. Nat. Paris 19: 71, t. 6 (15) & t. 7 (16) (1812). Type: *Dumerilia axillaris* Lag. ex DC. = *Jungia axillaris* (Lag. ex DC.) Spreng.

Jungia L.f. sect. *Dolichophylla* Harl., Acta Reg. Soc. Sci. Lit. Göthoburg., Bot. 4: 29 (1994)[1995?]. Type: *Jungia stuebelii* (Hieron.) Crisci

Jungia L.f. sect. *Dumerilia* (Lag. ex DC.) Harl., Acta Reg. Soc. Sci. Lit. Göthoburg., Bot. 4: 32 (1994)[1995?]

Jungia L.f. sect. *Multiflorae* Harl., Acta Reg. Soc. Sci. Lit. Göthoburg., Bot. 4: 95 (1994)[1995?]. Type: *Jungia calyculata* Cuatrec.

Type: *Jungia ferruginea* L.f.

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Díaz-Piedrahita, S. (2001). *Tostimontia*, un nuevo género de Asteraceae (Mutisieae) originario de Colombia. Acad. Colomb. Cienc. Exact. Fis. Nat. 25(94): 7–10.

Harling, G. (1995). The genus *Jungia* L. fil. (*Compositae-Mutisieae*). Acta Regiae Soc. Sci. Litt. Gothob. Bot. 4: 1–133.

Harling, G. (1997). A new species of *Jungia* (*Compositae*) from Bolivia. Novon 7(3): 246–248.

Hind, D. J. N. (2004). A new species of *Jungia* (*Compositae: Mutisieae: Nassauviinae*) from Bolivia. Kew Bull. 59(2): 311–314.

Note: Harling (1995, rev.) recognized four sections, provided a key to the known species, and (Harling, 1997) added a further species from Bolivia. A key to Bolivian species was provided by Hind (2004), in describing another species from Bolivia. Recently, the monospecific genus *Tostimontia* S. Diaz Piedrahita (2001) was described from Colombia. The genero-specific description, although rather short and lacking adequate diagnostic characters, does not allow it to be separated from *Jungia*. The only characters by which it can be separated (from *Jungia*) include the solitary terminal capitula, the caespitose habit, and the peltate leaves. However, the detailed diagnostic plate of the new taxon scarcely supports segregation from *Jungia*.

Key to species (from Hind, 2004)

1. Capitula 15–35-flowered; phyllaries narrowly lanceolate, apices acute to acuminate, often glandular; achenes turbinate or fusiform, beaked and variously pubescent and/or glandular; inflorescences lax panicles with widely spaced capitula (in Bolivian taxa). Sect. *Dumerilia* 2
 Capitula usually 8–12 (–15)-flowered; phyllaries essentially oblong, widening towards apices, apices truncate and often mucronate at tip, eglandular; achenes cylindrical, usually glabrous, beakless; inflorescences paniculate and always ending in dense terminal aggregations of capitula. Sect. *Jungia* 7
2. (1) Petiole bases exauriculate 3
 Petiole bases auriculate 4
3. (2) Pappus setae plumose; achenes moderately covered in short-stipitate glands (at least in material in K). NE Argentina, Bolivia (La Paz, Santa Cruz), Paraguay, Uruguay *J. floribunda*
 Pappus setae barbellate or subplumose; achenes usually densely setuliferous, setulae antrorse, apices acute. NW Argentina, Bolivia (La Paz, Cochabamba, Santa Cruz, Tarija) *J. polita*
4. (2) Achenes glandular on beak and apical callus 5
 Achenes eglandular 6
5. (4) Corollas pink or mauve; auricles entire or slightly lobed. Bolivia (La Paz), Ecuador, Peru; (2700–) 3000–4600 m *J. rugosa*
 Corollas white; auricles distinctly dentate or lobed. NE Argentina, Bolivia (La Paz, Santa Cruz), Paraguay, Uruguay; 400–1500 m *J. floribunda*
6. (4) Involucre 10–13 (–15) mm diam.; phyllaries usually 10–12; florets 20–25; pappus grey to dark grey. NW Argentina, Bolivia (La Paz, Cochabamba, Santa Cruz, Tarija), Peru *J. pauciflora* ssp. *pauciflora*
 Involucre 7–10 mm diam.; phyllaries 8–9; florets 8–12 (–16); pappus usually ‘tawny’. NW Argentina, Bolivia (Tarija) *J. sordida*
7. (1) Corollas white; petiole base exauriculate. Bolivia (La Paz) *J. beckii*
 Corollas purple or ‘reddish lilac’; petiole bases auriculate 8
8. (7) Leaves ovate- to triangular-cordate; margins unlobed or slightly lobed; Bolivia (La Paz), Ecuador, Peru. *J. weberbaueri*
 Leaves sub-orbicular, margins distinctly or shallowly lobed. Bolivia (La Paz) *J. woodii*

Jungia (*Martrasia*) *affinis* Gardner, London J. Bot. 6: 460 (1847) = ***Jungia floribunda*** Less.

Jungia beckii Harling, Novon 7(3): 246 (1997). Type: ‘Bolivia. La Paz: Prov. Nor Yungas, ca. 4 km from Chuspipata towards Puente Villa, downhill towards Río Undiavi, 2900 m, 3 Nov. 1990, Beck 18672’.
 Holotype: LPB; isotypes: GB, LPB.
 Bolivia (La Paz).
 High-montane wet forest.
 2800–3000.
 November–July.

Jungia bullata Turcz., Bull. Soc. Naturalistes Moscou 24(1): 213 (1851) = ***Jungia rugosa*** Less.

Jungia divaricata* Rusby, Mem. Torrey Bot. Club 6(1): 71 (1896) = *Jungia polita*** Griseb.

**Jungia ferruginea* L.f. was mentioned in Foster (1958: 212) but is clearly not present. It is difficult to know which species it was mistaken for since allied species mentioned in Harling (1995) do not occur in Bolivia.

****Jungia floribunda*** Less., Linnaea 5(1): 38 (1830). Types: ‘*Sellow* in Brasilia aequinoctiali. (v. sp. s. ∞).’
 Syntypes: B†.

Jungia pyramidalis D. Don, Trans. Linn. Soc. London 16(2): 299 (1830). Type: ‘In Brasilâ ad ripas fluminis La Plata. *Sello*. ■’ Holotype: originally in Aylmer Bourke Lambert’s herbarium, now possibly in BM, CGE, G, LE, or OXF fide Miller (1970: 541). *Sellow* material was also purchased by Rich and is now in Herb. Delessert, P.

- Jungia* (*Martrasia*) *affinis* Gardner, London J. Bot. 6: 460 (1847). Type: 'HAB. Woods between Arrayas and San Domingos, Province of Goyaz. May, 1840.' [*Gardner*] 4263. Lectotype (selected by Harling, 1994: 74): BM; isoelectotypes: G, GH, K, NY (00180296, 00180297, 00180298), P, W.
- Jungia floribunda* Less. var. *affinis* (Gardner) Baker in Mart., Fl. Bras. 6(3): 393 (1884).
- Jungia tomentosa* Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 393 (1884), nom. nud. pro syn. sub. *Jungia floribunda* var. β *affinis*
- Jungia pubescens* (Lag.) Kuntze var. *floribunda* (Less.) Kuntze, Revis. Gen. Pl. 3(3): 161 (1898).
- Jungia pubescens* (Lag.) Kuntze var. *tomentosa* Kuntze, Revis. Gen. Pl. 3(3): 161 (1898). Type: not cited. Harling (1994: 74) cited: ' "Brasilia, in humidis St. Carlos, Apr. 34", Riedel 98'. Holotype: LE; isotype: P. [NB. This is difficult to accept since nothing at all was cited in Kuntze (1898: 161) other than a cryptic reference to Sch.Bip. after the name, and nothing is clear from the *Flora Brasiliensis* account (Baker, 1884: 393–394), other than mention of 'praeterea: Riedel!'].
- Argentina, Bolivia (La Paz, Santa Cruz), Brazil, Paraguay, Uruguay.
- Wet forest, gallery forest, grassland, cerrado, often in swampy localities.
- 400–1500 m.
- October–July.
- Vernacular names: ARNICA, ARNICA RAPAI (Cabrera, 1998); ARNICA, ARNICA RAPAI, BEIRA DA MATA, ERVA DO SAPO, HIGO DEL BOSQUE, YAGUARETÉ-PÓ, YAGUARETÍ-PI (Freire et al., 2006); HIGO DEL BOSQUE (Bolivia), BEIRA DE MATA (Brazil), YAGUARETÍ-PI, YAGUARETÉ-PÓ (Paraguay)(Harling, 1995).
- Jungia floribunda* Less. var. *affinis* (Gardner) Baker in Mart., Fl. Bras. 6(3): 393 (1884) = ***Jungia floribunda*** Less.
- **Jungia grossulariifolia* Rusby, Descr. New Sp. S. Amer. Pl. : 164 (1920) = ***Jungia polita*** Griseb.
- Jungia herzogiana* Beauverd in/ex Herzog, Pflanzenw. Bolivischen Anden : 188 (1923), nom. nud. = ***Jungia pauciflora*** Rusby ssp. ***pauciflora***
- **Jungia herzogiana* Beauverd ex J. Koster, Blumea 5(3): 683 (1945) = ***Jungia pauciflora*** Rusby ssp. ***pauciflora***
- ?*Jungia jelskii* Hieron., Bot. Jahrb. Syst. 36(5): 512 (1905) = ***Jungia rugosa*** Less.
- Jungia malvifolia* Muschl., Beibl. Bot. Jahrb. Syst. 50(2/3), Beibl. 111: 105 (1913) = ***Jungia rugosa*** Less.
- Jungia mandonii* Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 527 (Feb. 1866), nom. nud. (based on *Mandon* 16) = ***Jungia pauciflora*** Rusby ssp. ***pauciflora***
- **Jungia orbicularis* Rusby, Bull. New York Bot. Gard. 4(14): 401 (1907) = ***Jungia pauciflora*** Rusby ssp. ***pauciflora***
- ****Jungia pauciflora*** Rusby, Bull. New York Bot. Gard. 4(14): 401 (1907). Types: [Bolivia:] '([*Bang*] No. 2048.) This is very near to *Mandon* 16, and *Mathews*' plant from Chachapoya, Peru, and I am disposed to regard them as identical, although the one here described has stouter and shorter peduncles, larger heads and flowers and the pappus shorter in proportion to the corollas, I do not therefore take up the proposed name of Schultz-Bipontinus.' Harling (1995: 61) merely noted that *Bang* 2048 was the holotype, without acknowledging that *Mandon* 16 (on which Schultz Bipontinus' nom. nud. *J. mandonii* was based) and the *Mathews* collection were cited in the protologue.
- ssp. ***pauciflora***
- Jungia mandonii* Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 527 (Feb. 1866), nom. nud. (based on *Madon* 16).
- **Jungia pubescens* (Lag.) Kuntze var. *boliviensis* Kuntze, Revis. Gen. Pl. 3(3): 161 (1898). Types: 'Bolivia: Tunari 3400 m, Cochabamba.' ['BOLIVIA. Cochabamba, 3000 m, 26 Mar 1892, *Kuntze* s.n.; Tunari, 3400 m, Apr-May 1892, *Kuntze* s.n. (2 sheets).'] – according to Wetter & Zardoni, 1985: 333] Syntypes: NY (Tunari, 3400 m, 1892 – 00180309, Tunari, 3400 m, Apr-Mar. – 00180310, Cochabamba, 3000 m, 26 Mar 1892 – 00180311).
- **Jungia orbicularis* Rusby, Bull. New York Bot. Gard. 4(14): 401 (1907). Types: [Bolivia?] '(Specimens without number.)' Lectotype (selected by Harling, 1994: 61): 'Bolivia, sine loco, *Bang* s. n.' – NY (00038214); isoelectotype: NY (00038213). Harling provided no distinction between these two sheets in his paper but did, quite clearly, on the specimens themselves!
- Jungia herzogiana* Beauverd ex Herzog, Pflanzenw. Bolivischen Anden : 188 (1923), nom. nud.
- **Jungia herzogiana* Beauverd ex J. Koster, Blumea 5(3): 683 (1945). Types: 'Hab.: im Gebüsch der Waldgrenze über Tablas, 3400 m alt., Mai 1911, Bl. weiss, [*Herzog*] n. 2191. ... *Steinbach* n. 9810 est eadem species.' Harling (1995: 61) incorrectly noted 'L Holotype, G isotype.' without actually noting the syntype (*Steinbach* 9810) that Koster had cited. It is debatable whether Harling's citation could be accepted as a

lectotypification. It is quite clear, however, that Harling determined one of two duplicates in L as the lectotype (L-94437129), and the other as isolectotype (L-94437190).

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija), Peru.

Montane and cloud forests, open scrub.

(1200–) 2000–3800 (–4000) m.

January–June.

Jungia polita Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 215 (March–April 1879), Symb. Fl. Argent.: 215 (1879). Type: [Argentina] ‘O.: Tarija, versus S. Anna.’ Holotype: *Lorentz & Hieronymus* 952, GOET.

**Jungia divaricata* Rusby, Mem. Torrey Bot. Club 6(1): 71 (1896). Type: [Bolivia:] ‘Near snow-line, Mt. Tunari, 1891 ([Bang] 1115).’ Lectotype (selected by Harling, 1994: 68): NY (00180300); isolectotypes: BM, F (77577), GH (A- 55353, GH- 55352), K, LD × 2, M, MO (1839209), NY (00180301), US (01417486), Z (000003591).

Harling also noted that this was a mixed collection and some material amongst the isolectotypes belongs to *Jungia floribunda*.

Jungia polita Griseb. var. *divaricata* (Rusby) Kuntze, Revis. Gen. Pl. 3(3): 160 (1898).

Jungia polita Griseb. var. *glabra* Kuntze, Revis. Gen. Pl. 3(3): 160 (1898). Type: ‘Argentina: Jujuy.’ [‘ARGENTINA. Jujuy, Oct 1892, Kuntze s.n.’ – according to Wetter & Zanoni, 1985: 333]. Harling (1994: 68) oddly lectotypified this name based on material in NY (00180307 – marked as holotype by Zanoni); duplicates ?F, US (701559).

**Jungia polita* Griseb. var. *tomentosa* Kuntze, Revis. Gen. Pl. 3(3): 161 (1898). Type: ‘Bolivia: Cochabamba, Sierra de Santa Cruz 3000 m.’ [‘BOLIVIA. Sierra de Santa, 3000 m, May 1892, Kuntze s.n.’ – according to Wetter & Zanoni, 1985: 333] Harling (1994: 68) appears to have contradicted Wetter & Zanoni (1985: 333) by suggesting that this was not a single collection and moreover it was collected at 2800 m, on 14 Apr 1892. Harling selected a lectotype at NY, a syntype also being present. NY (0180308) was clearly collected at 3000 m, and no other collection appears to have been determined by Harling.

**Jungia grossulariifolia* [as *grossulariaefolia*] Rusby, Descr. New Sp. S. Amer. Pl. : 164 (1920). Type: ‘“Cotana, near Ilimani, Bolivia, 2600 M. altitude, November, 1911.” (Otto Buchtien, No. 3306.)’. Lectotype (selected by Harling, 1994: 70): *Buchtien* 3306, NY (00180303); isolectotypes: NY (00180302), US (01098456).

Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz, Tarija).

Dry scrub, thickets, gravelly or rocky slopes, river banks.

500–2700 (–3000) m.

September–July.

Vernacular name: Viña (argentina) (Harling, 1995).

Jungia polita Griseb. var. *divaricata* (Rusby) Kuntze, Revis. Gen. Pl. 3(3): 160 (1898) = **Jungia polita** Griseb.

Jungia polita Griseb. var. *glabra* Kuntze, Revis. Gen. Pl. 3(3): 160 (1898) = **Jungia polita** Griseb.

Jungia polita Griseb. var. *tomentosa* Kuntze, Revis. Gen. Pl. 3(3): 161 (1898) = **Jungia polita** Griseb.

Jungia pubescens* (Lag.) Kuntze var. *boliviensis* Kuntze, Revis. Gen. Pl. 3(3): 161 (1898) = **Jungia pauciflora Rusby ssp. **pauciflora**

Jungia pubescens (Lag.) Kuntze var. *floribunda* (Less.) Kuntze, Revis. Gen. Pl. 3(3): 161 (1898) = **Jungia floribunda** Less.

Jungia pubescens (Lag.) Kuntze [var.] β *grandistipulata* Kuntze, Revis. Gen. Pl. 3(3): 161 (1898) = **Jungia sordida** J. Koster

Jungia pubescens (Lag.) Kuntze var. *tomentosa* Kuntze, Revis. Gen. Pl. 3(3): 161 (1898) = **Jungia floribunda** Less.

Jungia pyramidalis D. Don, Trans. Linn. Soc. London 16(2): 299 (1830) = **Jungia floribunda** Less.

Jungia rugosa Less., Linnaea 5(1): 36 (1830). Type: ‘(*Cineraria stipulacea* W. herb. N. 15992.) ... Clar. de Humboldt ex itinere reportavit. (v. sp. 2. in herb. W.)’ Holotype: B-W (15992). Note: Even though Lessing referred to two collections at the end of the protologue it is quite clear that he was referring to a specific sheet at the beginning.

Cineraria stipulacea Willd. ex Less., Linnaea 5(1): 36 (1830), nom. nud. pro syn.

Jungia bullata Turcz., Bull. Soc. Naturalistes Moscou 24(1): 213 (1851). Types: [Ecuador:] ‘In Andibus Quitensisbus cum Eupatorio (ni fallor) caduciseto DC. sub. nn. 783. 784 collectionis Jamesoniana.’ Lectotype (selected by Harling, 1994: 52): *Jameson* 783–784, BM; isolectotypes: G, US.

?*Jungia jelskii* Hieron., Bot. Jahrb. Syst. 36(5): 512 (1905). Type: 'Peruvia: crescit inter Chota et Cutervo (J[elski]. n. 639, m. Junio 1879).' Holotype: B†.

Jungia malvifolia [as *malvaefolia*] Muschl., Beibl. Bot. Jahrb. Syst. 50(2/3), Beibl. 111: 105 (1913). Type: 'Peruvia: Conin, in Departamento Ancachs, provincia Huari, in fruticeto laxo, 3600–3700 m s.m. (WEBERBAUER n. 2912. – Florens 18. Aprilis 1903).' Holotype: B; lectotype (selected by Harling, 1994: 52): G; isolectotypes: GB, LM.

Bolivia (La Paz), Peru.

Ceja Andina, páramo, dry montane scrub, stony slopes.
(2700–) 3000–4600 m.

Flowering throughout the year.

Vernacular names: CARAMATE, HIERBA ZONZA (Harling, 1995).

**Jungia sordida* J. Koster, Blumea 5(3): 683 (1945). Type: 'Hab. : auf subalpinene Wiesen der Abra de la Senda, 2300 m alt., März 1911, [Herzog] n. 1839.' Lectotype (selected by Harling, 1994: 64): L(94437171); isolectotype: L(94437177).

Jungia pubescens (Lag.) Kuntze [var.] β *grandistipulata* Kuntze, Revis. Gen. Pl. 3(3): 161 (1898). Type: 'Argentina: Siambon No. 234 und Cuesta del Garabatal No. 856 Lorentz & Hieronymus im Berliner bot. Museum.' Harling (1994: 64) suggested that the 'holotype' was in B (destroyed) and selected Lorentz & Hieronymus 856, K, as the lectotype.

Argentina, Bolivia (?Cochabamba, Santa Cruz, Tarija).

Humid montane forest, gallery forest, clearings.

900–2500 (–3400) m.

January–May.

Jungia tomentosa Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 393 (1884), nom. nud. pro syn. = ***Jungia floribunda*** Less.

Jungia weberbaueri Cerrate, Publ. Mus. Hist. Nat. 'Javier Prado', ser. B, Bot. 1(4): 22 (1951). Type: 'Peru, Dept. Huánuco, Prov. Pachitea, near Chaglla, 2900 m, 29 Jun 1913, *Weberbauer* 6701' [Citation taken from Harling, 1995: 118, as original publication not seen]. [Peru: Huallaga, by Chaglla, 2900 m, *Weberbauer* 6701, 1909–1914' on label]. Holotype: MOL; isotypes: A, F (628611), GH \times 2 (55354, 55355), NY (00180328), S, US (1876714).

Ecuador, Bolivia (La Paz), Peru.

Open montane forest.

2500–2900 m.

March–August.

Jungia woodii D. J. N. Hind, Kew Bull., 59(2): 311 (2004). Type: 'Bolivia, La Paz, Murillo, c. 15–20 km E of summit on descent into Zongo Valley, alt. 2500 m, 19 Sept. 1999, *Wood* 15029'. Holotype: K; isotype: LPB. Bolivia (La Paz).

Dense scrub on river banks in deep sided valleys.

2500 m.

September–October.

K

Kallias (Cass.) Cass., Dict. Sci. Nat. 38: 17 (1825) = **Heliopsis** Pers.

Kanimia Gardner, London J. Bot. 6: 446 (1847) = **Mikania** Willd.

Kastnera Sch.Bip., Flora 36: 38 (1853) = **Munnozia** Ruiz & Pav.

Kaunia R. M. King & H. Rob., Phytologia 47: 258 (1980).

Type: *Eupatorium eucosmoides* B. L. Rob. = *Kaunia eucosmoides* (B. L. Rob.) R. M. King & H. Rob.

Reference

King, R. M. & H. Robinson (1980). Studies in the Eupatorieae (Asteraceae). CCII. A new genus, *Kaunia*. Phytologia 47(3): 257–260.

Kaunia camataquiensis (Hieron.) R. M. King & H. Rob., Phytologia 47(3): 259 (1980).

**Eupatorium camataquiense* Hieron., Bot. Jahrb. Syst. 40(3): 377 (1908). Type: 'Bolivia: crescit prope Camataqui, alt. s. m. 2500 m loco aquoso (K. FIEBRIG n. 3069 pro parte; 10. m. Febr. 1904).' Holotype: B†; isotypes: F (520484), US (01472915).

Bolivia (?Chuquisaca, Tarija).

2500 m.

February.

Kaunia endyta (B. L. Rob.) R. M. King & H. Rob., Phytologia 47(3): 259 (1980).

Eupatorium sordescens DC. var. *bolivianum* Rusby, Mem. Torrey Bot. Club 6(1): 56 (1896). Type: [Bolivia: La Paz.] 'Between Guanai and Tipuani, Apr.-June, 1892 ([Bang] 1464.' Holotype: NY (00169199); isotypes: GH (7972), MO, ?US.

**Eupatorium endytum* B. L. Rob., Proc. Amer. Acad. Arts 55: 13 (1919). Type: 'PERU: between Sandia and the tambo Azalaya, on the way from Sandia to Chunchusmayo, among bushes at an altitude of 1500-2000 m., 5 June 1902, Dr. A. Weberbauer, no. 1074 (Berl., phot. and fragm. Gr.)' Holotype: B†; isotype: GH (7650 - fragment of holotype).

Bolivia (La Paz).

1500–2000 m.

April–June.

Note: This species (under *Eupatorium*) was listed by Foster (1958: 208), based on *Bang* 1464 (cited by Robinson, 1920: 55) and *Herzog* 2011 (cited by Koster, 1945: 650), although King & Robinson (1987) recorded this species from Peru only; Koster also recorded the species for Brazil and Peru. Jorgensen et al. (2005: 102) recorded this taxon for the Madidi reserve.

Kaunia grossidentata R. M. King & H. Rob., Phytologia 47(3): 259 (1980). Type: as for *Eupatorium grossidentatum* Hieron.

**Eupatorium grossidentatum* Hieron., Bot. Jahrb. Syst. 40(3): 377 (1908), nom. illegit., non Mart. ex Colla [as *grossedentatum*] (1834). Type: Bolivia: crescit prope Camataqui, alt. s. m. 2500 m, loco aquoso K. FIEBRIG n. 3069 pro parte; 10. m. Febr. 1904.' Holotype: B†; isotype: LD.

Bolivia (?Chuquisaca, Cochabamba, Tarija).

Rocky slopes.

2100–2500 m.

February–April.

Note: The 'basionym' appears to be a later homonym of *E. grossedentatum* Mart. ex Colla, Herb. Pedem. 3: 284 (1834), against which King & Robinson (1987: 513) simply mentioned 'ignota'.

Kaunia gynoximorpha (Rusby ex B. L. Rob.) R. M. King & H. Rob., Phytologia 47(3): 259 (1980).

**Eupatorium gynoxioides* Rusby, Bull. New York Bot. Gard. 4(14): 380 (1907), non *E. gynoxioides* Wedd. [= *Ageratina gynoxioides* (Wedd.) R. M. King & H. Rob.] Type: [Bolivia:] ' "A scarce tree, 15 to 20 ft. high, with light-red flowers, in wet forest-mould." Coripata, Yungas, May 16, 1894. ([Bang] No. 2194.)' Holotype: NY (00169204); isotypes: GH (7695), K, MO (47615), NY (00169023), US (00325931), Z (000053961).

**Eupatorium gynoxymorphum* Rusby ex B. L. Rob., Contr. Gray Herb. 61: 7 (1920), as nom. nov. based on *E. gynoxioides* Rusby.
Bolivia (La Paz, Santa Cruz).

Kaunia hosanensis (B. L. Rob.) R. M. King & H. Rob., Phytologia 47(3): 259 (1980).

**Eupatorium hosanense* B. L. Rob., Contr. Gray Herb. 100: 14 (1932). Type: 'Bolivia: Department Santa Cruz: Rio Blanco, Cerro Hosana, alt. 1200 m., Aug. 12, 1917, J. Steinbach, no. 3368'. Holotype: B; isotype: GH (7706 – fragment of holotype and photo).
Bolivia (Santa Cruz).

Kaunia ignorata (Hieron.) R. M. King & H. Rob., Phytologia 47(3): 259 (1980).

**Eupatorium ignoratum* Hieron., Bot. Jahrb. Syst. 40(3): 379 (1908). Type: 'Bolivia: habitat prope urbem Santa Cruz alt. s. m. 1600 m (O. KUNTZE, m. Majo 1892).' Holotype: B†; isotype: NY (00169056). Note: Robinson (1920: 68) cited 'alt. 2600 m.', perhaps in error.

Bolivia (Santa Cruz).

1600 m.

May.

Kaunia lasiophthalma (Griseb.) R. M. King & H. Rob., Phytologia 47(3): 259 (1980).

**Eupatorium lasiophthalmum* Griseb., Abhand. Königl. Ges. Wiss. Göttingen 19([1]): 167 (1874); Pl. Lorentz.: 119 (1874). Types: '[Argentina:] Tucuman, in m. Cuesta de Periquillo. (»Bonaria, Uruguay.«)'. Types: Lorentz 508 is queried as the holotype in GOET. Ariza Espinar (1994: 50) cited 'Tucumán: Cuesta de Siambón, Garabatal, Lorentz 508, med. III-1872.' as an 'isotype' in CORD without commenting on the other syntypes.

Eupatorium hiemale Lillo, Prim. Reun. Soc. Argent. Ci. Nat. Tucumán (1916): 218 (1919). Type: [Argentina:] 'Abundante en los bosquillos de los alrededores de la ciudad de Tucumán.' Holotype: LIL.

Argentina, Bolivia (Cochabamba, La Paz).

1100 m.

September–April.

Kaunia longipetiolata (Sch.Bip. ex Rusby) R. M. King & H. Rob., Phytologia 47(3): 259 (1980).

Eupatorium longepetiolatum Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 257).

**Eupatorium longipetiolatum* Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 3(3): 52 (1893). Types: [Bolivia:] 'Songo, Nov. 1890 ([Bang] 867). = Mandon 257.' Syntypes: ?NY; isosyntype: Bang 867, NY (0169096 – marked as holotype by Pruski, 1983, 00169095 – marked as isotype by Pruski, 1983), US (01418720); isosyntype: Mandon 257, RB, S.

Eupatorium longipetiolatum Sch. Bip. ex Rusby var. *α typicum* B. L. Rob., Contr. Gray Herb. Harvard Univ., n.s. 61: 9 (1920).

Ageratina longipetiolata (Sch.Bip. ex Rusby) R. M. King & H. Rob., Phytologia 24: 92 (1972).

Argentina, Bolivia (La Paz), Ecuador, Peru.

Deciduous woodland, cultivated areas, roadsides, riversides.

1000–2500 m.

Kaunia rufescens (Lund ex DC.) R. M. King & H. Rob., Phytologia 47(3): 260 (1980).

Eupatorium rufescens Lund ex DC., Prodr. 5: 168 (1836). Type: '(Lund! in herb. Mus. reg. Berol.) ... ■montosis prov. Rio-Janeiro Brasiliae legit cl. Lund. ... (v. s. in h. cit.)'. Holotype: B†; isotype: G-DC.

Eupatorium subtripplinerve Sch.Bip., Linnaea 30: 182 (1859/60), nom. nud.

Eupatorium rufescens Lund ex DC. var. *glabratum* Hieron. ex Kuntze, Revis. Gen. Pl. 3(3): 148 (1898), nom. nud.

**Eupatorium rufescens* Lund ex DC. var. *glabratum* Hieron. ex B. L. Rob., Contr. Gray Herb. 61: 67 (1920). Type: [Bolivia:] 'COCHABAMBA: Prov. Tapacari, on the Rio Tapacari, alt. 3000 m., Kuntze'. Holotype: NY (00169189).

Bolivia (Cochabamba), Brazil.

Kaunia saltensis (Hieron.) R. M. King & H. Rob., Phytologia 47(3): 260 (1980).

Eupatorium saltense Hieron., Bot. Jahrb. Syst. 22(4-5): 786 (1897). Types: [Argentina:] 'Salta: bei der Stadt Salta (LOR. u. HIERON., März 1873). Jujui: an nicht angegebenen Orte vermutlich bei der Stadt Jujui (AUGUST STUMPF, Sommer 1874-1875).' Syntypes: B†.

**Eupatorium eucosmum* B. L. Rob., Contr. Gray Herb. 61: 6 (1920). Type: 'BOLIVIA: in the southern part of the country at Padcaya, Dept. Tarija, alt. 2300 m., Fiebrig, no. 2576.' Holotype: GH (7661); isotypes: GH [A] (7660) US (01098962). Note: Both collections in GH are of Fiebrig 2572, leg. 13 Dec. 1903

Argentina, Bolivia (Tarija).

Shrub layer in Bosque montano de mirtáceas Boliviano-Tucumano (Boliviano-Tucumano montane myrtaceae forest).

2300 m.

March.

Kaunia uber (B. L. Rob.) R. M. King & H. Rob., Phytologia 47(3): 260 (1980).

Eupatorium uber B. L. Rob., Contr. Gray Herb. 60: 37 (1919). Type: 'PERU: woods near a brook below Pampa Romas, between Samanco and Caraz, Dept. Ancachs, alt. 2100 m., 29 May, 1903, Weberbauer, no. 3184'.

Holotype: B†; isotype: GH (8039 - fragment of holotype with photograph).

Bolivia (?), Peru.

Scrub, forest.

1000-3000 m.

Kegelia Sch.Bip., Linnaea 21: 245 (1848) = **Eleutheranthera** Poit. ex Bosc.

Kegelia ramosissima Sch.Bip., Linnaea 21: 246 (1848), nom. provis. illegit. pro *K. ruderalis* (Sw.) Sch.Bip. =

Eleutheranthera ruderalis (Sw.) Sch.Bip.

Kegelia ruderalis (Sw.) Sch.Bip., Linnaea 21: 245 (1848) = **Eleutheranthera ruderalis** (Sw.) Sch.Bip.

Kerneria Moench, Meth. : 595 (1794), non *Kerneria* Medik. (1792) = **Bidens** L.

Kerneria pilosa (L.) Lowe, Manual Fl. Madeira 1: 474 (1868) = **Bidens pilosa** L.

Kerneria pilosa (L.) Lowe var. *discoidea* (Sch.Bip.) Lowe, Manual Fl. Madeira 1: 474 (1868) = **Bidens pilosa** L.

Kerneria pilosa (L.) Lowe var. *radiata* (Sch.Bip.) Lowe, Manual Fl. Madeira 1: 474 (1868) = **Bidens pilosa** L.

Kleinia Jacq., Enum. Pl. Carib. : 8 (1760, non *Kleinia* L. (1754) = **Porophyllum** Guett.

Kleinia glandulosa Moc. & Sessé ex DC., Prodr. 5: 648 (1836), nom. nud. pro syn. sub. *Porophyllum macrocephalum* DC. = **Porophyllum ruderale** (Jacq.) Cass.

Kleinia obscura Spreng., Syst. Veg., ed. 16, 3: 438 (1826) = **Porophyllum obscurum** (Spreng.) DC.

Kleinia porophyllum (L.) Willd., Sp. Pl. 3: 1738 (1804) = **Porophyllum ruderale** (Jacq.) Cass.

Kleinia ruderalis Jacq., Enum. Syst. Pl.: 28 (1760) = **Kleinia ruderalis** Jacq.

Koanophyllon Arruda, Diss. Pl. Brazil. : 38? (1810).

Eupatorium L. sect. *Laevia* Cabrera, Fl. Ilustr. Catarinense Part 1 Monogr. 4 Tribo Eupatorieae : 595 (1991).

Type: *Eupatorium laeve* DC.

Type: *Koanophyllon tinctorium* Arruda

Koanophyllon jugipaniculatum (Rusby) R. M. King & H. Rob., Phytologia 32(): 259 (1975)

**Eupatorium jugipaniculatum* Rusby, Bull. New York Bot. Gard. 4(14): 379 (1907). Type: [Bolivia:] ' "A shrub 6-8 ft. high, with white flowers, in wet forest-mould." Coroico, September, 1894. ([Bang] No. 2471.)'

Holotype: NY (00169069); isotype: F (164468), GH (7741), K, MO, NY (00169070, 00169071), US (00032813).

Bolivia (La Paz).

Koanophyllon simillima (B. L. Rob.) R. M. King & H. Rob., *Phytologia* 22(3): 151 (1971).

**Eupatorium simillimum* B. L. Rob., *Contr. Gray Herb.* 77: 38 (1926). Type: [Paraguay] 'same locality [= in woods, Cordilla de Altos], Oct. 20, 1902, *Fiebrig*, no. 277'. Holotype: GH (7966).

Note: Listed by Foster (1958: 209), under *Eupatorium*, King & Robinson (1987: 318) only listed the species for Argentina, Paraguay. It remains to be seen if the species is present in Bolivia.

Koanophyllon solidaginoides (Kunth) R. M. King & H. Rob., *Phytologia* 22(3): 151 (1971).

**Eupatorium solidaginoides* Kunth in Humb., *Bonpl. & Kunth*, *Nov. Gen. Sp. Pl.* 4 (ed. folio): 99 (1818). Type: [Ecuador:] 'Crescit locis temperatis Regni Quitensis inter Ticsan et Alausi, alt. 1300 hex. ■ Floret Julio.' [Humboldt & Bonpland 'Quito'] Holotype: P-Bonpl.

Eupatorium filicaule Sch.Bip. ex A. Gray, *Proc. Amer. Acad. Arts* 21: 384 (1886). Types: '*Eupatorium filicaule* Schultz Bip. in herb. Berol., Gray, & c. ... Mexico, coll. *Ehrenberg*, no. 1176, and Orizaba, *Schaffner*, fide Schultz. We have it from Orizaba, coll. *Bilimek*, 1867, no. 576, and Cordoba, coll. *Bourgeau*, no. 1703.' Note: Clearly some of the syntypes are widespread.

Ophryosporus solidaginoides (Kunth) Hieron., *Bot. Jahrb. Syst.* 29(1): 4 (1900*). [*Note: See Reference section concerning problem with date of publication]

Bolivia (La Paz, Santa Cruz). Although listed by Robinson (1920: 63) and Foster (1958: 209), under *Eupatorium solidaginoides*, King & Robinson (1987) did not list this species from Bolivia, and later (Robinson 2008) suggested it was common in 'Mexico and Central America south to N Peru and east to N Venezuela, [and the] Galápagos Islands'. Recent collections, *Dematteis et al.* 2227 & 2229, from Santa Cruz support its inclusion in Bolivia.

Roadsides, riversides, gallery forest.

320–3000 m.

March–April.

Koanophyllon stipulifera (Rusby) R. M. King & H. Rob., *Phytologia* 22(3): 151 (1971).

**Eupatorium stipuliferum* Rusby, *Mem. Torrey Bot. Club* 4(3): 210 (1895). Types: [Bolivia:] '[Yungas] [Bang] 254. Distributed as "*Eupatorium Guadalupense*?" is EUPATORIUM STIPULIFERUM sp. n. ... = *Matthews*' 1369, and *Spruce*'s 3914.' Isosyntype: *Bang* 254, US (01401096).

Argentina, Bolivia (La Paz).

Note: Foster (1958: 209) listed this species, under the synonym of *E. stipuliferum*, but equated this with *E. solidaginoides* (now *Koanophyllon solidaginoides*) which was not recorded by King & Robinson (1987: 318) from Bolivia. Ariza Espinar (1994: 51) considered *K. stipulifera* a synonym of *K. solidaginoides*.

Kuhnia L., *Sp. Pl.*, ed. 2: 1662 (1763) = **Brickellia** Elliott

Kuhnia L. sect. *Trichogonia* DC., *Prodr.* 5: 126 (1836) = **Trichogonia** (DC.) Gardner

Kyrstenia Necker ex E. Greene, *Leafl. Bot. Observ.* 1: 8 (1903) = **Ageratina** Spach

L

Laennecia Cass., Dict. Sci. Nat. 25: 91 (1822).

Conyza Less. sect. *Laennecia* (Cass.) Cuatrec., Webbia 24: 206 (1969), non *Conyza* sect. *Laennecia* (Cass.) Cuatrec., Phytologia 9(1): 1 (1963), comb. illegit.

Laennecia Cass. sect. *Sophiifolium* G. L. Nesom, Phytologia 68(3): 208 (1990). Type: **Laennecia sophiifolia** (Kunth) G. L. Nesom

Type: *Conyza gnaphalioides* Kunth = **Laennecia gnaphalioides** (Kunth) Cass.

References

Nesom, G. L. (1990). Taxonomy of the genus *Laennecia* (Asteraceae: Astereae). Phytologia 68(3): 205–228.

Zardini, E. M. (1981). Contribuciones para una monografía del género *Conyza* Less. II. Rehabilitación del género *Laennecia* Cass. Darwiniana 23(1): 159–169.

Key to species

1. Stems and leaves densely woolly-tomentose; achenes with sessile glands *L. gnaphalioides*
Stem and leaves coarsely hairy; achenes glandular-stipitate 2
2. (1) Stems erect; capitula 1.5–2.5 (–3.5) mm diam; low altitude plants (1000–2700 m) *L. sophiifolia*
Stems decumbent; capitula 3–5 mm diam.; high altitude plants (3200–4200 m) *L. artemisiifolia*

Laennecia artemisiifolia (Meyen & Walp.) G. L. Nesom, Phytologia 68(3): 215 (1990).

Conyza artemisiifolia Meyen & Walp., Nov. Actorum Acad. Caes.-Leop. Nat. Cur. 19, Suppl. 1: 262 (1843).

Type: 'Peruvia: in planitie circa Tacoram, alt. 14–17,000 ped. (v.s.)'. Holotype: B†.

Erigeron artemisiifolium (Meyen & Walp.) Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 534 (Feb. 1866)

**Conyza andicola* Phil., Anales Mus. Nac. Chile, Bot. 8: 38 (1891). Types: 'Recolectada cerca de Napa, Vilón, Naquiña, Calcalhuay.' Pizarro (1960: 137) listed several specimens in SGO - 44242, 44243, 44244, 60566, 60567, 60568.

**Erigeron senecioides* Wedd., Chloris Andina 1: 198 (1857). Type: 'Hab. PÉROU: montagnes du dé[artement de Cuzco! (Gay). - BOLIVIE: province de Carangas! (d'Orbigny, n. 1412)'. Syntypes: P. Note: Under the species Weddell mentioned two varieties, α *glutinosum* and β *majus*, but without assigning any of the cited material to these varieties.

Conyza senecioides (Wedd.) Cabrera, Revista Invest. Agric. 11(4): 403 (1957).

Argentina, Bolivia (Cochabamba, La Paz), Chile, Peru.

Rocky or sandy soils, fallow areas, disturbed ground.

2900–4200 m.

(January–) February – May.

Laennecia gnaphalioides (Kunth) Cass., Dict. Sci. Nat. 25: 92 (1822).

**Conyza gnaphalioides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 57 (1818). Type: 'Crescit locis alsis montis Cocollar, alt. 408 hex. (Prov. Cumanensi.) ■ Floret Septembri.' Holotype: P-Bonpl.; isotype: B-W.

Marsea gnaphalioides (Kunth) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 257 (1946).

Laennecia parvifolia DC., Prodr. 5: 376 (1836). Type: '• in Mexici valle Toluccanâ octob. flor. legit cl. Berlandier (pl. exs. n. 1124!) ... (v.s.)'. Holotype: G-DC; isotype: P.

Erigeron (Eschenbachia) niveus Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865), nom. nud., (based on Mandon 221).

Note: Nesom (1990: 220) incorrectly cited this name as having a holotype and several isotypes. [Material in BM, F (1025272), G, ?GH, K, LP, ?NY, P]

**Conyza evacioides* Rusby, Bull. New York Bot. Gard. 4: 385 (1907). Type: [Bolivia:] '([Bang] No. 1875.)'.

Holotype: NY (00167653); isotypes: ?F, G, GH (6109), K, NY (00167652), US (00350026), Z (000003253).

Conyza pulcherrima M. E. Jones, Contr. W. Bot. 12: 47 (1908). Type: 'Soldier Canon, Sierra Madre Mts., Chihuahua, Mex., Sept., 1903, at 6000 feet alt., in the upper edge of the Lower Temperate Life Zone.'

Holotype: POM; isotypes: ARIZ, BM, US (00857028, 02215651 – type fragment).

Bolivia (Cochabamba, La Paz, Tarija), Colombia, Ecuador, Mexico, Peru, Venezuela.
Rocky slopes, grassy banks, hillsides.
2200–3600 m.
January – May.
Vernacular name: CHUPU-CHUPU (Zardini, 1981: 163).

Laennecia parvifolia DC., Prodr. 5: 376 (1836) = **Laennecia gnaphalioides** (Kunth) Cass.

Laennecia sophiifolia (Kunth) G. L. Nesom, Phytologia 68(3): 225 (1990).

Conyza sophiifolia [as *sophiaefolia*] Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 56 (1818).

Type: 'Crescit inter Chalco et lacum Tezcucensem, alt. 1163 hex. ■ Floret Majo.' Holotype: *Humboldt & Bonpland* 4156, P-Bonpl.; isotype: B-W '4156 Mexique' sheet 1 numbered 15669.

Conyza pulchella Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 56 (1818). Type: 'Crescit regione temperata juxta Moran Mexicanorum, alt. 1330 hex. ■ Floret Majo.' Holotype: *Humboldt & Bonpland* 'n. 4104. Moran'; isotype: B-W, '___?___. Moran' second sheet numbered 15669.

Conyza serpentaria Griseb., Abh. Königl. Gess. Wiss. Göttingen 24(1): 176 (March–April 1879), Symb. Fl.

Argent. : 176 (1879). Type: [Argentina] 'C.: Pampa pr. Laguna de Pocho.' Syntypes: *Hieronymus* 433, 702, GOET.

Conyza coulteri A. Gray var. *tenuisecta* A. Gray, Synop. Fl. N. Amer. 1(2): 221 (1884). Type: 'S. Arizona, near Fort Huachua, Lemmon [2753a].' Holotype: GH (6096).

Eschenbachia tenuisecta (A. Gray) Woot. & Standl., Contr. U.S. Natl. Herb. 16: 186 (1913).

Marsea sophiifolia (Kunth) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 256 (1946).

Argentina, Bolivia (Cochabamba), Colombia, Ecuador, El Salvador, Guatemala, Mexico, USA.

Disturbed ground, roadsides, clearings, grassland.

1000–2700 m.

June – October.

Laestadia Kunth ex Less., Syn. Gen. Comp. : 203 (1832).

Lestadia Spach, Hist. Veg. Phan. 10: 28 (1841), orth. var.

Type: *Laestedia pinifolia* Kunth ex Less.

References

Cuatrecasas, J. (1969). *Laestadia*. In: Prima flora Colombiana 3. Compositae – Astereae. Webbia 24: 9–15.

Nesom, G. L. (2000). *Laestadia*. In: Generic conspectus of the tribe Astereae (Asteraceae) in North America, Central America, the Antilles and Hawaii. Sida, Bot. Misc. 20: 61.

***Laestadia lechleri** Wedd., Chloris Andina 1: 184 (1856). Types: '*Lagenophora Lechleri* Schultz. Bip., l.c. [presumably Bonplandia, ann. 1856, p. 54] ... Hab. 'PÉROU: région alpestre des Cordillères de Carabaya!, ed de Cuzco! (*Gay; Lechler, exsicc., n. 2211; Wedd.*).' Syntypes: P. Isosytype (*Lechler* 2211), K.

Lagenophora lechleri Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud.

Bolivia (La Paz), Peru.

Laestadia muscicola Wedd., Chloris Andina 1: 184, t. 32 (1856). Types: 'Hab. NOUVELLE-GRENADE: paramo de Usaguin! (*Goudot*). – PÉROU!: Cordillères de la province de Carabaya! (*Lechler, exsicc., n. 2098; Wedd.*).'

Syntypes: P. Lectotype (selected by Cuatrecasas, 1969: 13, but as 'holotype'): *Lechler* 2098 – P; isolectotypes: G, K (000221578).

Lagenophora muscicola Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud.

Bolivia (La Paz), Colombia, Peru. Note: Much material in LPB is named as this species, although it is all clearly *L. lechleri*. It remains to be seen if *L. muscicola* is present so far south.

Páramo.

3000–4300 m.

September–June.

Lagascea Cav., Anales Ci. Nat. 6(No. 18): 331 (1803), nom. et orth. cons.

Nocca Cav., Icon. 3: 12, pl. 224 (1795), nom. rej. Type: *Nocca rigida* Cav. = *Lagascea rigida* (Cav.) Stuessy
Calhounia A. Nelson, Univ. Wyom. Publ. Sci. Bot. 1: 55 (1924). Type : *Calhounia nelsonae* A. Nelson = *Lagascea*
decipiens Hemsl.

Note: Cavanilles (1803) originally published this name as *Lagasca*, named after Mariano Lagasca.

Type: ***Lagascea mollis*** Cav.

References

Robinson, H. (2006). *Lagascea*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6).
Compositae-Heliantheae, Part I: Introduction, genera A–L. Botanical Institute, Göteborg University,
Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 219–222.

Stuessy, T. (1978). Revision of *Lagascea* (Compoistae, Heliantheae). Fieldiana, Bot. 38(8): 75–133.

Lagascea campestris Gardner, London J. Bot. 5: 238 (1846) = ***Lagascea mollis*** Cav.

Lagascea kuntheana Gardner, London J. Bot. 5: 238 (1846) = ***Lagascea mollis*** Cav.

****Lagascea mollis*** Cav., Anales Ci. Nat. 6(No. 18): 332, pl. 44 (1803). Type: 'Nació en el Jardim, de las semillas que nos enviaron de la Havana D. Mariano Espinosa y D. Josef Nicolas de Peralta. Floresce desde Junio hasta Setiembre.' Lectotype (selected by Stuessy, 1978: 90): MA (photo OS); probable isolectotype: F (842978). Note: The sheet marked as the lectotype in MA is MA (475875 – Fiche 42/C7) has two handwritten labels, the upper 'Lagascea mollis/Hort. R. M. tab./Floruit Julio et Aug^{to} 1803', the lower 'Genus novum. Elephantopus affines./Guio iter Cubense cum icones.' Other material in MA are MA (4758776) apparently cultivated in 1824, which can be discounted as syntype material, MA (475877 – Fiche 43/A1) with one handwritten label 'Lagascea mollis Cav./Anal. Cienc. Natur./Ic. M. M. ined./ex Hort. Reg. Matr. anno/1803', MA (475878) with one handwritten label 'Lagascea mollis DC. Prod. p. 5 pa. 91/Noccea mollis Jacq. Frag.', and MA (475879 – Fiche 43/A3) which just bears a typewritten label. The last three could be considered as syntype material.

Nocca mollis (Cav.) Jacq., Frag. : 58, pl. 85 (1806).

Lagascea kuntheana Gardner, London J. Bot. 5: 238 (1846). Type: 'HAB. Dry Campos, near Boa Esperança, Province of Piahy. Feb. 1839.' [Gardner] 2220. Robinson (2006) gave 'holotype K; isotypes ?GH, NY [(00180428)], US.' following Stuessy (1978: 90). However, rather strangely, Stuessy has labelled material (ex herb. Benthamianum) which cannot possibly be holotype material, especially since Gardner could not have used it to draw up his description. At best equating 'holotype' for 'lectotype' would solve the problem, although that was not done with knowledge of the collector/botanist's method of working. Material in either BM or ex herb. Hookerianum is theoretically the only material from which the lectotype could be chosen, although the BM material could easily stand as the holotype material.

Lagascea campestris Gardner, London J. Bot. 5: 238 (1846). Type: 'HAB. Arid Campas near Villa do Icó, Province of Ceará. Aug. 1838.' [Gardner] 1741. Note: Robinson (2006) gave 'holotype K', clearly following Stuessy (1978: 90).

Lagascea parvifolia Klatt, Ann. K. K. Naturh. Hofmus. 9: 360 (1894). Type: 'Hab.: Venezuela, leg. Moritz.'
Holotype GH (9554).

Argentina, Belize, Bolivia (Santa Cruz), British Antilles, Colombia, Cuba, Dominican Republic, Ecuador, French Antilles, Honduras, Jamaica, Mexico, Netherlands Antilles, Peru, Puerto Rico, USA, Venezuela, West Indies. Africa (Kenya), India, South Asia (Sri Lanka, Thailand) and Indonesia (Java).

Disturbed ground, roadsides, alongside railways, deciduous forest.

0–2000 m.

Potentially flowering throughout the year.

Lagascea parvifolia Klatt, Ann. K. K. Naturh. Hofmus. 9: 360 (1894) = ***Lagascea mollis*** Cav.

Lagenophora lechleri Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud. = ***Laestadia lechleri*** Wedd.

Lagenophora muscicola Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud. = ***Laestadia muscicola*** Wedd.

Laggera Sch.Bip. ex Walp., Rep. Pl. 2: 953 (1843).

Laggera aurita (L.f.) C. B. Clarke, Compositae Ind. : 92 (1876) = ***Pseudoconyza viscosa*** (Mill.) D'Arcy

Laggera lyrata (Kunth) Leins, Mitt. Bot. Staatssaml. München 9: 107 (1971) = **Pseudoconyza viscosa** (Mill.)
D'Arcy

Laggera viscosa (Mill.) Zareh, Feddes Repert. Spec. 116(1-2): 44 (2005) = **Pseudoconyza viscosa** (Mill.) D'Arcy

Lancisia Fabric., Enum.: 87 (1759) = **Cotula** L.

Lancisia Lam., Tableau Encycl. t. 701, f. 1-3 (1797), nom. illegit., non Fabr. (1759) = **Cotula** L.

Lancisia australis (Sieber ex Spreng.) Rydb., N. Amer. Fl. 34: 286 (1916) = **Cotula australis** (Sieber ex Spreng.)
Hook. f.

Lancisia coronopifolia (L.) Rydb., N. Amer. Fl. 34: 286 (1916) = **Cotula coronopifolia** L.

Lancisia minuta (L.f.) Rydb., N. Amer. Fl. 34(3): 287 (1916) = **Cotula mexicana** (DC.) Cabrera

Lapsana L., Sp. Pl. : 811 (1753); Gen. Pl., ed. 5 : (1754).

Type: *Lapsana communis* L.

Lapsana communis L., Sp. Pl. : 811 (1753). Type: 'Habitat in Europae cultis.' Lectotype (selected by Sell in
Watsonia 13: 301, 1981); Herb. Clifford 389, *Lapsana* 1, sheet A (BM-000646889).

Note: Reported by Ariza & Urtubey (1998: 14) as adventive in Argentina, Chile and Bolivia. There is no
material in K from Bolivia.

Lasallea Greene, Leafl. Bot. Observ. Crit. 1: 5 (1903) = **Symphotrichum** Nees

Lasiocephalus Schldtl, Ges. Naturf. Fr. Berlin Mag. 8: 308 (1818).

Lasiocephalus campanulatus (Sch.Bip. ex Klatt) Cuatrec., Phytologia 40(4): 309 (1978) = **Aetheolaena**
campanulata (Sch.Bip. ex Klatt) B. Nord.

Lasiocephalus loesneri (Hieron.) Cuatrec., Phytologia 40(4): 310 (1978) = **Aetheolaena loesneri** (Hieron.) B.
Nord.

Lasiocephalus stylotrichus (Cabrera) Cuatrec., Phytologia, 76(5): 404 (1994) = **Senecio stylotrichus** Cabrera

Lasiorrhiza Lag., Amen. Nat. Españ. 1: 32 (1811) = **Leucheria** Lag.

Laurentia Steud., Nom. Bot. : 466 (1821), nom. nud. pro syn. = **Sanvitalia** Lam.

Lavenia Sw., Prodr. Veg. Ind. Occ. : 112 (1788) = **Adenostemma** J.R.Forst. & G. Forst.

Lavenia montana Mart. ex Baker in Mart., Fl. Bras. 6(2): 185 (1873), nom. nud. pro syn. = **Adenostemma**
brasilianum (Pers.) Cass.

Leachia Cass., Dict. Sci. Nat. 25: 388 (1822), nom. superfl. pro *Coreopsis* L. = **Coreopsis** L.

Lefrovia Franch., J. Bot. (Morot) 2: 377 (1888) = **Cnicothamnus** Griseb.

Lefrovia rhaponticoides Franch., J. Bot. (Morot) 2 (No. 21): 378 (1888). Bolivia = **Cnicothamnus lorentzii** Griseb.

Leiboldia Schldtl, Linnaea 19: 742 (1847), nom. nud. = **Vernonia** Schreb.

Leighia (Cass.) Cass., Dict. Sci. Nat. 38: 17 (1825), , nom. illegit. non Scop. (1777)(= *Ethulia* L.) = **Viguiera**
Kunth

Leighia anchusifolia DC., Prodr. 5: 580 (1836) = **Viguiera anchusifolia** (DC.) Baker

Leighia baldwiniana Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 365 (1841) = **Viguiera anchusifolia** (DC.) Baker

Leighia dissitifolia DC., Prodr. 5: 581 (1836) = **Viguiera anchusifolia** (DC.) Baker

Leighia immarginata DC., Prodr. 5: 581 (1836) = **Viguiera anchusifolia** (DC.) Baker

Leighia lomatoneura DC., Prodr. 5: 581 (1836) = **Viguiera anchusifolia** (DC.) Baker

Leighia speciosa (Hook.) DC., Prodr. 5: 583 (1836) = **Tithonia rotundifolia** (Mill.) S. F. Blake
Leighia stenophylla Hook. & Arn., J. Bot. (Hooker) 3(No. 22): 313 (1841) = **Viguiera anchusifolia** (DC.) Baker
Leighia tucumanensis Hook. & Arn., J. Bot. (Hooker): 3(No. 22): 314 (1841) = **Viguiera tucumanensis** (Hook. & Arn.) Griseb.

Lejica Hill ex DC., Prodr. 5: 534 (1836), nom. nud. pro syn. = **Zinnia** L.

Lemmatium DC., Prodr. 5: 670 (1836) = **Calea** L.

Leo Phil., Ann. Mus. Nac. Chile, Sect. 2, Bot. 8: 33 (1891) = **Helogyne** Nutt.

Leontodon chilense (Kunth) DC., Prodr. 7: 105 (1838), based on *Apargia chillensis* Kunth = **Hypochaeris chilensis** (Kunth) Hieron.

Leontophthalmum Willd., Ges. Naturf. Fr. Berlin Mag. 1: 140 (1807) = **Calea** L.

Leontopodium linearifolium* (Wedd.) Britton, Bull. Torrey Bot. Club 19(5): 148 (1892) = **Antennaria linearifolia Wedd.

Leontopodium linearifolium (Wedd.) B. D. Jacks., Index Kewensis 2(3): 53 (1894), comb. superfl. = **Antennaria linearifolia** Wedd.

Lepidaploa (Cass.) Cass., Dict. Sci. Nat. 36: 20 (1825) = **Vernonia** Schreb.

Lepidaploa aristosquammosa (Britton) H. Rob., Proc. Biol. Soc. Washington 103(2): 482 (1990) = **Vernonia arsitosquamea** Britton

Lepidaploa bakerana (Britton) H. Rob., Proc. Biol. Soc. Washington 103(2): 482 (1990) = **Vernonia bakerana** Britton

Lepidaploa beckii H. Rob. Proc. Biol. Soc. Washington 103(2): 482 (1990) = **Vernonia beckii** (H. Rob.) D. J. N. Hind

Lepidaploa buchtienii (Gleason) H. Rob., Proc. Biol. Soc. Washington 103: 483 (1990) = **Vernonia buchtienii** Gleason

Lepidaploa canescens (Kunth) H. Rob., Proc. Biol. Soc. Washington 103(2): 483 (1990) = **Vernonia canescens** Kunth

Lepidaploa cordiifolia (Kunth) H. Rob., Proc. Biol. Soc. Washington 103(2): 486 (1990) = **Vernonia cordiifolia** Kunth

Lepidaploa costata (Rusby) H. Rob. Proc. Biol. Soc. Washington 103(2): 486 (1990) = **Vernonia costata** Rusby

Lepidaploa crassifolia (Rusby) H. Rob., Proc. Biol. Soc. Washington 103(2): 486 (1990) = **Vernonia crassifolia** Rusby

Lepidaploa deflexa (Rusby) H. Rob., Proc. Biol. Soc. Washington 103(2): 486 (1990) = **Vernonia deflexa** Rusby

Lepidaploa densipaniculata (Rusby) H. Rob., Proc. Biol. Soc. Washington 103(2): 486 (1990) = **Vernonia densipaniculata** Rusby

Lepidaploa eriolepis (Gardner) H. Rob., Proc. Biol. Soc. Washington 103(2): 487 (1990) = **Vernonia eriolepis** Gardner

Lepidaploa fournetii (H. Rob. & B. Kahn) H. Rob., Proc. Biol. Soc. Washington. 103(2): 487 (1990) = **Vernonia fournetii** H. Rob. & B. Kahn

Lepidaploa krukovii H. Rob. Phytologia 78(5): 394 (1995) = **Vernonia krukovii** (H. Rob.) D. J. N. Hind

Lepidaploa lehmannii (Hieron.) H. Rob., Proc. Biol. Soc. Washington 103(2): 489 (1990) = **Vernonia lehmannii** Hieron.

Lepidaploa lewisii H. Rob. Phytologia 78(5): 394 (1995) = **Vernonia lewisii** (H. Rob.) D. J. N. Hind

Lepidaploa mandonii (Sch.Bip. ex Gleason) H. Rob., Proc. Biol. Soc. Washington 103(2): 489 (1990) = **Vernonia mandonii** Sch.Bip. ex Gleason

Lepidaploa mapirensis (Gleason) H. Rob., Proc. Biol. Soc. Washington 103(2): 489 (1990) = **Vernonia mapirensis** Gleason

Lepidaploa myriocephala (DC.) H. Rob., Proc. Biol. Soc. Washington 103(2): 490 (1990) = **Vernonia myriocephala** DC.

Lepidaploa remotiflora (Rich.) H. Rob., Proc. Biol. Soc. Washington 103(2): 491 (1990) = **Vernonia remotiflora** Rich.
Lepidaploa retrosetosa (H. Rob.) H. Rob., Proc. Biol. Soc. Washington 103: 491 (1990) = **Vernonia retrosetosa** H. Rob.
Lepidaploa salzmännii (DC.) H. Rob., Proc. Biol. Soc. Washington 103: 492 (1990) = **Vernonia salzmännii** DC.
Lepidaploa scorpioides (Lam.) Cass., Dict. Sci. Nat. 26: 16 (1823), comb. inval. = **Vernonia scorpioides** (Lam.) Pers.
Lepidaploa solomonii H. Rob. Proc. Biol. Soc. Washington 103(2): 493 (1990) = **Vernonia solomonii** (H. Rob.) D. J. N. Hind
Lepidaploa sordidopapposa (Hieron.) H. Rob., Proc. Biol. Soc. Washington 103: 493 (1990) = **Vernonia sordidopapposa** Hieron.
Lepidaploa tarijensis (Griseb.) H. Rob., Proc. Biol. Soc. Washington 103(2): 495 (1990) = **Vernonia tarijensis** (Griseb.) Hieron.
Lepidaploa tristis (Hieron.) H. Rob., Proc. Biol. Soc. Washington 103(2): 496 (1990) = **Vernonia tarijensis** (Griseb.) Hieron.
Lepidaploa virentiformis (Malme) H. Rob., Proc. Biol. Soc. Washington 103(2): 496 (1990) = **Vernonia virentiformis** Malme

Lepidophyllum Cass., Bull. Sci. Soc. Philom. Paris 1816: 199 (1816).
Lepidophyllum abietinum (Phil.) Reiche, Anales Univ. Chile 109: 26 (1901) = **Parastrephia lucida** (Meyen) Cabrera
Lepidophyllum acaule Benth. & Hook. ex B. D. Jacks., Index Kewensis 2(3): 58 (1894) = **Novenia acaulis** S. E. Freire & F. Hellwig
Lepidophyllum cupressinum (Phil.) Kuntze, Revis. Gen. Pl. 3(2): 162 (1898) = **Parastrephia quadrangularis** (Meyen) Cabrera
Lepidophyllum lucidum* (Meyen) Cabrera, A. L., Bol. Soc. Argent. Bot. 1: 51 (1945) = **Parastrephia lucida (Meyen) Cabrera
Lepidophyllum meyenii A. Gray, Proc. Amer. Acad. Arts 5: 122 (1862), nom. nov. based on *Baccharis quadrangularis* Meyen) = **Parastrephia quadrangularis** (Meyen) Cabrera
Lepidophyllum phylliciforme (Meyen) Hieron. ex Fries, Nova Acta Regiae Soc. Sci. Upsal., Ser. 4, 1(1): 77 (1905) = **Parastrephia lucida** (Meyen) Cabrera
Lepidophyllum phylliciforme (Meyen) Hieron. ex R. E. Fr. var. *resinosum* (Walp.) S. F. Blake, J. Wash. Acad. Sci. 21(14): 326 (1931) = **Parastrephia lucida** (Meyen) Cabrera
Lepidophyllum quadrangulare* (Meyen) Benth. & Hook.f., Gen. Pl. 2(1): 258 (1873) = **Parastrephia quadrangularis (Meyen) Cabrera
Lepidophyllum rigidum (Wedd.) Benth. & Hook. f., Gen. Pl. 2(1): 258 (1873) = **Parastrephia lucida** (Meyen) Cabrera
Lepidophyllum teretiusculum* Kuntze, Revis. Gen. Pl. 3(3): 162 (1898) = **Parastrephia teretiuscula (Kuntze) Cabrera
Lepidophyllum tola* Cabrera, Bol. Soc. Argent. Bot. 1: 56 (1945) = **Parastrephia quadrangularis (Meyen) Cabrera

Leptalea apiculata (Cass.) D. Don ex Hook. & Arn., Companion Bot. Mag. 1(No. 4): 102 (1835) = **Facelis retusa** (Lam.) Sch.Bip.

Leptilon Raf., Amer. Monthly Mag. : 268 (1818), nom. nud. = **Conyza** Less.

Leptilon canadense (L.) Britton & Brown, Ill. Fl. N. Amer. 3: 391 (1898) = **Conyza canadensis** (L.) Cronquist

Leptostelma D. Don in Sweet, Brit. Fl. Gard. ser. 2, 1 [vol. 4 of whole work] : 38 (March 1830).

Type: **Leptostelma maximum** D. Don

References

Hind, D. J. N. & G. L. Nesom (2002). A new combination in *Leptostelma* (Compositae: Astereae). Kew Bull. 57(2): 478.

Nesom, G. L. (1994). *Apopyros* (Asteraceae: Astereae), a new genus from southern Brazil, Argentina, and Paraguay. *Phytologia* 76(2): 176–184.

Solbrig, O. T. (1962). The South American species of *Erigeron*. *Contr. Gray Herb.* 191: 3–82.

Teles, A. M., Sobral, M. & J. R. Stehmann. (2008). Synopsis of *Leptostelma* (Asteraceae: Astereae). *Compositae Newslett.* 46: 1–7.

Kew to species

Ray limbs 2–5 mm, yellow; inflorescences compact; capitula sessile or short-pedicellate (2–60 mm); plants often with a conspicuous basal rosette of leaves *L. tweediei*

Ray limbs (10–) 12–15 mm long, white; inflorescences lax and open; capitula long-pedicellate (20–150 mm); plants lacking a true basal rosette of leaves *L. maximum*

Leptostelma maximum D. Don in Sweet, *Brit. Fl. Gard.*, ser. 2, 1 [vol. 4 of whole work]: 38 (March 1830).

Type: “ A native of Mexico; a plant of which was obtained by Mr Hunnemann, in the Autumn of 1827, from the Berlin Botanic Garden, for Robert Barclay, Esq. in whose collection it flowered last Autumn. ... ” Note: Teles et al. (2008) have suggested that the type may well be in B, which if true it is unlikely to be extant. It is more likely that if a specimen was made it would have been in either David Don’s collection (which is supposed to be in BM) or in Sweet’s own collection which is largely in CGE. However, two other points are worth considering. Firstly, Robert Barclay, who died in October 1830, had an extensive garden and, bearing in mind the suggested date for the flowering of this plant (c. 1829), it is likely that Don described it from that material. Secondly, there is a specimen in K (ex herb. Benthamianum – of two flowering branches and one large leaf) which has ‘*Erigeron maximum*/Hort Soc. Hort. Lond 1830/*Leptostelma gigantea*/D. Don MSS!’ written in Bentham’s hand on the sheet. This suggests that Bentham was aware of Don’s manuscript, although it appears that Don changed the name. Since there is a suggestion that the plant used for drawing the plate in the *British Flower Garden* was a perennial it is highly likely that it is the same stock as Barclay’s.

Aster maximum (D. Don) Less., *Syn. Gen. Comp.* : 182 (1832).

Erigeron maximus (D. Don) DC., *Prodr.* 5: 284 (1836).

Erigeron sulcatum DC., *Prodr.* 5: 284 (1836). Types: ‘■ in Brasiliae pascuis uliginosis legit cl. Lund. ... (v. s. comm. à cl. inventore et ex prov. Sancti-Pauli in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 401 miss.)’. Note: The G-DC microfiche shows two specimens with this name, one undoubtedly equivalent to Mus. imp. Bras. 401, yet this is unnumbered; the original syntype is in P. The other specimen is clearly a *Lhotsky* collection, *Lhotsky* 101, Sept. 1831, from ‘Serra das Orgaos’, Rio de Janeiro, and not a *Lund* collection, unless this was sent on loan to de Candolle.

Erigeron (Euerigeron) palustre Gardner, *London J. Bot.* 4: 123 (1845). Type: [Brazil:] ‘[Gardner] 507. ... Hab. In marshes, common on the Organ Mountains, at an elevation of about 3000 feet. Fl. March and April.’ Solbrig (1962: 11) cited ‘Holotype BM!, Isotype BM!, GH!, K!’

Erigeron (Euerigeron) alpestre Gardner, *London J. Bot.* 4: 123 (1845). Type: [Brazil:] ‘[Gardner] 5787. ... HAB. Moist bushy places on the Organ Mountains at an elevation of about 6000 feet.’ Solbrig (1962: 11) cited ‘Holotype BM!, Isotype K! GH!’

Erigeron (Euerigeron) scaberrimum Gardner, *London J. Bot.* 7: 80 (1848). Type: [Brazil:] ‘[Gardner] 4923. ... HAB. In marshy Campos near Villa do Principe, Province of Minas Geraës. Aug., 1840.’ Solbrig (1962: 12) cited ‘Holotype BM!; Isotype K!’

Erigeron maximus (D. Don) DC. var. *palustris* (Gardner) Baker in *Mart., Fl. Bras.* 6(3): 28 (1882).

Erigeron maximus (D. Don) DC. var. *minor* Baker in *Mart., Fl. Bras.* 6(3): 28 (1882). Types: ‘in prov. S. Paulo prope Morumbi: *Burchell* n. 4339!; inter S. Bernardo et urbem S. Paulo: *Burchell* n. 4004; in prov. Minas Geraës, Campo do Silveiro, Itatiaia: *Glaziou* n. 6583!; praeterea: *Sello* n. 2220! 4574! Note: Very strangely, Solbrig (1962: 12) cited ‘Gardner 4923’ as the basis for ‘*Erigeron schuchtii* var. *minor* Baker’, having already cited this collection as the type of *Erigeron scaberrimum* Gardner. Baker (1882: 28) mentioned this *Gardner* collection against the typical species, not this variety and, incidentally, Baker most certainly did not cite this species (just ‘*Erigeron schuchtii* Schultz Bip.’ – but under the species synonymy), nor this variety under it; Baker actually described the variety as new. Schultz Bipontinus’ name, a nom. nud., was provided as ‘*E. schüchtii*’ in *Linnaea* 22: 571 (1849), referring to ‘*Regnell* I. 202’.

Note: The following synonym has been referred to this name by Solbrig: ‘*Erigeron catharinensis* Cabrera, *Arch. Jard. Bot. Rio de Janeiro* 15: 75 (1957).’ Type: ‘Brasil – Santa Catarina: Campos dos Padres, Bom Retiro, 2000 m. s. m., leg. R. Reitz, 2341, 15-II-1948’ Holotype: LP; isotype: HBR. However, Teles et al. (2008)

are of the opinion that it should be recognized as a distinct species – *Leptostelma catharinense* (Cabrera) A. Teles & Sobral, an endemic of the State of Santa Catarina, Brazil – leaf, involucre and ray limb characters were provided to distinguish the two (Teles et al. 2008: 3).

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay.

Marshes.

0–2000 m.

August–April.

Vernacular name: MARGARIDA DA BANHADO (Freire et al., 2006).

Leptostelma tweediei (Hook. & Arn.) Nesom, *Phytologia* 76(2): 183 (1994), nom. inval. in adnot. = **Leptostelma tweediei** (Hook. & Arn.) D. J. N. Hind & G. L. Nesom

Leptostelma tweediei (Hook. & Arn.) D. J. N. Hind & G. L. Nesom, *Kew Bull.* 57(2): 478 (2002).

Erigeron tweediei Hook. & Arn., *Companion Bot. Mag.* 2(No. 14): 50 (1836). Type: [Uruguay]. ‘Maldonado, in boggy ground. *Tweedie*. (n. 1058).’ Holotype: K.

Leucopsis tweediei (Hook. & Arn.) Baker in Mart., *Fl. Bras.* 6(3): 9 (1882).

Solidago aliena Spreng. ex Baker in Mart., *Fl. Bras.* 6(3): 9 (1882), nom. nud. pro syn.

Spadacantha cinerariifolia Pohl ex Baker in Mart., *Fl. Bras.* 6(3): 9 (1882), nom. nud. pro syn.

Aplopappus cinerariifolius Sch.Bip. ex Baker in Mart., *Fl. Bras.* 6(3): 9 (1882), nom. nud. pro syn.

Leucopsis tweediei (Hook. & Arn.) Baker var. *pilosa* Baker in Mart., *Fl. Bras.* 6(3): 9 (1882). Types: ‘*Sello* n. 2339! sine designatione loci; in prov. Minas Geraës campis ad Lago Santa: *Warming!*’ Syntypes: ?

**Erigeron seneciiformis* S. F. Blake, *Proc. Biol. Soc. Washington* 36: 51 (1923). Type: ‘Type in the U.S. National Herbarium, No. 1,120, 942, collected in open wet grassy pampa, Hacienda Rosario, near Reyes, Bolivia, altitude 305 meters, April 11, 1921, by O.E.White (Mulford Biological Exploration of the Amazon Basin, No. 1206).’ Holotype: US (01120942); isotypes: GH (6918), K (The isotype in K reads: ‘Pampas near Lake Rogagua, Bolivia, Rosario Hacienda, open grassy wet pampa, alt. 1000 ft’), US (01185698).

Haplopappus tweediei (Hook. & Arn.) Malme, *Ark. Bot.* 24(Häfte 3) A 6: 42 (1931).

Leptostelma tweediei (Hook. & Arn.) G. L. Nesom, *Phytologia* 76(2): 183 (1994), nom. inval. in adnot.

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay, Uruguay.

Marshes, wet pampa, wet grassland.

0–500 m.

March–May.

Leptosyne DC., *Prodr.* 5: 531 (1836) = **Coreopsis** L.

Leria DC., *Ann. Mus. Natl. Hist. Nat.* 19: 68 (1812) = **Chaptalia** Vent.

Leria caespitosa Spreng., *Syst. Veg.*, ed. 16, 3: 502 (1826) = **Chevreulia sarmentosa** (Pers.) S. F. Blake

Leria integrifolia Cass., *Dict. Sci. Nat.* 26: 103 (1823) = **Chaptalia integerrima** (Vell.) Burkart

Leria lutescens Sch.Bip., *Bull. Soc. Bot. France* 12: 79 (1865), nom. nud. (based on *Mandon* 10) = **Chaptalia integerrima** (Vell.) Burkart

Leria lutescens Sch.Bip., *Linnaea* 34(5): 527 (Feb. 1866) = **Chaptalia integerrima** (Vell.) Burkart

Leria longipes Cass., *Dict. Sci. Nat.* 27: 255 (1823) = **Chaptalia runcinata** Kunth

Leria lyrata (Pers.) Cass., *Dict. Sci. Nat.* 26: 102 (1823) = **Chaptalia nutans** (L.) Polak.

Leria nutans (L.) Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 4 (1818) = **Chaptalia nutans** (L.) Polak.

Leria nutans (L.) Kunth var. *integrifolia* (Cass.) Less., *Linnaea* 5(3): 354 (1830) = **Chaptalia integerrima** (Vell.) Burkart

Lessingianthus H. Rob., *Proc. Biol. Soc. Washington* 101(4): 939 (1988) = **Vernonia** Schreb.

Lessingianthus H. Rob. subg. *Oligocephalus* H. Rob., *Proc. Biol. Soc. Washington* 101(4): 949 (1988) = **Vernonia** Schreb.

Lessingianthus asteriflorus (Mart. ex DC.) H. Rob., *Proc. Biol. Soc. Washington* 101(4): 940 (1988) = **Vernonia asteriflorus** Mart. ex DC.

Lessingianthus brevipetiolatus (Sch.Bip. ex Baker) H. Rob., *Proc. Biol. Soc. Washington* 101(4): 941 (1988) = **Vernonia brevipetiolata** Sch.Bip. ex Baker

Lessingianthus coriaceus (Less.) H. Rob., Proc. Biol. Soc. Washington 101(4): 942 (1988) = **Vernonia coriacea** Less.

Lessingianthus desertorum (Mart. ex DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 950 (1988) = **Vernonia desertorum** Mart. ex DC.

Lessingianthus durus (Mart. ex DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 942 (1988) = **Vernonia dura** Mart. ex DC.

Lessingianthus glabratus (Less.) H. Rob., Proc. Biol. Soc. Washington 101(4): 942 (1988) = **Vernonia glabrata** Less.

Lessingianthus grandiflorus (Less.) H. Rob., Proc. Biol. Soc. Washington 101(4): 943 (1988) = **Vernonia grandiflora** Less.

Lessingianthus ixiamnensis (Rusby) H. Rob., Proc. Biol. Soc. Washington 101(4): 944 (1988) = **Vernonia ixiamensis** Rusby

Lessingianthus laevigatus (Mart. ex DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 944 (1988) = **Vernonia laevigata** Mart. ex DC.

Lessingianthus laurifolius (DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 944 (1988) = **Vernonia laurifolia** DC.

Lessingianthus ligulifolius (Mart. ex DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 944 (1988) = **Vernonia ligulifolia** Mart. ex DC.

Lessingianthus longicuspis Dematteis, Edinb. J. Bot. 65(3): 365 (2008) = **Vernonia longicuspis** (Dematteis) D. J. N. Hind

Lessingianthus obtusatus (Less.) H. Rob., Proc. Biol. Soc. Washington 101(4): 946 (1988) = **Vernonia obtusata** Less.

Lessingianthus onopordioides (Baker) H. Rob., Proc. Biol. Soc. Washington 101(4): 946 (1988) = **Vernonia onopordioides** Baker

Lessingianthus robustus (Rusby) H. Rob., Proc. Biol. Soc. Washington 101(4): 947 (1988) = **Vernonia robusta** Rusby

Lessingianthus rubricaulis (Kunth) H. Rob., Proc. Biol. Soc. Washington 101(4): 948 (1988) = **Vernonia rubricaulis** Humb. & Bonpl.

Lessingianthus saltensis (Hieron.) H. Rob., Proc. Biol. Soc. Washington 101(4): 948 (1988) = **Vernonia saltensis** Hieron.

Lessingianthus scabrifoliatus (Hieron.) H. Rob., Phytologia 76(1): 29 (1994) = **Vernonia scabrifoliata** Hieron.

Lessingianthus simplex (Less.) H. Rob., Proc. Biol. Soc. Washington 101(4): 950 (1988) = **Vernonia simplex** Less.

Lessingianthus varroniifolius (DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 949 (1988) = **Vernonia varroniifolia** DC.

Lessingianthus virgulatus (Mart. ex DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 950 (1988) = **Vernonia virgulata** Mart. ex DC.

Lestadia Spach, Hist. Veg. Phan. 10: 28 (1841), orth. var. = **Laestadia** Kunth ex Less.

Leucanthemum parthenium (L.) Gren. & Godr., Fl. Fr. 2: 145 (1850) = **Tanacetum parthenium** (L.) Sch.Bip.

Leucheria Lag., Amen. Nat. Españ. 1, 1: 32 (1811).

Lasiorrhiza Lag., Amen. Nat. Españ. 1, 1: 32 (1811). Type: not designated.

Chabraea DC., Ann. Mus. Nat. Hist., Paris 19: 65 (1812). Type: *Perdicium purpureum* Vahl = *Chabraea purpurea* (Vahl) DC. = *Leucheria purpurea* (Vahl) Hook. & Arn.

Bertolonia DC., Ann. Mus. Nat. Hist. Paris 19: t 5 (1812), nom. rej. (originally an alternative name for *Chabraea* DC.), non Spin (1809), nom. rej. [= *Myoporum* Banks & Sol. ex G. Forst., MYOPORACEAE], nec Raf. ex Desv. (1814), nom. nud. [= *Lippia* L., VERBENACEAE], nec Spreng. (1821), nom. rej. [= *Chrysochlamys* Poepp., CLUSIACEAE], nec Raddi (1820), nom. cons. [MELASTOMATACEAE], nec Moç. & Sessé ex DC. (1825), nom. nud. pro syn. (= *Cercocarpus* Humb., Bonpl. & Kunth, ROSACEAE) [*Bertolonia purpurea* (Vahl) DC., based on *Perdicium purpureum* Vahl = *Bertolonia purpureum* (Vahl) DC. = *Leucheria purpurea* (Vahl) Hook. & Arn.]

Ptilurus D. Don, Trans. Linn. Soc. London 16(2): 218 (1830). Type: *Ptilurus daucifolius* D. Don = **Leucheria daucifolia** (D. Don) Crisci

Eizaguirrea Remy in Gay, Flora de Chile 3: 401 (1849). Type: *Leucheria floribunda* DC.
Mimela Phil., Anales Univ. Chile 27(2): 336 (1865). Type: *Mimela pedicularifolia* Phil. = *Leucheria scrobiculata* D. Don
Clybatis Phil., Anales Univ. Chile 41: 742 (1872). Type: *Clybatis volkmanni* Phil. = *Leucheria nutans* (Remy) Reiche

Type: *Leucheria hieracioides* Cass.

Reference

Crisci, J. V. (1976). Revisión del género *Leucheria* (Compositae: Mutisieae). Darwiniana 20(1-2): 9-126.

Leucheria daucifolia (D. Don) Crisci, Darwiniana 20(1-2): 52 (1976).

Ptilurus daucifolius D. Don, Trans. Linn. Soc. London 16(2): 219 (1830). Type: 'In Peruviae summis alpibus Cordilleras de los Andes Hispanicè dictis. Ruiz & Pavon. ■ Holotype: originally in Aylmer Bourke Lambert's herbarium, now in BM - see Miller (1970: 538-540).

Chabraea daucifolia (D. Don) Wedd., Chloris Andina 1: 35 (1855).

Chabraea laciniata Wedd., Chloris Andina 1: 34, t. 10 (1855). Type: 'Hab. PÉROU! Cordillères du département de Cuzco? (Gay).' Holotype: P.

Bolivia (Cochabamba, Potosí), Peru.

Steep, open, moist, gravelly slopes, scree slopes.

3000-→4700 (-6770) m.

August -April.

Leucheria fasciata Klatt, Bot. Jahrb. Syst. 8: 51 (1886) = ***Perezia pungens*** (Humb. & Bonpl.) Less.

Leucopodium Gardner, London J. Bot. 4: 124 (1845) = ***Chevreulia*** Cass.

Leucopodium campestre Gardner, London J. Bot. 4: 124 (1845) = ***Chevreulia acuminata*** Less.

Leucopsis (DC.) Baker in Mart., Fl. Bras. 6(3): 5 (1882), p.p. = ***Noticastrum*** DC.

Leucopsis gnaphalioides Baker in Mart., Fl. Bras. 6(3): 8 (1882) = ***Noticastrum gnaphalioides*** (Baker) Cuatrec.

Leucopsis tweediei (Hook. & Arn.) Baker in Mart., Fl. Bras. 6(3): 9 (1882) = ***Leptostelma tweediei*** (Hook. & Arn.) D. J. N. Hind & G. L. Nesom

Leucopsis tweediei (Hook. & Arn.) Baker var. *pilosa* Baker in Mart., Fl. Bras. 6(3): 9 (1882) = ***Leptostelma tweediei*** (Hook. & Arn.) D. J. N. Hind & G. L. Nesom

Liabellum Cabrera, Notas Mus. Eva Peron, Bot. 17: 76 (1954), nom. illegit., non *Liabellum* Rydb. (1927) = ***Microliabum*** Cabrera

Liabum Adans. subgen. *Chrysastrum* Willd. ex Sch.Bip. Flora 36(3): 37 (1853) = ***Munnozias*** Ruiz & Pav.

Liabum Adans. sect. *Paranaphelium* (Poepp.) Benth. & Hook., Gen. Pl. 2: 436 (1873) = ***Paranaphelium*** Poepp.

Liabum Adans., Fam. 2 :131 (1763).

Starkea Willd., Sp.Pl. 3: 2216 (1803). Type: *Amellus umbellatus* L. = *Starkea umbellata* (L.) Willd. = *Liabum umbellatum* (L.) Sch.Bip.

Andromachia Humb. & Bonpl., Pl. Aequinoc. 2: 104, t. 112 (1809). Type: *Andromachia igniaria* = *Liabum igniarium* (Humb. & Bonpl.) Less.

Allendea La Llave & Lex., Nov. Veg. Descr. 1: 10 (1824). Type: *Allendea lanceolata* La Llave & Lex. = *Liabum bourgeauii* Hieron.

Viviania Willd. ex Less., Linnaea 4(3): 318 (1829), nom. nud. pro syn.

Typenot stated. Lectotype (q.v. Cabrera, 1978: 462): *Liabum brownei* Cass. = *Liabum umbellatum* (L.) Sch.Bip.

References

Cabrera, A. L. (1947). Las especies argentinas del género *Liabum* (Compositae). Bol. Soc. Argent. Bot. 2(2): 91-98.

Gutiérrez, D. G. (2003). Reincorporación del género *Liabum* (Asteraceae, Liabeae) a la flora Argentina y primer registro de *L. acuminatum* para el país. *Darwiniana* 41(1-4): 55-59.

Robinson, H. (1976). Studies in the Liabeae (Asteraceae). V. New Andean species of *Liabum*. *Phytologia* 34(3): 285-300.

Robinson, H. (1977). Studies in the Liabeae (Asteraceae). XI. New species in the Kew Herbarium. *Phytologia* 35(6): 488-496.

Robinson, H. (1983). A generic review of the tribe Liabeae (Asteraceae). *Smithsonian Contrib. Bot.* 54: 1-69.

***Liabum acuminatum** Rusby, *Descr. New Sp. S. Amer. Pl.* : 161 (1920). Type: ' "Machichoirisa, Bolivia, 3,500 feet, August 3, 1902" (R.S. Williams, No. 1605.)'. Holotype: NY (00180638); isotypes: K, US (01131073). Argentina, Bolivia (Bení, La Paz, Santa Cruz), Brazil, Ecuador, Peru. 0-1000 m. August.

Liabum acutifolium Cuatrec., *Collect. Bot. (Barcelona)* 3(3): 299 (1953) = **Liabum solidagineum** (Kunth) Less.

Liabum asperifolium* Muschl., *Bot. Jahrb. Syst.* 50(2/3), *Beibl.* 111: 78 (1913) = **Paranephelius asperifolius (Muschl.) H. Rob. & Brettell

Liabum bolioianum Klatt, *Annal. Naturh. Hofmus. Wien* 9: 362 (1894) = **Gynoxys boliviana** (Klatt) S. F. Blake

Liabum cardenasii* Cabrera, *Notisa Mus. La Plata, secc. Bot.* 14(71): 191 (1949) = **Munnozia cardenasii (Cabrera) H. Rob. & Brettell

Liabum corymbosum* Sch.Bip. ex Klatt, *Annal. Naturh. Hofmus. Wien.* 9: 362 (1894) = **Munnozia maronii (André) H. Rob.

Liabum eriocaulon Poepp., *Nov. Gen. Sp. Pl.* 3: 43, tab. 249 (1843). Type: 'Crescit in Peruviae subandinae sylvis opacis circum Cuchero. Augusto floret.'

Bolivia (La Paz), Peru.

500-1500 m.

August.

Liabum foliosum (Rusby) Ferreyra, *Bol. Soc. Peru. Bot.* 1(1-4): 18 (1948) = **Munnozia foliosa** Rusby

Liabum foliosum* (Rusby) Cabrera, *Notisa Mus. La Plata, secc. Bot.* 14: 193 (1949), in obs. = **Munnozia foliosa Rusby

Liabum fulvotomentosum* Kuntze, *Revis. Gen. Pl.* 6(2): 163 (1898) = **Liabum solidagineum (Kunth) Less.

Liabum giganteum* Rusby, *Bull. New York Bot. Gard.* 4(14): 391 (1907) = **Munnozia gigantea (Rusby) Rusby

Liabum glandulosum* Kuntze, *Revis. Gen. Pl.* 3(3): 163 (1898) = **Munnozia glandulosa (Kuntze) Rusby

Liabum hastatum* (Wedd.) Britton, *Bull. Torrey Bot. Club* 19: 263 (1892) = **Munnozia senecionidis Benth.

Liabum hastifolium* Poepp., *Nov. Gen. Sp. Pl.* 3: 43 (1843) = **Munnozia hastifolia (Poepp.) H. Rob. & Brettell

Liabum herrerae Cabrera, *Revista Univ. Cuzco* 33(No. 87): 119 (1945) = **Munnozia foliosa** Rusby

Liabum hexagonum* S. F. Blake, *J. Wash. Acad. Sci.* 17: 300 (1927) = **Munnozia longifolia Rusby

Liabum hirtum* Kuntze, *Revis. Gen. Pl.* 6(2): 163 (1898) = **Munnozia hirta (Kuntze) Rusby

Liabum isodontum* S. F. Blake, *J. Wash. Acad. Sci.* 17: 298 (1927) = **Munnozia senecionidis Benth.

Liabum jelskii* Hieron., *Bot. Jahrb. Syst.* 36(5): 499 (1905) = **Paranephelius jelskii (Hieron.) H. Rob. & Brettell

Liabum lactiferum V. M. Badillo, *Bol. Soc. Venez. Cienc. Nat.* 10(No. 68): 312 (1946) = **Munnozia hastifolia** (Poepp.) H. Rob. & Brettell

Liabum lanatum Ferreyra, *Bol. Soc. Peru. Bot.* 1(1-4): 17 (1948), as nom. nov. pro *Onoseris discolor* Muschl. = **Pseudonoseris discolor** (Muschl.) H. Rob. & Brettell

Liabum longifolium* (Rusby) S. F. Blake, *J. Wash. Acad. Sci.* 25: 322 (1935) = **Munnozia longifolia Rusby

Liabum megacephalum Sch.Bip., *Flora*, 36: 38 (1853) = **Munnozia senecionidis** Benth.

Liabum mulgediifolium* Muschl., *Bot. Jahrb. Syst.* 50(2/3), *Beibl.* 111: 85 (1913) = **Microliabum mulgediifolium (Muschl.) H. Rob.

Liabum ovatum (Wedd.) Ball, *J. Linn. Soc., Bot.* 22: 46 (1885) = **Paranephelius ovatus** Wedd.

Liabum ovatum (Wedd.) Britton, *Bull. Torrey Bot. Club* 19: 263 (1892), comb. superfl. = **Paranephelius ovatus** Wedd.

Liabum ovatum* (Wedd.) Ball var. *hirtum* Perkins, *Bot. Jahrb. Syst.* 49(2): 229 (1913) = **Paranephelius ovatus Wedd.

Liabum pallatangense Hieron., Bot. Jahrb. Syst. 29(1): 60 (1900) = **Erato polymnioides** DC.
Liabum pinnulosum* Kuntze, Revis. Gen. Pl. 6(2): 163 (1898) = **Munnozia pinnulosa (Kuntze) H. Rob. & Brettell
Liabum polymnioides R. E. Fries, Arkiv Bot. Stockh. 5(No. 13): 24 (1906) = **Microliabum polymnioides** (R. E. Fries) H. Rob.
Liabum pulchrum S. F. Blake, J. Wash. Acad. Sci. 17: 299 (1927) = **Munnozia venosissima** Ruiz & Pav.
Liabum rusbyi* Britton, Bull. Torrey Bot. Club 19: 263 (1892) = **Munnozia rusbyi (Britton) Rusby
Liabum sagittatum Sch.Bip., Flora 36: 37 (1853) = **Munozia senecionidis** Benth.

Liabum solidagineum (Kunth) Less., Linnaea 6(4): 700 (1831).

Andromachia solidaginea Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 78 (1818). Type: 'Crescit in Andibus Peruvianorum inter Ayavaca et convallem fluminis Cutaco, alt. 1200 hex. ■ Floret Augusto.' ['s.n. Quito' according to V. A. Funk (pers. comm.)]. Holotype: P-Bonpl.

**Liabum fulvotomentosum* Kuntze, Revis. Gen. Pl. 3(3): 163 (1898). Type: 'Bolivia: 2000 m Rio Juntas.' ['BOLIVIA. Rio Juntas, 2000 m, 13–21 Apr 1892, Kuntze s.n. (2 sheets).'] – according to Wetter & Zanoni, 1985: 334]. Holotype: NY (00180652 sheet 1 of 2, 00180653 – sheet 2 of 2). Note: There is a sheet in US (01440067) which purports to have fragments of the two sheets in NY.

Liabum acutifolium Cuatrec., Collect. Bot. (Barcelona) 3(3): 299 (1953). Type: 'Peru: Dep. Junin, prov. Tarma: Carapata, Aug. 1947; colect. J. Soukup 3461.' Holotype: F (1390525).

Bolivia (?), Peru.

2000–4000 m.

August–April.

Liabum steinbachii H. Rob., Phytologia 35(6): 489 (1977). Type: 'BOLIVIA: Santa Cruz: Cerro Tres Cruces, elev. 1400 m, 8 Oct. 1928. Jose Steinbach 8152'. Holotype: K; isotypes: MO, NY (00180671).

Bolivia (Santa Cruz).

1400 m.

September–October.

Liabum subviride* S. F. Blake, J. Wash. Acad. Sci. 17: 294 (1924) = **Munnozia subviridis (S. F. Blake) H. Rob. & Brettell

Liabum taeniotrichum S. F. Blake, J. Wash. Acad. Sci. 17: 298 (1927) = ?**Munnozia senecionidis** Benth. or *M. taeniotrichum* (S. F. Blake) H. Rob. & Brettell

Liabum uniflorum (Wedd.) Ball, J. Linn. Soc., Bot. 22(No. 141): 46 (1885) = **Paranephelius ovatus** Wedd.

Liabum uniflorum* (Poepp.) Sch.Bip., Flora, 36: 34 (1853) = **Paranephelius uniflorus Poepp.

Lieberkuhna Cass., Dict. Sci. Nat. 27: 286 (1823) = **Chaptalia** Vent.

Limnogenneton Sch.Bip. ex Walp., Repert. 6: 146 (1846) = **Sigesbeckia** L.

Linochilus Benth., Pl. Hartweg. : 197 (1845) = **Diplostephium** Kunth

Linochilus meyenii Sch.Bip. ex Wedd., Chloris Andina 1: 201 (1857), nom. nud. pro syn. = **Diplostephium meyenii** Wedd.

Linosyris (Dolichogyne) mandonii Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865), nom. nud. (based on *Mandon 233*) = **Llerasia soratensis** (S. F. Blake) Cuatrec.

Lipotriche R.Br., Observ. Campos : 118 (1817) = **Melanthera** Rohr

Llerasia Triana, Ann. Sci. Nat. Bot. 4, 9: 37 (1858).

Chrysothamnus Nutt. sect. *Diplostephioides* Benth. & Hook. f., Gen. Pl. 2(1): 255 (1873). Type: not cited. Lectotype (selected by Bake, 1927: 108): *Haplopappus hypoleucus* Turcz. = *Llerasia hypoleuca* (Turcz.) Cuatrec.

Bigelowia DC. sect. *Diplostephioides* (Benth. & Hook.f.) A. Gray, Proc. Amer. Acad. Arts 8: 638 (1873).

Neosyris Greene, *Erythea* 3: 115 (1895). Type: not stated.

Haplopappus Cass. sect. *Diplostephioides* (Benth. & Hook.f.) S. F. Blake, *Amer. J. Bot.* 14(3): 108 (1927).

Lectotype (selected by Cuatrecasas, 1970: 40): *Llerasia lindenii* Triana

References

Blake, S. F. (1927). The Section *Diplostephioides* of *Aplopappus*. *Amer. J. Bot.* 14(3): 107–115.

Cuatrecasas, J. (1970). Reinstatement of the genus *Llerasia* (Compositae). *Biotropica* 2: 39–45.

Cabrera, A. L. (1982). Dos Compuestas nuevas de Bolivia. *Hickenia* 1(53): 281–284.

Hall, H. M. (1928). The genus *Haplopappus*: A phylogenetic study in the Compositae. Carnegie Inst. Wash. Publ. No. 389. [Sect. 21 *Diplostephioides* pp. 355–360].

Pruski, J. F. (2005). Studies of neotropical Compositae – I. Novelties in *Calea*, *Clibadium*, *Conyza*, *Llerasia*, and *Pluchea*. *Sida* 21(4): 2023–2037.

Key to species [modified from Cabrera (1982)]

1. Capitula with 7–13 florets *L. soratensis*
- Capitula with 3–5(–6) florets 2
2. (1) Leaves and branches completely glabrous *L. boliviensis*
- Leaves densely woolly or lanuginous beneath; branchlets woolly, lanuginous or glabrous 3
3. (2) Florets 5; leaf lamina 3–4.7 × 0.8–1.4 cm, elliptic or oblong-elliptic, short-attenuate, apices acute to obtuse; venation inconspicuous beneath *L. ledifolia*
- Florets 3–4; leaf lamina lanceolate or elliptic lanceolate, long-attenuate, apices acute; secondary veins conspicuous beneath or hidden by indumentum 4
4. (3) Leaves large, 10.5–12.5 × 2.8–3.5 cm; secondary veins conspicuous beneath *L. macrocephala*
- Leaves much smaller, 5–6 × 0.7–1 cm; secondary veins hidden by indumentum beneath *L. beckii*

Llerasia beckii Cabrera, *Hickenia*, 1(53): 281 (1982). Type: 'BOLIVIA. Depto. La Paz, Prov. Nor Yungas: camino de La Paz a Coroico a 72 km de La Paz, 3.050-3.150 m s.m. Ceja de la montaña, bosque coriáceo en zona muy nebulosa. Leg. St. G. Beck No. 1846, 28-VII-1979'. Holotype: SI; isotypes: LPB, M.

Bolivia (La Paz).

Cloud forest.

3050–3150 m.

August – September.

Llerasia boliviensis (Cabrera) Cuatrec., *Biotropica*, 2: 43 (1970)

Haplopappus (*Diplostephioides*) *boliviensis* Cabrera, *Blumea* 7(1): 193 (1952). Type: [Bolivia:] 'Hab.: Liane an der Waldgrenze über Tablas, 3400 m alt., Mai 1911, [Herzog] n. 2186, Bl. orange, nach Hyacinthen duftend (Typus).' Holotype: L(950251158); isotypes: LP (898904 – according to Freire & Iharlegui, 2000: 321, but see 'Obs.'). S.

Bolivia (Cochabamba).

3400 m.

May.

Llerasia ledifolia (S. F. Blake) Cuatrec., *Biotropica* 2: 45 (1970).

Aplopappus ledifolius S. F. Blake, *Amer. J. Bot.* 14(3): 112 (1927). Type: 'BOLIVIA (?): Huaycani, alt. 3050-3355 m., May 1866, R. Pearce'. Holotype: K; isotype: US (01440024 – a fragment of the K specimen).

Bolivia (Cochabamba, La Paz), ?Peru.

3000–3500 m.

May.

Llerasia lucidula (S. F. Blake) Cuatrec., *Biotropica* 2: 43 (1970) = ***Llerasia macrocephala*** (Rusby) Pruski

Llerasia macrocephala (Rusby) Pruski, *Sida* 21(4): 2033 (2005).

Moquinia macrocephala Rusby, Descr. New Sp. S. Amer. Pl. : 162 (1920). Type: 'Unduavi, North Yungas, Bolivia, 3,000 M., November, 1910. A shrub 3 or 4 M. high. (Buchtien, No. 3080.)' Holotype: US (1179267).
Aplopappus lucidulus S. F. Blake, Amer. J. Bot. 14(3): 114 (1927). Type: 'BOLIVIA: Unduavi, North Yungas, alt. 3300 m., Nov. 1910, Buchtien 3080'. 'Type in the U.S. Nat. Herb., nos. 1, 179, 267.' ['Nordyungas: Unduavi, 3300 m, Kletterstrauch 3–4 m, XI-1910, Buchtien 3080' – according to Cuatrecasas, 1970: 43] This citation, by Blake, of the 'numbers' is actually in error for 1179267, which is the holotype. Holotype: US (01179267).
**Gochnatia macrocephala* (Rusby) Cabrera, Notas Mus. La Plata, Bot. 15(No. 74): 41 (1950).
Llerasia lucidula (S. F. Blake) Cuatrec., Biotropica 2: 43 (1970).
Bolivia (La Paz).
3300 m.
November.

Note: Cuatrecasas (1970: 43) stated that his species was only known from the type, which is presumably the same material that Rusby had used to describe *Moquinia macrocephala*. However, Pruski (2005) indicated that holotype of the *Moquinia* was in NY, and the holotype of the *Haplopappus* in US, with isotypes of each in the other herbaria. I have been unable to track down the respective isotypes since I believe that only the unicate exists in US, which was the basis for both names.

Llerasia soratensis (S. F. Blake) Cuatrec., Biotropica 2: 43 (1970).

Linisyris (Dolichogyne) mandonii Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865), nom. nud. (based on *Mandon 233*)

Aplopappus soratensis S. F. Blake, Amer. J. Bot. 14(3): 109 (1927). Type: 'BOLIVIA: In rocky places in the subalpine and alpine region near Sorata, between Nasacara and Lacatia, alt. 3400-3700 m., Aug.-Nov, 1860, Mandon 233'. Holotype: GH (9874); isotypes: GH (9875), K, NY (00179006), US (01440025 – fragment of K).
Bolivia (La Paz).
Amongst rocks, cliffs.
3400–3700 m.
August–November.

Note: '*Bigelowia mandonii* Benth. & Hook.f., Gen. Pl. 2(1): 255 (1873)' – although cited by Hall (1928: 357) and others, no such combination was proposed in *Genera Plantarum* providing the specific epithet combined with the generic name. The first time the combination is found is in *Index Kewensis* but is still based upon Schultz Bipontinus' nom. nud. (via reference to *Genera Plantarum*), and can only be attributed to B. D. Jackson (q.v.). In *Genera Plantarum* the name actually appears in a list of species of *Linisyris* as *Linisyris mandonii* Sch.Bip., which might possibly to be considered as a new name, provided by Bentham & Hooker, for *Haplopappus hypoleucus* Turcz. The diagnostic characters provided by Bentham & Hooker are those distinguishing sect. *Diplostephioides*, and nothing more. *Linisyris mandonii* Sch.Bip. also appeared in *Linnaea* 34(5): 534 (Feb. 1866) as a nom. nud. Hall (1928: 357) was of the opinion that the appearance of the name '*Linisyris mandoni*' in *Genera Plantarum* was its effective place of publication – which is clearly incorrect.

Lomanthus B. Nord. & Pelsner, Compositae Newslett. 47: 34 (2009) = **Senecio** L.

Lomanthus bangii (Rusby) B. Nord. & Pelsner, Compositae Newslett. 47: 37 (2009) = **Senecio bangii** Rusby

Lopholepis dubia Cass., Dict. Sci. Nat. 27: 183 (1823), nom. illegit. based on *Carduus lanceolatus* L. = **Cirsium vulgare** (Savi) Ten.

Lophopappus Rusby, Bull. Torrey Bot. Club 21: 487 (1894).

Type: **Lophopappus foliosus** Rusby

References

Cabrera, A. L. (1953). Compuestas Peruana nuevas o criticos. Bol. Soc. Argent. Bot. 5(1–2): 37–50.

Fabris, H. A. (1968). Revisión del género *Proustia* (Compositae). Revista Mus. La Plata, Secc. Bot. 1: 23–49.

Faúndez, L. Y. & J. B. Macaya. (2000). Presencia de *Lophopappus foliosus* Rusby (*Asteraceae*) en Chile y antecedentes taxonómicos sobre el género *Lophopappus* Rusby. Not. Mens. Mus. Nac. Hist. Nat. No. 332: 3–6.

Ferreya, R. (1995). Tribe Mutisieae. In: J. F. Macbride et al., Flora of Peru, family Asteraceae: part VI. Fieldiana, Bot. n.s. 35: i-v, 1-101.

Tellería, M. C., Urtubey, E. & L. Katinas. (2003). *Proustia* and *Lophopappus* (Asteraceae, Mutisieae): generic and subtribal relationships based on pollen morphology. Rev. Palaeobot. Palynol. 123: 237-246.

Note: *Lophopappus* is rather similar to *Proustia* but differs in its solitary or few, grouped capitula, the lack of terminal spines on short branches, to some degree corolla colour (white in *Lophopappus*, pink or purple in *Proustia*), and the setulae on the achenes of *Proustia*, when present, are long, twisted or spiralled twin-hairs. Preliminary molecular work (Funk et al. pers. comm.) supports their separation, although they are clearly closely related. Tellería et al. (2003) have shown that pollen characters cannot usefully separate the two genera.

Key to species

| | |
|---|-----------------------|
| Leaves linear-lanceolate, margins entire | <i>L. foliosus</i> |
| Leaves oblanceolate-spathulate, margins denticulate | <i>L. tarapacanus</i> |

Lophopappus cuneatus* R. E. Fr., Ark. Bot. 5(13): 29 (1906) = **Lophopappus tarapacanus (Phil.) Cabrera

***Lophopappus foliosus** Rusby, Bull. Torrey Bot. Club 21: 487 (1894). Types: [Bolivia:] 'Collected by Mr Bang in the vicinity of La Paz, altitude about 10,000 feet, 1889 (No. 66), and at Talca Chuguiaguilla, April, 1890 (No. 791).' Syntypes: NY (*Bang* 66: 00214721; *Bang* 791: 00214718, 214720); isosyntype (*Bang* 66): US (01417383).

Proustia foliosa (Rusby) Ferreyra, Fieldiana, Bot. n.s. 35: 90 (1995).

Argentina, Bolivia (Cochabamba, La Paz), Chile, Peru.

Puna Peruana, dry rocky slopes, on rocks.

2300-4000 m.

October-April.

Lophopappus tarapacanus (Phil.) Cabrera, Revista Mus. La Plata, secc. Bot. 12: 157 (1971).

Gochnatia tarapacana Phil., Anales Mus. Nac. Chile, Bot. 8: 34 (1891). Type: [Chile:] 'Habitat in provincia Tarapacá ad Sotoca.' Note: Pizzaro (1960: 144) cited SGO 64993 and SGO 44643 as type material.

**Lophopappus cuneatus* R. E. Fr., Ark. Bot. 5(13): 29 (1906). Type: 'Bolivia: Quebrada honda pr. Tarija in regione subalpina loco sicco [⁶/₁ 02; FR. 1045].' Holotype: S; isotype: US (00534265).

Argentina, Bolivia (Oruro, Tarija), Chile.

Cardonales orotropicales semiáridos centro-altiplánicos (Central Altiplano semiarid thorn and succulent scrub), bare sandstone hills.

2900-3800 m.

January-April.

Note: Faúndez & Macaya (1998: 5) were of the opinion, having examined type material of *Gochnatia tarapacana* Phil. (= *Lophopappus tarapacanus* (Phil.) Cabrera), that *Lophopappus cuneatus* was conspecific and reduced it to synonymy. *Lophopappus cuneatus*, *foliosus* and *tarapacanus* were maintained as separate species in Zuloaga & Morrone (1999).

Lorentea Ortega, Hort. Nat. Dec. 4: 41, t. 5 (1797) = **Sanvitalia** Lam.

Lorentea Lag., Gen. Sp. Pl. Nov. : 28 (1816), non *Lorentea* Ortega (1797)[= **Sanvitalia** Lam.] = **Pectis** L.

Lorentea Less., Linnaea 5(1): 135 (1830), non Ortega (1797)[= **Sanvitalia** Lam.], nec Lagasca (1816)[= *Pectis* L.] = **Pectis** L.

Lorentea cryptopetala DC., Prodr. 5: 101 (1836), nom. illegit. pro *Cryptopetalum ciliare* Cass. = **Pectis sessiliflora** (Less.) Sch.Bip. ex Rusby

Lorentea sessiliflora Less., Linnaea 6(4): 720 (1831) = **Pectis sessiliflora** (Less.) Sch.Bip. ex Rusby

Lorentzianthus R. M. King & H. Rob., Phytologia 32(3): 273 (1975).

Type: *Eupatorium viscidum* Hook. & Arn. = **Lorentzianthus viscidus** (Hook. & Arn.) R. M. King & H. Rob.

Reference

King, R. M. & H. Robinson (1975). Studies in the Eupatorieae (Asteraceae). CLIII. A new genus, *Lorentzianthus*. *Phytologia* 32(3): 273–274.

Lorentzianthus viscidus (Hook. & Arn.) R. M. King & H. Rob., *Phytologia* 32(3): 274 (1975).

Eupatorium viscidum Hook. & Arn., *Companion Bot. Mag.* 1(No. 8): 241 (1836). Type: 'El Aquadita, province of San Luis, Dr. Gillies.' Holotype: K.

Eupatorium nemorense Sch.Bip., *Bull. Soc. Bot. France* 12: 81 (1865); *Linnaea* 34(5): 535 (Feb. 1866), nom. nud. based on *Mandon* 253.

Eupatorium viscidum Hook. & Arn. var. *protractum* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19: 167; *Pl. Lorentz.*: 120 (1874). Type: [Argentina:] 'Tucuman, pr. Siambon. [Lorentz]'. Holotype: GOET. Ariza Espinar (1994: 54) listed 'Tucumán: Siambón, Sierra de Tucumán, Lorentz 496, mitte III-1872. ... Tucumán: Siambón, Lorentz 249, III-1872.' noting that they were isosyntypes in *CORD*.

Eupatorium nemorense Sch.Bip. ex Baker in *Mart., Fl. Bras.* 6(2): 304 (1876), nom. nud., based on *Mandon* 253.

**Eupatorium santacruzense* Hieron., *Bot. Jahrb. Syst.* 22(4–5): 762 (1897). Type: 'Bolivien: in den Gebirgen von Santa Cruz bei 2000 m über Meer (O. KUNTZE, Mai 1892).' ?Holotype: B†; isotype: NY (00169191).

Argentina, Bolivia (Santa Cruz, Tarija).

Moist forest.

1500–2000 m.

March–May.

Note: King & Robinson (1987: 522) listed *E. nemorense* Sch.Bip. ex Baker as a synonym of *Heterocondylus alatus*. However, Baker's nom. nud. was based on *Mandon* 253 and unless this was a widely mixed collection King & Robinson's citation is incorrect. Similarly, King & Robinson (1987) cited *Eupatorium erythrolepis* Sch.Bip., *Linnaea* 34(5): 535 (Feb. 1866), *Bull. Soc. Bot. France* 12: 82 (1865), nom. nud., based on *Mandon* 261, as a synonym of *Lorentzianthus viscidus*, although the material in K is clearly of *Praxelis conocliniantha*.

Loricaria Wedd., *Chloris Andina* 1: 165 (Dec. 1856).

Tafalla D. Don, *Edin. New Phil. J.* : 273 (1831), non Ruiz & Pav. (1794) [according to Kuntze, q.v.]. Type: not designated.

Baccharis [unranked] § 7. *Distichae* DC., *Prodr.* 5: 426 (1835). Type: not designated.

Thysopsis Wedd., *Chloris Andina* 1: 165 (1856), nom. nud., in adnota

Loricaria sect. *Thysopsis* Cuatrec., *Repert. Spec. Nov. Regni Veg.* 56(2): 154 (1954), nom. inval. = *Loricaria* sect. *Loricaria*

Loricaria Wedd. sect. *Terminalia* Cuatrec., *Repert. Spec. Nov. Regni Veg.* 56(2): 155 (1954). Type: *Loricaria ilinissae* (Benth.) Cuatrec.

Loricaria sect. *Graveolens* Cuatrec., *Repert. Spec. Nov. Regni Veg.* 56(2): 157 (1954). Type: **Loricaria graveolens** (Sch.Bip.) Wedd.

Lectotype (selected by Cuatrecasas, 1954: 152): **Loricaria thujoides** (Lam.) Sch.Bip.

References

Cuatrecasas, J. (1954). Synopsis der Gattung *Loricaria* Wedd., *Repert. Spec. Nov. Regni Veg.* 56(2): 149–172 + taf. 1 (1954).

Schultz-Bipontinus, C. H. (1860). Ueber *Loricaria thuyoides*. *Bonplandia* 8: 258–260.

Key to species

1. Leaves glandular-pubescent beneath; ovary glandular-pilose (sect. *Graveolens*) *L. graveolens*
Leaves glabrous beneath; ovary glabrous (sect. *Loricaria*) 2
2. (1) Capitula axillary (or sometimes axillary and terminal); main stems 3–10 mm wide; leaves greenish to green-brown; male florets 8–22 per capitulum; phyllaries 9–14 *L. thujoides*
Capitula terminal; leafy stems 5–6 mm wide; leaves pale brownish-green; male florets 10–12 per capitulum; phyllaries c. 18 *L. unduaviensis*

***Loricaria graveolens** (Sch.Bip.) Wedd., *Chloris Andina* 1: 167 (1856).

Baccharis graveolens Sch.Bip., *Bonplandia* 4(4): 51 (1856). Type: 'Peru, St. Antonio in sum. Cordil. rupium fissuris alt. 17,000', Junio 1854: *Lechler!* n. 1815. Holotype: ?P; isotype: NY (00162248)

Bolivia (La Paz), Peru. Note: Dillon & Sagástegui Alva (1991: 46) were of the opinion that this species was endemic to Peru.

Alpine pastures, cliffs, Puna, jalca.

3500–4500 m.

June.

Vernacular names: HUALCAYO, PALMITA, PATA DE GALLO, QUERA, TOLA (Dillon & Sagástegui Alva, 1991: 46)

Loricaria (Tafalla) microphylla Hieron., *Bot. Jahrb. Syst.* 19(1): 51 (1894) = **Loricaria thujoides** (Lam.) Sch.Bip.

Loricaria stenophylla Wedd., *Chloris Andina* 1: 165 (1856), nom. illegit. = **Loricaria thujoides** (Lam.) Sch.Bip.

Loricaria stenophylla var. γ *microphylla* Wedd., *Chloris Andina* 1: 165 (1856) = **Loricaria thujoides** (Lam.) Sch.Bip.

Loricaria stuebelii Hieron., *Bot. Jahrb. Syst.* 21(4): 346 (1896) = **Loricaria thujoides** (Lam.) Sch.Bip.

***Loricaria thujoides** (Lam.) Sch.Bip., *Bonplandia* 8: 260 (1860).

Conyza thujoides Lam., *Encycl.* 2: 90 (1786). Type: 'Cette plante croît au Pérou, où M. Joseph de Jussieu l'a découverte. ■ (v.s. en fr.)'. Holotype: P-LA (314/11).

Molina incana Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 211 (1794). Type: 'Habitat in Peruviae alpibus ad Pillao vicum versùs Silcay tractum. Floret à Novembri ad Aprilem.' 'Holotype': MA. Note: Sheet A6 on sheet 293 of the microfiche of the Ruiz & Pavón herbarium is labelled 'Classis 19/Baccharis/F. P. C. I. d.

132/Bombon' and was determined as the holotype by Cuatrecasas in 1963. A further sheet (A1 on sheet 294 of the microfiche of the Ruiz & Pavón herbarium), determined by Diaz Pedrahita (1988) only as 'Loricaria', bears the following data on a 'Herbarium Horti Botanici Matritensis' label of the Ruiz & Pavón material: *Molina incana/ Pillao ad Silcai 1789/ Num. 2820 Classis 19 Baccharis F. P. C. I. d. 132*. Sheet A7, determined as the isotype by Cuatrecasas is somewhat differently labelled, 'Syng. Polyg.

Dioecia/Baccharis [crossed out] Molina//v. Palmito/F. P. C. I. No. 15/Ex Pozuzu Año 96.'; according to Cuatrecasas (1954: 168) there is a duplicate of this 'isotype' in F. Another sheet (A2 of sheet 294 of the microfiche of the Ruiz & Pavon herbarium) bears identical details on a 'Herbarium Horti Botanici Matritensis' label of the Ruiz & Pavón herbarium. These additional specimens are duplicates respectively of that marked as 'holotype' and 'isotype' by Cuatrecasas. This suggests that the name has at least two syntypes, with corresponding duplicates.

Baccharis thujoides [as *thyoides* – sic!] (Lam.) Pers., *Syn. Pl.* 2(2): 425 (1807).

Tafalla thyoides (Lam.) D. Don, *Edin. New Phil. J.* : 273 (1831).

Loricaria stenophylla Wedd., *Chloris Andina* 1: 165 (1856), nom. illegit. citing both *Conyza thujoides* Lam., *Molina incana* Ruiz & Pav. in synonymy. [Material cited against this name included: 'Hab. NOUVELLE-GRENADE: volcan de Puracé, h. 4400 m. (*Humb. et Bonpl.*).– ÉQUATEUR!: commun dans les pâturages humides des Andes de Quito, à une élévation de 4400 à 4500 mètres, où il fleurit presque toute l'année (*Jameson*, exsicc., ann. 1856, n. 131); sur les rochers des monts Antisana! et Chimborazo!, près des neiges perpétuelles (*Hartweg*, exsicc., n. 1115 et 1116). – PÉROU! (*Pavon, Dombey*).']

Loricaria stenophylla var. γ *microphylla* Wedd., *Chloris Andina* 1: 165 (1856). Type: no material was clearly cited for this variety under several specimens cited for the species, q.v. Cuatrecasas (1954: 169) very oddly lectotypified the name based on the following 'lectotype' without mentioning any of Weddell's original material citing: 'Colombia; Dep. Cauca, volcán del Puracé en El. Alfombrado y arenales 4000 m alt., „Frútex con ramas erguidas 20 cm – 1.5 met. Hojas verde claras, dorso línea blanca. Invólucro escarioso o pardusco. Corolas verdes en la base, extremo rosadas", J. CUATRECASAS 5012 (F).'

Loricaria thyoides (Lam.) Sch.Bip., *Bonplandia* 8: 258 (1860), orth var.

Loricaria thujodes (Lam.) Kuntze, *Revis. Gen. Pl.* 1: 352 (1891), orth. var. et comb. illegit.

Loricaria (Tafalla) microphylla Hieron., *Bot. Jahrb. Syst.* 19(1): 51 (1894). Type: 'Ecuador: crescit in summis montibus Andium orientalium prov. Loja, alt. s. m. 3200–3600 m, ubi floret mense Novembri ([*Lehmann*] n. 4890 specimen masculum).'

Loricaria stuebelii Hieron., *Bot. Jahrb. Syst.* 21(4): 346 (1896). Types: 'Peruvia: crescit prope Pishenuñuna, alt. s. m. 3200 m, et prope Calle-Calle, alt. s. m. 3400–3600 m, inter Pacasmayo et Moyobamba, ubi floret mense Aprili–Junio ([*Stübel*] coll. peruv. n. 32c et n. 53).'

Loricaria thujoides (Lam.) Hieron., *Bot. Jahrb. Syst.* 21(4): 346 (1896), comb. superfl.

Loricaria thujoides (Lam.) Sch.Bip. var. *microphylla* (Wedd.) Cuatrec., Repert. Spec. Nov. Regni Veg. 56(2): 168 (1954).

Loricaria thujoides (Lam.) Sch.Bip. var. *stuebelii* (Hieron.) Cuatrec., Repert. Spec. Nov. Regni. Veg. 56(2): 169 (1954).

Loricaria thujoides (Lam.) Sch.Bip. var. *laxifolia* Cuatrec., Repert. Spec. Nov. Regni Veg. 56(2): 170 (1954).

Type: 'Ecuador; Aquay: Páramo de Tinajillas and surrounding chaparral and forests, 30–50 km. south of Cuenca 11.000–11.500 ft.; sprawling shrubs to 0.5 m, leaves deep green nitid, the pubescence gray' outer bracts pale ochraceous, CAMP E-2228'. Holotype: NY (00214761).

Loricaria thujoides (Lam.) Sch.Bip. var. *thyrsoidea* Cuatrec., Repert. Spec. Nov. Regni Veg. 56(2): 170 (1954).

Type: 'Peru; Dep. Lima, near Antaicocha, Cerro Colorado, east of Canta, 4000–4100 m. alt. Rocky slopes and gravelly moor. Shrub 1 m tall, many stems in clump, growth flattened. Leaves glutinous. Flowers pale greenish-yellow. Collect. Jun. 20, 1925 FRANCIS W. PENNELL 14685'. Holotype: F; isotypes: GH (9885), NY (00214762), US (1340904).

Bolivia (La Paz), Colombia, Ecuador, Peru.

Puna Peruana, alpine pastures, amongst rocks, Páramo.

(2600–) 3000–4500 m.

November–June.

Loricaria thujoides (Lam.) Sch.Bip. var. *laxifolia* Cuatrec., Repert. Spec. Nov. Regni Veg. 56(2): 170 (1954) =

Loricaria thujoides (Lam.) Sch.Bip.

Loricaria thujoides (Lam.) Sch.Bip. var. *microphylla* (Wedd.) Cuatrec., Repert. Spec. Nov. Regni Veg. 56(2): 168 (1954) = ***Loricaria thujoides*** (Lam.) Sch.Bip.

Loricaria thujoides (Lam.) Sch.Bip. var. *stuebelii* (Hieron.) Cuatrec., Repert. Spec. Nov. Regni Veg. 56(2): 169 (1954) = ***Loricaria thujoides*** (Lam.) Sch.Bip.

Loricaria thujoides (Lam.) Sch.Bip. var. *thyrsoidea* Cuatrec., Repert. Spec. Nov. Regni. Veg. 56(2): 170 (1954) = ***Loricaria thujoides*** (Lam.) Sch.Bip.

Loricaria thujoides (Lam.) Kuntze, Revis. Gen. Pl. 1: 352 (1891), orth. var. et comb. illegit. = ***Loricaria thujoides*** (Lam.) Sch.Bip.

Loricaria thujoides (Lam.) Sch.Bip., Bonplandia 8: 258 (1860), orth. var. = ***Loricaria thujoides*** (Lam.) Sch.Bip.

Loricaria thujoides (Lam.) Hieron., Bot. Jahrb. Syst. 21(4): 346 (1896), comb. superfl. = ***Loricaria thujoides*** (Lam.) Sch.Bip.

****Loricaria unduaviensis*** Cuatrec., Repert. Spec. Nov. Regni Veg. 56: 170 (1954). Type: 'Bolivia; Unduavi, 8000 ft., collect. Oct. 1885 H. H. RUSBY 1565.' Holotype: NY (00214763); isotypes: ?GH, NY (00547065), US (01417654).

Bolivia (La Paz).

Yungas.

2400 m.

October.

Loxodon Cass., Dict. Sci. Nat. 27: 253 (1823) = ***Chaptalia*** Vent.

Lucilia Cass. sect. *Intermediae* S. E. Freire, Cladistics 3(3): 371 (1987) = ***Lucilia*** Cass.

Lucilia Cass. sect. *Lucilioides* DC., Prodr. 6: 46 (1838) = ***Belloa*** Remy

Lucilia Cass. sect. *Lucilioides* DC. subsect. *Lucilioides* S. E. Freire ser. *Lucilioides* S. E. Freire, Cladistics 3(3): 271 (1987) = ***Belloa*** Remy

Lucilia Cass. sect. *Lucilioides* DC. subsect. *Lucilioides* S. E. Freire ser. *Paralucilia* S. E. Freire., Darwiniana 27(1–4): 479 (1986) = ***Belloa*** Remy

Lucilia Cass. sect. *Lucilioides* DC. subsect. *Subspicata* S. E. Freire, Cladistics 3(3): 271 (1987) = ***Luciliocline*** Anderb. & S. E. Freire

Lucilia Cass., Bull. Sci. Soc. Philom. Paris 1817: 32 (1817).

Oligandra Less., Syn. Gen. Comp. : 123 (1832). Type: *Oligandra lycopodioides* Less. = ***Lucilia lycopodioides*** (Less.) S. E. Freire

Pachyrhynchus DC., Prodr. 6: 255 (1838). Type: *Pachyrhynchus xeranthemoides* DC. = **Lucilia acutifolia** (Poir.) Cass.

Hymenopholis Gardner, London J. Bot. 7: 88 (1848). Type: *Hymenopholis imbricata* Gardner = **Lucilia lycopodioides** (Less.) S. E. Freire

Lucilia Cass. sect. *Intermediae* S. E. Freire, Cladistics 3(3): 371 (1987). Type: *Lucilia eriophora* Remy

Type: *Serratula acutifolia* Poir. = **Lucilia acutifolia** (Poir.) Cass.

References

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Dillon, M. O. & Sagástegui-Alva, A. (1990). *Oligandra* Less. revisited and the need for a new genus, *Pseudoligandra* (Asteraceae : Inuleae). TAXON 39(1): 125-128

Freire, S. E. (1986). Revision del genero *Lucilia* (Compositae, Inuleae). Darwiniana 27(1–4): 431–490.

Freire, S. E. (1987). A cladistic analysis of *Lucilia* Cass. (Compositae: Inuleae). Cladistics 3(3): 254–272.

Freire, S. E. (1989). *Oligandra* Less. is *Lucilia* Cass. (Compositae, Inuleae). TAXON 38(2): 298–299.

Key to species (based on Freire, 1986)

- | | | |
|--------|--|-------------------------|
| 1. | Leaves appressed to stem | <i>L. lycopodioides</i> |
| | Leaves variously spreading | 2 |
| 2. (1) | Leaves ovate | <i>L. acutifolia</i> |
| | Leaves oblong or obovate | 3 |
| 3. (2) | Plants ascending with weak stems; leaves oblong or obovate; leaves oblong, recurved, approximate, whitish; capitula 9–11 mm tall | <i>L. recurva</i> |
| | Plants erect; leaves oblong and scarious | <i>L. tomentosa</i> |

Lucilia acutifolia (Poir.) Cass., Dict. Sci. Nat. 27: 264 (1823).

Serratula acutifolia Poir. in Lam., Encycl. 6: 554 (1805). Type: [Uruguay:] ‘Cette plante a été recueillie, par Commerson à Monte-Video; elle a le port d’un staehelina. (V. s. in herb. Lam.)’ Holotype: P-LA (373/18).

Lucilia microphylla Cass., Dict. Sci. Nat. 27: 264 (1823). Type: ‘Nous avons faite cette description sur un échantillon sec, que nous avons trouvé dans l’herbier de M. Desfontaines, où il n’étoit point nommé, et où rien n’indiquoit sa patrie ni son origine.’ Holotype: FI.

Gnaphalium commersonii Spreng., Syst. Veg., ed. 16, 3: 472 (1826), nom. illegit. superfl. pro *Serratula acutifolia* Poir.

Helichrysum montevidense Spreng., Syst. Veg., ed. 16, 3: 485 (1826). Type: [Uruguay:] ‘Monte Video. Sello.’ Holotype: P.

Lucilia acutifolia (Poir.) Cass. f. *nivea* Less., Linnaea 5(3): 362 (1830), based on ‘*Elichrysum montevidense* Sprg. syst. III. p. 485’

Lucilia acutifolia (Poir.) Cass. f. *microphylla* (Cass.) Less., Linnaea 5(3): 362 (1830).

Lucilia acutifolia (Poir.) Cass. f. *virescences* Less., Linnaea 5(3): 362 (1830). Types: [Uruguay:] ‘In Monte Video legerunt Commerson et Sellow (v. sp. s. ∞.)’ Syntypes: B†.

Pachyrhynchus xeranthemoides DC., Prodr. 6: 255 (1838). Type: ‘ad Cap. Bonae-Spei ex specim, herb. L’Hér. si scripturae facies on me fefellit, à cl. peregrin. Bruguiere olim communic. sub nomine Xeranthemi (v.s.)’. Holotype: G-DC.

Lucilia acutifolia (Poir.) Cass. [var.] α *nivea* (Less.) DC., Prodr. 7: 46 (1838).

Lucilia acutifolia (Poir.) Cass. [var.] β *microphylla* (Cass.) DC., Prodr. 7: 46 (1838).

Lucilia acutifolia (Poir.) Cass. [var.] γ *virescens* (Less.) DC., Prodr. 7: 46 (1838).

**Lucilia jamesonii* Baker in Mart., Fl. Bras. 6(3): 113 (1882). Types: ‘Habitat in ditione Argentina, ad ripas fluminis Quarto: Jameson!; in Boliviae regione temperata in vicinitate Sorata in schistosis graminosis: Mandon n. 176!’ Lectotype (selected by Freire, 1986: 447): Mandon 176 - NY (00214768); isolectotypes: GH, LP, NY (00214767), US (02496653). NB. This is strange since Baker would never have worked on material in NY.

Lucilia lundii Baker in Mart., Fl. Bras. 6(3): 113 (1882). Types: [Brazil:] 'Habitat in prov. Minas Geraës in campis editis prope Pedra Branca: *Regnell* III. n. 814 ex parte!; prov. S. Paulo, in campis ad Juquiri: *Lund!*; prope urbem S. Paulo: *Lund!*' Lectotype (selected by Freire, 1986: 447): 'prope urbem S. Paulo: *Lund!*' - K. *Gnaphalium jamesonii* (Baker) Kuntze, Revis. Gen. Pl. 3(3): 152 (1898). *Gnaphalium virescens* (Less.) Kuntze, Revis. Gen. Pl. 3(3): 155 (1898). Argentina, Bolivia (Chuquisaca, Cochabamba, Santa Cruz), Brazil, Chile, Paraguay, Uruguay. Dry soils, amongst rocks, grassland, Chaqueña, Pampeana. 0–3000 m. June–April, but probably flowering throughout the year. Vernacular name: SIEMPRE VIVA (Freire, 1998; Freire et al., 2006).

Lucilia acutifolia (Poir.) Cass. [var.] α *nivea* (Less.) DC., Prodr. 7: 46 (1838) = **Lucilia acutifolia** (Poir.) Cass. *Lucilia acutifolia* (Poir.) Cass. f. *nivea* Less., Linnaea 5(3): 362 (1830) = **Lucilia acutifolia** (Poir.) Cass.

Lucilia acutifolia (Poir.) Cass. [var.] β *microphylla* (Cass.) DC., Prodr. 7: 46 (1838) = **Lucilia acutifolia** (Poir.) Cass.

Lucilia acutifolia (Poir.) Cass. f. *microphylla* (Cass.) Less., Linnaea 5(3): 362 (1830) = **Lucilia acutifolia** (Poir.) Cass.

Lucilia acutifolia (Poir.) Cass. [var.] γ *virescens* (Less.) DC., Prodr. 7: 46 (1838) = **Lucilia acutifolia** (Poir.) Cass.

Lucilia acutifolia (Poir.) Cass. f. *virescences* Less., Linnaea 5(3): 362 (1830) = **Lucilia acutifolia** (Poir.) Cass.

Lucilia affinis* Wedd., Chloris Andina 1: 230 (1857) = **Belloa kunthiana (DC.) Anderb. & S. E. Freire

Lucilia burkartii (Cabrera) S. E. Freire, Darwiniana 27(1–4): 465 (1986) = **Luciliocline burkartii** (Cabrera) Anderb. & S. E. Freire

Lucilia conoidea Wedd., Chloris Andina 1: 154 (1856) = **Belloa kunthiana** (DC.) Anderb. & S. E. Freire

Lucilia erecta Benoist, Bull. Soc. Bot. France 83: 806 (1936) = **Facelis lasiocarpa** (Griseb.) Cabrera

Lucilia facelioides Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 532 (Feb. 1866), nom. nud. = **Luciliocline lopezmirandae** (Cabrera) Anderb. & S. E. Freire

Lucilia flagelliformis* Wedd., Chloris Andina 1: 157 (1856) = **Lucilia lycopodioides (Less.) S. E. Freire

Lucilia glomerata Baker in Mart., Fl. Bras. 6(3): 114 (1882) = **Lucilia lycopodioides** (Less.) S. E. Freire

Lucilia hypoleuca Wedd. ex Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 532 (Feb. 1866), nom. nud. (based on Mandon 179) = **Jalophila boliviensis** Anderb. & S. E. Freire

Lucilia jamesonii* Baker in Mart., Fl. Bras. 6(3): 113 (1882) = **Lucilia acutifolia (Poir.) Cass.

Lucilia kunthiana (DC.) Zardini, Ann. Missouri Bot. Gard. 74(2): 431 (1987) = **Belloa kunthiana** (DC.) Anderb. & S. E. Freire

Lucilia longifolia Cuatrec. & Aristeg., Fl. Venez. : 367 (1964) = **Belloa longifolia** (Cuatrec. & Aristeg.) Sagásteg. & Dillon

Lucilia lopezmirandae (Cabrera) S. E. Freire, Darwiniana 27(1–4): 469 (1986) = **Luciliocline lopezmirandae** (Cabrera) Anderb. & S. E. Freire

Lucilia lundii Baker in Mart., Fl. Bras. 6(3): 113 (1882) = **Lucilia acutifolia** (Poir.) Cass.

Lucilia lycopodioides (Less.) S. E. Freire, Taxon 38(2): 298 (1989).

Oligandra lycopodioides Less., Syn. Gen. Compos. : 124 (1832). Types: 'Sellow in Brasilia (v. sp. s. plura).'

Syntypes: B†. Neotype (assigned by Freire, 1989: 298): 'Brazil. "Santa Catarina, Mun. Lajes: Campo, Morro Pinheiro Seco, 3 km east of Lajes, alt. 900–950 m., *Smith & Reitz* 10038, Jan 15 1957", US.

Hymenopholis imbricata Gardner, London J. Bot. 7: 88 (1848). Type: 'HAB. Elevated Campos between Meridanha and the Cidade Diamantina. July, 1840.' [Gardner] 4891. Isotypes: NY \times 3.

**Lucilia flagelliformis* Wedd., Chloris Andina 1: 157 (1856). Type: 'Hab. BOLIVIE: sur les rochers du mont Curi! dans la province de Tomina, à une élévation de 3000 à 3500 mètres (*Wedd.*) [3768].' Holotype: P; isotypes: F (971657), LP.

Lucilia glomerata Baker in Mart., Fl. Bras. 6(3): 114 (1882). Type: 'Habitat in prov. Minas Geraës, in campo edito prope Pedra Branca: *Regnell* III. n. 814 ex parte!'

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz), Brazil.

Dry open grassland, Yungas, montane forest.

950–2600 m.

September–July.

Lucilia microphylla Cass., Dict. Sci. Nat. 27: 264 (1823) = **Lucilia acutifolia** (Poir.) Cass.

Lucilia nivalis Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 532 (1866), nom. nud. based on Mandon 174 = ?

Lucilia perpusilla Wedd., Chloris Andina 1: Pl. 26 (see also p. 160) (1855) = **Chaetanthera perpusilla** (Wedd.) Anderb. & S.A.Freire

Lucilia pickeringii A. Gray, Proc. Amer. Acad. Arts 5: 138 (1861) = **Belloa pickeringii** (A. Gray) Sagásteg. & Dillon

Lucilia (Merope) pickeringii A. Gray var. β ? *minor* A. Gray, Proc. Amer. Acad. Arts 5: 138 (1861) = **Belloa pickeringii** (A. Gray) Sagásteg. & Dillon

Lucilia piptolepis Wedd., Chloris Andina Atlas : tab. 26B (1856) = **Belloa piptolepis** (Wedd.) Cabrera

Lucilia plumosa Wedd., Chloris Andina 1: 155 (1856) = **Facelis plumosa** (Wedd.) Sch.Bip.

Lucilia pusilla (Kunth) Hieron., Bot. Jahrb. Syst. 29(1): 29 (1900), comb. illegit. = **Belloa kunthiana** (DC.) Anderb. & S. E. Freire

***Lucilia recurva** Wedd., Chloris Andina 1: 156 (1856). Types: 'Hab. Bolivie: province de Tomina, sur les rochers nus, près du sommet du mont Curil!, h. 3500 mètres [Decem. 1845-Janv. 1846] (Wedd. [3742]); sur la Cordillère orientale, entre Valle Grande et Pucarà, et au sommet du Cerro de Chuquisaca (*d'Orbigny*, n. 1136 et 1196).' Syntypes: P. Lectotype (selected by Freire, 1986: 460): *Weddell* 3742 - P; isolectotypes: F (970309), LP. Syntype (*d'Orbigny* 1136): ?F, LP, P.

Argentina, Bolivia (Chuquisaca, Cochabamba, Tarija).

Dry soils, grassland, Yungas, steep stony slopes.

2500-3100 m.

November-March.

Lucilia schultzii* (Wedd.) A. Gray, Proc. Amer. Acad. Arts 5: 138 (1862) = **Belloa schultzii (Wedd.) Cabrera

Lucilia schultzii Wedd. ex Sch.Bip., Linnaea, 34: 532 (Feb. 1866), nom. nud. = **Belloa schultzii** (Wedd.) Cabrera

Lucilia squarrosa* Baker in Mart., Fl. Bras. 6(3): 114 (1882) = **Lucilia tomentosa Wedd.

Lucilia subspicata* (Wedd.) Hieron., Bot. Jahrb. Syst. 29(1): 29 (1900) = **Luciliocline subspicata (Wedd.) Anderb. & S. E. Freire

Lucilia subspicata (Wedd.) Hieron. var. *microcephala* Hieron., Bot. Jahrb. Syst. 29(1): 29 (1900) = **Luciliocline subspicata** (Wedd.) Anderb. & S. E. Freire

***Lucilia tomentosa** Wedd., Chloris Andina 1: 157 (1856). Type: 'Hab. BOLIVIE: dans la province de Yungas! (*Pentland*).' Holotype: P.

**Lucilia squarrosa* Baker in Mart., Fl. Bras. 6(3): 114 (1882). Types: 'Habitat in prov. Minas Geraës, in campis prope Caldas: *Regnell* III. n. 813!; prope Rio de Janeiro: *Glaziou* n. 8129!.' Lectotype (selected by Freire, 1986: 461): '*Regnell* III n. 813, hoja A' - S; isolectotypes: '*Regnell* III n. 813, hoja B-C' - P, S. Syntype: *Glaziou* 8129, K, P, S.

Bolivia (La Paz), Brazil.

Grassland.

900-1800 m.

October-November.

Lucilia tunariensis* (Kuntze) K. Schum., Bot. Jahresber. 26(1): 378 (1900) = **Novenia acaulis (Wedd. ex Benth. & Hook.f.) S. E. Freire & F. Hellwig

Lucilia venezualensis Steyererm., Fieldiana, Bot. 28(3): 644 (1953) = **Belloa kunthiana** (DC.) Anderb. & S. E. Freire

Lucilia violacea* Wedd., Chloris Andina 1: 155 (1856) = **Belloa kunthiana (DC.) Anderb. & S. E. Freire

Luciliocline Anderb. & S. E. Freire, Bot. J. Linn. Soc. 106(2): 187 (1991).

Lucilia Cass. sect. *Lucilioides* DC. subsect. *Subspicata* S. E. Freire, Cladistics 3(3): 271 (1987).

Belloa sensu auctt., p.p. non Remy (1847).

Type: **Luciliocline lopezmirandae** (Cabrera) Anderb. & S. E. Freire

References

Anderberg, A. A. & S. E. Freire. (1991). A cladistic and biogeographical analysis of the *Lucilia* group (Asteraceae, Gnaphalieae). Bot. J. Linn. Soc. 106(2): 173–198.

Cabrera, A. L. (1958). El genero “*Belloa*” Remy. Bol. Soc. Argent. Bot. 7(2): 79–85.

Dillon, M. O. (2003). New combinations in *Luciliocline* with notes on South American Gnaphalieae (Asteraceae). Arnaldoa 10(1): 45–60.

Freire, S. E. (1986). Revision del genero *Lucilia* (Compositae, Inuleae). Darwiniana 27(1–4): 431–490.

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Note: Dillon & Sagástegui (in Dillon 2003) expanded Anderberg & Freire’s concept of *Luciliocline* to include rather disparate elements from *Belloa*. Anderberg & Freire’s concept is maintained below.

Key to species

- | | | |
|--------|---|-------------------------|
| 1. | Capitula in pseudoglomerules | 2 |
| | Inflorescences branched | 3 |
| 2. (1) | Inflorescences pseudospikes of glomerules | <i>L. lopezmirandae</i> |
| | Inflorescences of terminal pseudoglomerules | <i>L. burkartii</i> |
| 3. (1) | Capitula in pseudoracemes of spikes | <i>L. subspicata</i> |
| | Capitula in pseudoracemes | <i>L. burkartii</i> |

Luciliocline burkartii (Cabrera) Anderb. & S. E. Freire, Bot. J. Linn. Soc. 106(2): 188 (1991).

Gnaphalium (*Gamochaeta*) *burkartii* Cabrera, Notas Mus. La Plata, Bot. 13(No. 56): 10, fig. 2 (1948). Type: ‘ARGENTINA. – Prov. Jujuy: Santa Ana, lg. A. Burkart et N. S. Troncoso, 11776, 1-III-1940’. Holotype: LP.

Belloa burkartii (Cabrera) Cabrera, Revista Invest. Agríc. 11: 404 (1957).

Lucilia burkartii (Cabrera) S. E. Freire, Darwiniana 27(1–4): 465 (1986).

Argentina, Bolivia (La Paz), Peru.

Dry, rocky soils.

3000–4000 m.

March–April.

Luciliocline longifolia (Cuatrec. & Aristeg.) M. O. Dillon & Sagásteg., Arnaldoa 10(1): 52 (2003) = **Belloa longifolia** (Cuatrec. & Aristeg.) Sagásteg. & M. O. Dillon

Luciliocline lopezmirandae (Cabrera) Anderb. & S. E. Freire, Bot. J. Linn. Soc. 106(2): 188 (1991).

Lucilia facelioides Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 532 (Feb. 1866), nom. nud. (based on Mandon 178).

Belloa lopezmirandae Cabrera, Bol. Soc. Argent. Bot. 7: 83, fig. 2 (1958). Type: ‘PERU. – Dep. La Libertad, Prov. Otuzco, Agallpampa, 3100 m.s.m., leg. Arnaldo López Miranda, 0858, 22-V-1952’. Holotype: LP; isotype: US (2059276).

Gnaphalium americanum Mill. var. *discolor* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 185 (March–April 1879); Symb. Fl. Argent. : 185 (1879). Type: [Argentina:] ‘S.: Nevado del Castillo.’ Holotype: Lorentz & Hieronymus 149, GOET (6140). Note: Freire (1986: 469) cited ‘“Prov. Salta, Dep. Caldera, alrededores de Los Potreros, al pie del Nevado del Castillo, 24-III-1873”, P. G. Lorentz et G. Hieronymus 149, 150 (CORD, no vistos; fotos del tipo: LP!)’. It is not clear whether the CORD material referred to by Freire is of two numbers. The material in GOET is clearly referred to as the holotype, and of ‘Lorentz & Hieronymus 149’ only.

Lucilia lopezmirandae (Cabrera) S. E. Freire, Darwiniana 27(1–4): 469 (1986).

Argentina, Bolivia (Chuquisaca, La Paz), Peru.

Dry soils.

2000–4500 m.

March–May.

Note: Freire (1987) placed *Belloa turneri* Sagást. & M. O. Dillon (a plant of Peru and Ecuador) into synonymy of *L. burkartii*, something objected to by Dillon & Sagástegui-Alva (1991: 14). Two collections of J. R. I. Wood (8315 & 9662) from Chuquisaca prove to be intermediate between *L. lopezmirandae* and *L. cajamarcensis*

(Cabrera) Anderb. & S. E. Freire an apparent Argentinian endemic known only from the type collection. It may well be more appropriate to combine the two species concepts, especially since the form of the fertile branches of the two can be found in the *Wood* collections.

Luciliocline pickeringii (A. Gray) M. O. Dillon & Sagásteg., *Arnaldoa* 10(1): 52 (2003) = ***Belloa pickeringii*** (A. Gray) Sagásteg. & M. O. Dillon

Luciliocline piptolepis (Wedd.) M. O. Dillon & Sagásteg., *Arnaldoa* 10(1): 53 (2003) = ***Belloa piptolepis*** (Wedd.) Cabrera

Luciliocline schultzi (Wedd.) M. O. Dillon & Sagásteg., *Arnaldoa* 10(1): 53 (2003) = ***Belloa schultzi*** (Wedd.) Cabrera

Luciliocline subspicata (Wedd.) Anderb. & S. E. Freire, *Bot. J. Linn. Soc.* 106(2): 189 (1991).

Belloa subspicata Wedd., *Chloris Andina* 1: 159 (1856). Types: 'Hab. BOLIVIE: sur les rochers, aux environs de Potosí (d'Orbigny, n. 1373 et 1374).' Syntypes: P. Lectotype (selected by ?Freire, 1986: 476): d'Orbigny 1373, P. **Lucilia subspicata* (Wedd.) Hieron., *Bot. Jahrb. Syst.* 29(1): 29 (1900*). [*Note: See Reference section concerning problem with date of publication]

Lucilia subspicata (Wedd.) Hieron. var. *microcephala* Hieron., *Bot. Jahrb. Syst.* 29(1): 29 (1900*). Type: [Ecuador:] 'Crescit in pascuis montis Chimborazo, alt. s. m. 3600 m (S[ODIRO]. 21/1/bis).' Holotype: B†. *Gnaphalium (Gamochaeta) punae* Cabrera, *Notas Mus. La Plata, Bot.* 13(No. 56): 7, fig. 1 (1948). Type: 'ARGENTINA. – Prov. Salta, Dep. Poma, Quebrada de Cobres, 3600 m.s.m., leg. A.L. Cabrera, 8727, 13-II-1945'. Holotype: LP

Belloa punae (Cabrera) Cabrera, *Revista Invest. Agric.* 11(4): 404 (1958).

Argentina, Bolivia (La Paz, Potosí), Peru.

Rocky slopes.

3000–4900 m.

December–June.

Lucilioopsis Wedd., *Chloris Andina* 1: 159 (1855) = ***Chaetanthera*** Ruiz & Pav.

Lucilioopsis argentina Cabrera, *Darwiniana* 9(1): 41 (1949) = ***Cuatrecasasiella argentina*** (Cabrera) H. Rob.

Lucilioopsis perpusilla* Wedd., *Chloris Andina* 1: 156 (1856) = *Chaetanthera perpusilla*** (Wedd.) Anderb. & S. E. Freire

Lycoseris Cass., *Dict. Sci. Nat.* 33: 463, 474 (1824).

Diazeuxis D. Don, *Trans. Linn. Soc. London* 16(2): 302 (1830). Type: *Diazeuxis latifolia* D. Don = *Lycoseris latifolia* (D. Don) Benth.

Type: *Atractylis mexicana* L.f. = *Lycoseris mexicana* (L.f.) Cass.

Reference

Egeröd, K. & B. Ståhl. (1991). Revision of *Lycoseris* (Compositae - Mutisieae). *Nordic J. Bot.* 11(5): 549–574.

Note: Egeröd & Ståhl's key and account provides little in the way of discrete characters to separate the two species recorded for Bolivia. Material from the east of Santa Cruz shows much variation in leaf shape, leaf apex form (from flat to almost reflexed – possibly depending upon how the material was pressed) and pubescence (of both the leaves and phyllaries) as well as in capitulum size, even in male capitula. It is quite probable that only one variable species exists and this should be named *L. boliviana*, the older name. Wood et al. 24438, collected at Chiquitos, Santa Cruz has considerably larger leaves than described for either *L. boliviana* and *L. retroflexa* by Egeröd & Ståhl, suggesting much more field work is needed in determining distribution and variability within species. *Lycoseris eggertii* Hieron. was reported by Katinas et al. (2008: 571) based on *Krapovickas & Schinini* 32419 (LP) (from San Miguelito, Velasco, Santa Cruz) – an Ecuadorian endemic; it remains to be seen if this species is actually present.

Key to species

Mature leaves glabrous or subglabrous beneath

L. boliviana

Mature leaves arachnoid to lanate beneath

L. retroflexa

***Lycoseris boliviana** Britton, Bull. Torrey Bot. Club 19: 266 (1892). Type: [Bolivia:] 'Guanai, 2,000 ft. ([Rusby] 1557).' Lectotype (selected by Egeröd & Ståhl, 1991: 569): NY (00214775 – ex Columbia College Herbarium); isolectotypes: GH, K (☞), NY (00214776 – ex College Pharmacy Herbarium, 00214777 – ex Princeton University Herbarium), P, US (00206936).

Bolivia (La Paz, ?Pando, Santa Cruz), Brazil.

Dry woodland.

400–730 m.

March–April.

Note: *Lycoseris squarrosa* Benth. was reported by Jorgensen et al. (2005: 102) (a native of Colombia north to Guatemala) as being present in the Madidi reserve. It is likely this was a misidentification for *L. boliviana*.

***Lycoseris retroflexa** J. Koster, Blumea 5(3): 664 (1945). Type: [Bolivia:] 'Hab.: Strauch der Gebüschinseln in den Hügelcampos von Palissa [= La Paliza], 900 m alt., Dez. 1910, Bl. orange, [Herzog] n. 1731.' Holotype: L(94437203).

Diazeuxis herzogiana Beauverd, Bull. Soc. Geneve, ser. 2, 13: 11 (1921), nom. nud.

Diazeuxis herzogi Herzog, Die Vegetation die Erde : 121 (1923), nom. nud.

Bolivia (Santa Cruz), Peru.

900–1600 m.

December.

M

Macella C. Koch, App. Ind. Sem. Hort. Berol. 1855, App.: 13 (1856) = **Jaegeria** Kunth

Macella hirta (Lag.) C. Koch, App. Ind. Sem. Hort. Berol. 1855, App.: 13 (1856) = **Jaegeria hirta** (Lag.) Less.

Mallinoa J. Coulter, Bot. Gaz. 20: 47 (1895) = **Ageratina** Spach

Mandonia Wedd., Bull. Soc. Bot. France 11: 50 (1864) = **Tridax** L.

Mandonia boliviensis Wedd., Bull. Soc. Bot. France 11: 51 (1864) = **Tridax boliviensis** (Wedd.) R. E. Fr.

Mandonia Sch.Bip., Linnaea 33(6): 757 (1865), nom. illegit., non Wedd. (1864), nom. illegit. (= **Tridax** L.), nec Hassk. (1871), nom. illegit. (= *Tradescantia Ruppis* ex L. [COMMELINACEAE]) = **Hieracium** L.

Mandonia pilosella Sch.Bip., Linnaea 33(6): 758 (1865) = **Hieracium stachyoideum** Arv.-Touv.

Marsea Adans., Fam. 2: 122 (1763) = **Conyza** Less.

Marsea bonariensis (L.) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 256 (1946) = **Conyza canadensis** (L.) Cronquist

Marsea bonariensis (L.) V. M. Badillo var. *leiotheca* (S. F. Blake) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 256 (1946) = **Conyza floribunda** Kunth

Marsea canadensis (L.) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 256 (1946) = **Conyza canadensis** (L.) Cronquist

Marsea gnaphalioides (Kunth) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 257 (1946) = **Laennecia gnaphalioides** (Kunth) Cass.

Marsea sopherifolia (Kunth) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 256 (1946) = **Laennecia sopherifolia** (Kunth) G. L. Nesom

Martrasia Lag., Amen. Nat. Españas 1: 36 (1811) = **Jungia** L.f.

Matamoria LaLlave & Lex., Nov. Veg. Desc., fasc. 1: 8 (1824) = **Elephantopus** L.

Matamoria spicata (Juss. ex Aubl.) La Llave & Lex., Nov. Veg. Descr. 1: 8 (1824) = **Elephantopus spicatus** Juss. ex Aubl.

Matricaria latifolia Gilib., Fl. Lithuan. 1: 220 (1781) = **Tanacetum parthenium** (L.) Sch.Bip.

Matricaria parthenium L., Sp. Pl. : 890 (1753) = **Tanacetum parthenium** (L.) Sch.Bip.

Meisteria Scop., Introd. : 124 (1777), nom. illegit. = **Pacourina** Aubl.

Melampodium L., Sp. Pl. : 921 (1753).

Cargilla Adans., Fam. 2: 130 (1763), nom illegit. superfl. incl. *Chrysogonum* L. & *Melampodium* L.

Alcina Cav., Icon. 1: 10, t. 15 (1791). Type: *Alcina perfoliata* Cav. = *Melampodium perfoliatum* (Cav.) Kunth

Dysodium Rich. in Pers., Syn. Pl. 2: 489 (1807), non **Dyssodia** Cav. (1802). Type: *Dysodium divaricatum* Rich. in Pers. = **Melampodium divaricatum** (Rich. in Pers.) DC.

Melampodium L. [unranked] 2) *Dysodia* (Rich. in Pers.) Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 215 (1818).

Melampodium L. [unranked] 3) *Alciniae* (Cav.) Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 215 (1818) [based on *Alcina* Cav.]

Camutia Bonat. ex Steud., Nom. Bot. : 146 (1821), nom. nud. pro syn., based on *Camutia perfoliata* Bonat. ex Steud.

Melampodium L. sect. *Eumelampodium* DC., Prodr. 5: 518 (1836).

Melampodium L. sect. *Zarabellia* (Cass.) DC., Prodr. 5: 519 (1836). Type: not stated. Lectotype (selected by Stuessy, 1972: 161: *Melampodium longifolium* Cerv. ex Cav.

Melampodium L. sect. *Alcina* (Cav.) DC., Prodr. 5: 520 (1836).
Carnutia Baker in Mart., Fl. Bras. 6(3): 159 (1884), orth. var., based on *Camutia* Bonat. ex Steud.
Zarabellia Cass., Dict. Sci. Nat. 59: 240 (1829), nom. illegit., non Neck. (1790) (= *Berkheya* Ehrh.). Type:
Zarabella rhomboidea Cass. = *Melampodium longifolium* Cerv. ex Cav.
Melampodium L. sect. *Melampodium* ser. *Leucantha* Stuessy, Rhodora 74(No. 798): 34 (1972). Type:
Melampodium leucanthum Torr. & A. Gray
Melampodium L. sect. *Melampodium* ser. *Sericea* Stuessy, Rhodora 74(No. 798): 46 (1972). Type: *Melampodium sericeum* Lag.
Melampodium L. sect. *Melampodium* ser. *Cupulata* Stuessy, Rhodora 74(No. 798): 59 (1972). Type:
Melampodium cupulatum A. Gray
Melampodium L. sect. *Melampodium* ser. *Longipila* Stuessy, Rhodora 74(No. 798): 68 (1972). Type:
Melampodium longipilum B. L. Rob.
Melampodium L. sect. *Serratura* Stuessy, Rhodora 74(No. 798): 175 (1972). Type: ***Melampodium divaricatum*** (Rich. in Pers.) DC.
Melampodium L. sect. *Bibractiaria* Stuessy, Rhodora 74(No. 798): 186 (1972). Type: *Melampodium bibracteatum* S. Watson
Melampodium L. sect. *Rhizomaria* Stuessy, Rhodora 74(No. 798): 189 (1972). Type: *Melampodium montanum* Benth.

Type: *Melampodium americanum* L.

Reference

Stuessy, T. F. (1972). Revision of the genus *Melampodium* (Compositae: Heliantheae). Rhodora 74(No. 798): 1–70, 161–219.

Melampodium australe Loefl., Iter Hisp. : 268 (1758) = ***Acanthospermum australe*** (Loefl.) Kuntze
Melampodium berterianum Spreng., Syst. Veg. 3: 619 (1826) = ***Melampodium divaricatum*** (Rich. in Pers.) DC.
Melampodium bonairense Bold., Fl. Ned. W. Ind. Eil. : 393 (1913) = ***Baltimora geminata*** (Brandeg.) Stuessy
Melampodium copiosum Klatt., Bot. Jahrb. Syst. 8: 41 (1887) = ***Melampodium divaricatum*** (Rich. in Pers.) DC.

Melampodium divaricatum (Rich. in Pers.) DC., Prodr. 5: 520 (1836).

Dysodium divaricatum Rich. in Pers., Syn. Pl. 2: 489 (1807). Type: 'Hab. ad Gairam prope St. Martham, Continentis Amer. Rich.' Lectotype (selected by Stuessy, 1972: 175): [1785-89, L. C. M. Richard s.n.], P; isolectotype: P. Note: Available sources are at odds over the authorship of this name. Whilst the genus can most probably be ascribed to Richard, since his name is mentioned at the end of it, the same is not true of the single species it contained at its inception. The *Index Nominum Genericorum* database suggests, incorrectly, that Persoon is the author of both the genus and species.

Wedelia ovatifolia Willd., Enum. Suppl. : 61 (1814), nom. nud. Cited merely as '♁. D.' this does not constitute valid publication. Note: Stuessy (1972: 175) seemed to believe it was validly published citing 'Holotype, ?B; isotypes, W!; photograph of W isotype, OS! TEX!; photograph of probable G-DC isotype, IDC 800.928: I.4!.'

Alcina ovatifolia (Willd.) Jacq.f., Eclog. Pl. 1: 115, t. 78 (1815).

Wedelia minor Hornem., Enum. Hort. Hafn. 2: 855 (1815). Type: 'Hab. – – ♁. D. intr. 1812. ex hort. ber. sub hoc nomin.' Lectotype (selected by Stuessy, 1972: 175): C; isolectotypes: 2 × 2.

Alcina ovalifolia Lag., Gen. Sp. Nov. : 32 (1816). Type: '*Alc. ovalifolia*. Elench. H. R. M. 1805. Hab. in N. H. ♁ Semina communicavit D. Sessé.' Holotype: MA; isotype: G.

Melampodium paludosum Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 215 (1818). Type: 'Crescit in humidis prope ostia fluminis Sinu, juxta litora Darienis. ♁? Floret Martio.' [Humboldt & Bonpland mss. n. 1421. in humidis prope ostia fluminis Sinu. Mart. 1801]. Holotype: P-Bonpl.; isotype: P.

Melampodium ovatifolium Rchb., Icon. Bot. Exot. : 30, t. 42 (1824), nom. illegit. superfl. based on *Dysodium divaricatum*

Melampodium berterianum Spreng., Syst. Veg. 3: 619 (1826). Type: 'Ind. occ. Bertero.' Holotype: P; ?isotypes: G-DC, GH (10052 – proposed as an isotype by Stuessy, 1968).

Alcina minor Cass., Dict. Sci. Nat. 59: 243 (1829). Type/s: 'Nous avons fait cette description sur des individus vivans cultivés au Jardin du Roi, où cette plante est étiquetée *Dysodium radiatum*, avec 'indication qu'elle est annuelle et indigène au Mexique.' Holotype: ?P.

Dysodium radiatum Hort. ex Desf., Cat. Hort. Paris. ed. 3: 182 (1829), nom. nud. pro syn.

Melampodium pumilum Benth., Pl. Hartweg. : 64 (1840). Type: apparently a *Graham* specimen. Holotype (as noted by Stuessy (1972): '*Graham 5*', K; isotype: GH (10076). Note: The 'description' of *M. pumilum* followed that of *M. montanum* (based on a *Hartweg* collection) after the sentence '*Eandem speciem communicavit cl. Graham cum sequente nova:- ...*'. This raises doubts as to the validity of this name, and indeed the authority if the name is accepted as it could be construed that it is all referable to *Melampodium montanum* Benth. It has clearly been interpreted differently by Stuessy.

Melampodium tenellum Hook. & Arn., var. *flaccidum* Benth., Bot. Voy. Sulphur : 115 (1845). Type: 'Tepic.' Lectotype (selected by Stuessy, 1972: 176): 'MEXICO: Nayarit, Tepic, 1844, A. Sinclair s.n.', K; isolectotype: K.

Melampodium divaricatum (Rich. in Pers.) DC. var. *macranthum* Schlecht., Linnaea 24: 198 (1851). Type: 'Semina legit D. Warscewicz in Guatemala.' Holotype: HAL; isotype: W.

Melampodium flaccidum (Benth.) Benth. in Oersted, Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn. 1852(5-7): 86 (1852)[1853].

Melampodium copiosum Klatt., Bot. Jahrb. Syst. 8: 41 (1887). Type: 'Guatemala; in agris humidis et umbrosis po. Coban, Alta vera Paz, alt. 1300 m ([*Lehmann*] n. 1434). - Febr. 1882.' Holotype: GH (10059); isotypes: F (576247), G × 2, K, US (1404525).

Melampodium panamense Klatt, Bot. Jahrb. Syst. 8: 42 (1887). Type: 'Panama; ad margines silvarum ([*Lehmann*] n. 69). - Aug. 1880.' Holotype: GH (10072); isotypes G, K, US (1404531).

Spilanthes guatemalensis Vatk. ex J. D. Smith, Enum. Pl. Guat. 1: 23 (1889), nom. nud. pro syn.

Melampodium rhombifolium Sessé & Moc., Pl. Nova-Hisp., ed. 2 : 138 (1894), nom. illegit. non Sessé & Moc. (1890), nec Sessé & Moc. (1894). Type: 'Habitat in Sancti Augustini hortis. Floret Septembri. ■' Holotype: MA; isotype: F (851297).

Eleutheranthera divaricata (Rich. in Pers.) Millsp., Field Colomb. Mus. Publ. Bot. 1: 53 (1895).

Very widespread and weedy, sometimes cultivated. Belize, Bolivia (Bení, La Paz), Brazil, Colombia, Costa Rica, Cuba, El Salvador, Guatemala, Honduras, Mexico, Myanmar, Nicaragua, Panama, Puerto Rico, Virgin Islands.

Usually in disturbed areas, near cultivation.

15-3000 m.

Flowering throughout the year.

Melampodium divaricatum (Rich. in Pers.) DC. var. *macranthum* Schlecht., Linnaea 24: 198 (1851) =

Melampodium divaricatum (Rich. in Pers.) DC.

Melampodium flaccidum (Benth.) Benth. in Oersted, Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn. 1852(5-7): 86 (1852)[1853] = **Melampodium divaricatum** (Rich. in Pers.) DC.

Melampodium geminatum Brandeg., Zoe 5: 223 (1905) = **Baltimora geminata** (Brandeg.) Stuessy

Melampodium ovatifolium Rchb., Icon. Bot. Exot. : 30, t. 42 (1824), nom. illegit. superfl. = **Melampodium divaricatum** (Rich. in Pers.) DC.

Melampodium paludosum Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 215 (1818) = **Melampodium divaricatum** (Rich. in Pers.) DC.

Melampodium panamense Klatt, Bot. Jahrb. Syst. 8: 42 (1887) = **Melampodium divaricatum** (Rich. in Pers.) DC.

Melampodium pumilum Benth., Pl. Hartweg. : 64 (1840) = **Melampodium divaricatum** (Rich. in Pers.) DC.

Melampodium rhombifolium Sessé & Moc., Fl. Mexic., ed. 2 : 195 (1894), nom. illegit. non Sessé & Moc. (1890), nec Sessé & Moc. (1894) = **Melampodium divaricatum** (Rich. in Pers.) DC.

Melampodium ruderale Sw., Fl. Ind. Occ. 3: 1372 (1806) = **Eleutheranthera ruderale** (Sw.) Sch.Bip.

Melampodium tenellum Hook. & Arn. var. *flaccidum* Benth., Bot. Voy. Sulphur : 115 (1845) = **Melampodium divaricatum** (Rich. in Pers.) DC.

Melananthera Michx., Fl. Bor. Amer. 2: 106 (1803), orth var. = **Melanthera** Rohr

Melananthera deltoidea Michx., Fl. Bor. Amer. 2: 107 (1803), nom. illegit. = **Melanthera nivea** (L.) Small

Melananthera hastata (Walter) Michx., Fl. Bor. Amer. 2: 107 (1803) = **Melanthera nivea** (L.) Small

Melanthera Rohr, Skr. Naturhist.-Selsk. 2(1): 213 (1792).

Amellus P. Browne, Civ. Nat. Hist. Jamaica : 317 (1756), nom. rej., non *Amellus* L. Type: *Santolina amellus* L. = **Melanthera nivea** (L.) J. K. Small

Melananthera Michx., Fl. Bor. Amer. 2: 106 (1803), orth var. Note: Michaux's name, whilst being technically correct and provided with a full Latin description, is taken as an orthographic variant of Rohr's.

Lipotriche R.Br., *Observ. Campos* : 118 (1817). Type: *Lipotriche brownei* DC. = *Melanthera scandens* (Schumach. & Thonn.) Roberty
Wollastonia DC. ex Decne, *Nouv. Ann. Mus. Paris* 3: 414 (1834). Lectotype (selected by Fosberg, 1980: 32):
Wollastonia scabriuscula DC. ex Decne, nom. illegit. = *Melanthera biflora* (L.) Wild
Psathurochaeta DC., *Prodr.* 5: 609 (1836). Type: *Psathurochaeta dregei* DC. = *Melanthera scandens* (Schumach. & Thonn.) Roberty ssp. *dregei* (DC.) Wild
Aphanopappus Endl., *Gen. Pl. Suppl.* 2: 43 (1842), nom. illegit., citing *Schizophyllum* Nutt. in synonymy.
Wuerschmittia Sch.Bip. ex Walp., *Repert.* 6: 161 (1846). Type: *Wuerschmittia abyssinica* Sch.Bip. ex Walp. =
Melanthera abyssinica (Sch.Bip. ex Walp.) Vatke
Echinocephalum Gardner, *London J. Bot.* 7: 294 (1848). Lectotype (selected by Wagner & Robinson, 2001: 550):
Echinocephalum angustifolium Gardner = ***Melanthera latifolia*** (Gardner) Cabrera, non *M. angustifolia* A. Rich.

Type: No original species cited. Neotype (designated by Cassini, in *J. Phys. Chim. Hist. Nat. Arts* 87: 27, 1818, vide Nicolson in *Taxon* 30: 491–492, 1981): ***Melanthera nivea*** (L.) Small

References

Parks, J. C. (1975). A revision of North American and Caribbean *Melanthera* (Compositae). *Rhodora* 75(No. 802): 169–210.

Robinson, H. (2006). *Melanthera*. In: G. Harling & L. Andersson (eds), *Flora of Ecuador*, No. 77(2): 190(6). Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 5–10.

Wagner, W. L. & H. Robinson. (2001). *Lipochaeta* and *Melanthera* (Asteraceae: Heliantheae subtribe Ecliptinae): establishing their natural limits and a synopsis. *Brittonia* 53(4): 539–561.

Key to species

| | |
|--|---------------------|
| Ray limbs yellow; ray florets neuter; annual herb | <i>M. latifolia</i> |
| Ray limbs white; ray florets fertile; perennial from woody swollen rootstock | <i>M. nivea</i> |

Melanthera amethystina O. E. Schulz in Urban, *Symb. Antill.* 7: 127 (1911) = ***Melanthera nivea*** (L.) Small

Melanthera aspera (Jacq.) Small, *Bull. Torrey Bot. Club* 36: 164 (1909) = ***Melanthera nivea*** (L.) Small

Melanthera aspera (Jacq.) Rendle in Fawcett & Rendle, *Fl. Jam.* 7: 232 (1936), comb. illegit., superfl. =
Melanthera nivea (L.) Small

Melanthera brevifolia O. E. Schulz in Urban, *Symb. Antill.* 7: 123 (1911) = ***Melanthera nivea*** (L.) Small

Melanthera buchii Urban, *Symb. Antill.* 3: 411 (1903) = ***Melanthera nivea*** (L.) Small

Melanthera calcicola Britton, *Bot. Porto Rico* 6(2): 309 (1925) = ***Melanthera nivea*** (L.) Small

Melanthera canescens (Kuntze) O. E. Schulz in Urban, *Symb. Antill.* 7: 116 (1911) = ***Melanthera nivea*** (L.) Small

Melanthera carpenteri Small, *Fl. S. E. U. S.*: 1251, 1340 (1903) = ***Melanthera nivea*** (L.) Small

Melanthera confusa Britton, *Bot. Porto Rico* 6(2): 309 (1925) = ***Melanthera nivea*** (L.) Small

Melanthera corymbosa Spreng., *Neue Entd.* 2: 135 (1821) = ***Melanthera nivea*** (L.) Small

Melanthera crenata O. E. Schulz in Urban, *Symb. Antill.* 7: 123 (1911) = ***Melanthera nivea*** (L.) Small

Melanthera deltoidea Michx., *Fl. Bor. Amer.* 2: 107 (1803), nom. illegit. = ***Melanthera nivea*** (L.) Small

Melanthera hastata (Walter) L. C. Rich. ssp. *cubensis* (O. E. Schulz) Borhidi, *Bot. Közlem.* 58(3): 177 (1971) =
Melanthera nivea (L.) Small

Melanthera hastata (Walter) L. C. Rich. var. β *cubensis* O. E. Schulz in Urban, *Symb. Antill.* 7: 125 (1911) =
Melanthera nivea (L.) Small

Melanthera hastata (Walter) L. C. Rich. ssp. *lobata* (Pursh) Borhidi, *Bot. Közlem.* 58(3): 177 (1971) = ***Melanthera nivea*** (L.) Small

Melanthera [sub *Melanthera*] *hastata* (Walter) Michx. var. α *lobata* Pursh, *Fl. Amer. Sept.* 2: 519 (1814) =
Melanthera nivea (L.) Small

Melanthera hastata (Walter) Michx. var. γ *lobata* (Pursh) O. E. Schulz in Urban, *Symb. Antill.* 7: 125 (1911) =
Melanthera nivea (L.) Small

Melanthera [sub *Melanthera*] *hastata* (Walter) Michx. var. β *pandurata* Pursh, *Fl. Amer. Sept.* 2: 519 (1814) =
Melanthera nivea (L.) Small

Melanthera latifolia (Gardner) Cabrera, Darwiniana 16: 411 (1970).

Echinocephalum latifolium Gardner, London J. Bot. 7: 294 (1848). Types: 'HAB. In cane-fields near Crato, Province of Ceará, Oct., 1838 ([Gardner] 1728); and in similar situations near Arrayas, Province of Goyaz, March, 1840 ([Gardner] 3848). Lectotype (selected by Wagner & Robinson, 2001: 557): Gardner 1728, BM; isolectotypes: K × 2 (photo US), NY × 2, US (frag.). Syntype (Gardner 3848): K, NY × 2.

Echinocephalum lanceolatum Gardner, London J. Bot. 7: 295 (1848). Type: 'HAB. Near Aracaty, Province of Ceará. Aug., 1838.' [Gardner] 1729. Cited by Wagner & Robinson (2001: 557) as 'Holotype: BM-n.v.; isotypes: K-n.v. (photo US), US (frag.).'

Echinocephalum angustifolium Gardner, London J. Bot. 7: 295 (1848). Type: 'HAB. Near Sapê, Province of Goyaz. Feb., 1840.' [Gardner] 3848 (bis). Cited by Wagner & Robinson (2001: 557) as 'Holotype: BM-n.v.; isotypes: K-n.v. (photo US), US (frag.).'

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay.

Melanthera linnaei Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 156 (1818) = **Melanthera nivea** (L.) Small

Melanthera lobata Small, Fl. S. E. U. S.: 1251, 1340 (1903) = **Melanthera nivea** (L.) Small

Melanthera molliuscula O. E. Schulz in Urban, Symb. Antill. 7: 127 (1911) = **Melanthera nivea** (L.) Small

Melanthera montana O. E. Schulz in Urban, Symb. Antill. 7: 121 (1911) = **Melanthera nivea** (L.) Small

Melanthera nivea (L.) Small, Fl. S. E. U. S. : 1251 (1903).

Bidens nivea L., Sp. Pl. : 833 (1753). Type: 'Habitat in Carolina.' Lectotype (selected by Parks, 1973: 184): [icon] 'Bidens scabra flore niveo, folio trilobato' in Dillenius, Hort. Eltham. 1: 55, t. 47, f. 55 (1732). See also discussion in Jarvis (2007: 350).

Athanasia hastata Walter, Fl. Carol. : 201 (1788). Type: not cited.

Calea aspera Jacq., Collect. 2: 290 (1788). Type: 'America meridionalis patria est. Apud nos in caldariis laete viget, florens totam aestatem,' Holotype: BM (according to Parks, 1975: 192, repeated by Wagner & Robinson, 2001: 557).

Melanthera hastata (Walter) Michx., Fl. Bor. Amer. 2: 107 (1803). Note: although citing *Bidens nivea* L. in synonymy, under ICBN Art. 33.2 it is considered, albeit indirectly, that the name appearing in *Flora Boreali-Americana* is actually a combination based on Walter's name.

Melanthera deltoidea Michx., Fl. Bor. Amer. 2: 107 (1803), nom. illegit., citing *Calea aspera* Jacq. in synon.

Melanthera [sub *Melanthera*] *hastata* (Walter) Michx. var. α *lobata* Pursh, Fl. Amer. Sept. 2: 519 (1814). Type: 'Icon. Dill. elth. t. 47. f. 55.'

Melanthera [sub *Melanthera*] *hastata* (Walter) Michx. var. β *pandurata* Pursh, Fl. Amer. Sept. 2: 519 (1814). Type: 'Icon. Dill. elth. t. 46. f. 54.'

Melanthera linnaei Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 156 (1818). Types: [Colombia:] 'Crescit in calidis Regni Novo-Granatensis, ad ripam fluminis Juanambu, prope El Tablon, alt. 760 hex.; item in convalli fluvii Magdalenæ prope Guarumo et in litore lacus Tacariguæ, alt. 100 – 400 hex. (Provincia Caracasana.) ♣ Floret Junio – Augusto.' Syntypes: P-Bonpl.

Melanthera corymbosa Spreng., Neue Entd. 2: 135 (1821). Types: 'Ex Antiquae et Guadalupae insulis.'

Melanthera urticifolia [as *urticaefolia*] Cass., Dict. Sci. Nat. 29: 484 (1823), nom. illegit. superfl.

Melanthera panduriformis Cass., Dict. Sci. Nat. 29: 485 (1823). Type: 'Cette plante, que nous n'avons point vu, et que nous avons décrits d'après Dillen; a été observée par ce botaniste sur des individus vivans, provenant de graines envoyées de la Caroline, et cultivée en Angleterre, où ils fleurissoient en octobre.' Note: this is based on Dillenius' cultivated material grown at Eltham and is doubtless one of the elements upon which Linneus based his *Bidens nivea*.

Melanthera trilobata Cass., Dict. Sci. Nat. 29: 485 (1823). Type: 'Dillen, dont nous empruntons la description, faite sur des individus vivans, cultivée en Angleterre et provenant de graines envoyées de la Caroline, remarque que cette espèce fleurit un mois plus tard que le précédente, et qu'elle paroît être plus sensible au froid.' Note: this is based on Dillenius' cultivated material grown at Eltham and is doubtless one of the elements upon which Linneus based his *Bidens nivea*.

Melanthera oxylepis DC., Prodr. 5: 545 (1836). Type: '■ ad Guyaquil legit cl. Haenke. ... (v. s. in h. Haenk.).' Holotype: PR; isotype: G-DC.

Elaphantopus cuneifolius Fourn., Bull. Soc. Bot. France 30: 186 (1883). Type: 'Vulgaris. Cordoba, Aug. [(Vera Cruz) 1882, Kerber, 44]' Holotype: ?B or CORD; isotype: GOET, K. Note: Material was distributed as part of the first half-century of plants, 'Plantae mexicanæ a cl. Edm. Kerbero collectæ', and was widely

- distributed with large sets of Kerber's plants in B, BM, CORD, K, etc., etc. The collection number is only the distribution number in the half-century. It is possible that the top set was in B (where he worked on his material), although now destroyed, or in CORD.
- Wullfia deltoidea* (Michx.) Gómez [de la Maza], *Dicc. Bot. Nom. Vulg. Cub. & Puerto-Riquiños*: 26 (1889).
- Wullfia hastata* (Walter) Gómez [de la Maza], *Anales Soc. Esp. Hist. Nat.* 19: 274 (1890).
- Amellus asper* [sic!] (Jacq.) Kuntze [var.] α *normalis* Kuntze, *Revis. Gen. Pl.* 1: 305 (1891).
- Amellus asper* [sic!] (Jacq.) Kuntze [var.] β *glabriusculus* Kuntze, *Revis. Gen. Pl.* 1: 306 (1891). Type: 'Colon.' Wetter & Zanoni (1985: 326) cited 'PANAMA. Colón, 4 Apr 1874, Kuntze 1834.' Holotype: NY (00158168); isotype: K. Parks (1975: 194) lectotypified the name, somewhat unnecessarily, presumably based on the same material but not citing the number of the collection.
- Amellus asper* [sic!](Jacq.) Kuntze [var.] γ *canescens* Kuntze, *Revis. Gen. Pl.* 1: 305 (1891). Types: 'PORTORICO: Cayey; St. Thomas.' Note: Wetter & Zanoni (1985: 326) cited only 'VIRGIN ISLANDS. St. Thomas, 28 Feb 1874, Kuntze 117.' as present in NY (00115489).
- Amellus asper* [sic!](Jacq.) Kuntze [var.] γ *canescens* Kuntze f. *bicolor* Kuntze, *Revis. Gen. Pl.* 1: 305 (1891). Type: 'Portorico: Guayama.' Holotype: NY (00115490). Note: Wetter & Zanoni (1985: 326) cited 'PUERTO RICO. Guayama, 16 Mar 1874, Kuntze 575.'
- Amellus nivea* (L.) Kuntze, *Revis. Gen. Pl.* 1: 305 (1891).
- Melanthera buchii* Urban, *Symb. Antill.* 3: 411 (1903). Type: 'Hab. in Haiti in regione calcarea sicca ad Bilboro, 700 m. alt., m. Majo flor.: *Buch* n. 364.' Holotype: ?
- Melanthera carpenteri* Small, *Fl. S. E. U. S.*: 1251, 1340 (1903). Type: 'In pine thickets, Louisiana. Summer.' p. 1340 'Felicia, La., Carpenter, July, in Herb. C. U.' Holotype: NY (00215043); isotype: NO (this isotype is not listed by the Tulane University Herbarium!).
- Melanthera lobata* Small, *Fl. S. E. U. S.*: 1251, 1340 (1903). Type: 'About lakes and ponds, peninsular Florida. Summer.' p. 1340 'Nash, *Pl. Cent. Penins. Fla.*, no. 1141, in Herb. C. U.' Holotype: NY (00215045); isotypes: GH (10086), K, MICH, ?MO, UC, US (00228280).
- Melanthera aspera* (Jacq.) Small, *Bull. Torrey Bot. Club* 36: 164 (1909).
- Melanthera canescens* (Kuntze) O. E. Schulz in Urban, *Symb. Antill.* 7: 116 (1911).
- Melanthera montana* O. E. Schulz in Urban, *Symb. Antill.* 7: 121 (1911). Type: 'Hab. in Portorico prope Bayamon in sylvis montanis m. Mart. fr. : *Sintenis* n. 1145, ex parte'. Holotype: ?
- Melanthera brevifolia* O. E. Schulz in Urban, *Symb. Antill.* 7: 123 (1911). Types: 'Hab. in Indian Key: comm. *Cabanis*, Elliot's Key in arenosis maritimis m. Apr. fl.: *Curtiss* n. 1415, Marquesas Keys m. Mart. fl. et fr.: O. E. Lansing n. 2179, Key West: *Blodgett ex Torrey and Gray*; Cuba: *Drummond ex Griseb.*, *Wright* n. 3609 ex Sauv., Ramon de la Sagra, prope Mantanzas: *F. Rugel* n. 24, ad Ganado, Cayo Sabinal, Camaguey m. Mart. fl. et fr.: *J. A. Shafer* n. 856. - Mexico prope Matanzos: *Wawra* n. 74.' Lectotype (selected by Parks, 1975: 194): 'Florida: Monroe Co., Elliot's Key in arenosis maritimis, *Curtiss* 1415', US; isolectotypes: MISSA, ?NY, PA. Syntype (*Blodgett*, s.n.): NY (00126603). Syntype (*Wawra* 74): B†
- Melanthera crenata* O. E. Schulz in Urban, *Symb. Antill.* 7: 123 (1911). Types: 'Hab. in ins. Bahamens.: *Swainson ex Griseb.*, New Providence prope Nassau: *ex Hitchc.*, ibidem m. Jan. fl. et fr.: *J. I. et A. R. Northrop* n. 58, Eleuthera et Fortune Isl.: *ex Hitchc.*, Hog Isl. in fruticetis m. Febr. fl. et fl.: *Eggers* n. 4047.' Lectotype (selected by Parks, 1975: 194): 'Bahamas, New Providence, *J. & A. Northrop* 58', NY (00126609); isolectotype: K. Iso-syntype (*Rugel* 24): K.
- Melanthera hastata* (Walter) L. C. Rich. var. β *cubensis* O. E. Schulz in Urban, *Symb. Antill.* 7: 125 (1911). Types: 'Hab. in Cuba: *Wright* n. 3608, prope Habana: *Ramon de la Sagra* n. 69, *Torrallas* n. 205, ibidem ad Seiba: *Morales et Bosque* n. 216, prov. Habana prope Vento in ripis humidis m. Jan. fl. et fr.: *A. H. Curtiss* n. 597, prope Santiago de las Vegas n. Apr. fl. et fr.: *Baker Herb. Cub.* n. 4983, prov. Sta. Clara in distr. Cienfuegos prope Sta. Rosalia ad Rio Damuji in fertilibus arenosis m. Aug. fl. et fr.: *R. Combs* n. 385; Portorico prope Bayamon m. Jan. fl. et fr.: *Millsbaugh Pl. Utow.* n. 314.' Lectotype (selected by Parks, 1975: 192): 'Cuba: prope Habana, *Wright* 3608', NY (00126611); isolectotypes: NY (00126610), US.
- Melanthera hastata* (Walter) Michx. var. γ *lobata* (Pursh) O. E. Schulz in Urban, *Symb. Antill.* 7: 125 (1911).
- Melanthera amethystina* O. E. Schulz in Urban, *Symb. Antill.* 7: 127 (1911). Types: 'Hab. in Sto. Domingo m. Aug. fl.: *Mayerhoff*, in graminosis montis Cerro Gordo ad Tamboril 500 m. alt. m. Maj. fl.: *Eggers* n. 1951, prope Constanza in pinetis 1190 m. alt. m. Apr. fl. et fr.: *H. von Türckheim* n. 3199b'. Lectotype (selected by Parks, 1975: 192, under *M. aspera* var. *aspera* 'c.f. *M. molliuscula*): 'Santo Domingo, *Turckheim* 3199b', NY.
- Melanthera molliuscula* O. E. Schulz in Urban, *Symb. Antill.* 7: 127 (1911). Types: 'Hab. in Haiti: hb. Kunth ex mus. Par. 1820; Sto. Domingo: *Schomburgk* n. 24 I, prope Constanza in pinetis 1190 m. alt. m. Jun. fl. et fr.:

H. von Türckheim n. 3199.' Lectotype (selected by Parks, 1975: 192): Santo Domingo, *Turckheim* 3199', ?NY; isolectotype: K. Syntype (*Schomburgk* 24): K.

Melanthera oxycarpa S. F. Blake, Contr. U. S. Natl. Herb. 22: 628 (1924). Type: 'Type in the U. S. National Herbarium, no. 841743, collected in fields at Zacuapan, Veracruz, Mexico, May, 1907, by C. A. Purpus (no. 2437).' Holotype: US (841743); isotypes: F (343960), MO (1903934), ?UC.

Melanthera calcicola Britton, Bot. Porto Rico 6(2): 309 (1925). Type: 'Thicket, limestone hill east of Vega Alta, Porto Rico (*Britton and Brown*, 6784).' Holotype: NY (00126604).

Melanthera confusa Britton, Bot. Porto Rico 6(2): 309 (1925). Type: 'Hillsides and thickets at lower elevations, Porto Rico, Culebra; Tortola: - Cuba. Type from Zion Hill, Tortola (*Fishlock*, 440)'. Holotype: NY (00126605).

Melanthera aspera (Jacq.) Rendle in Fawcett & Rendle, Fl. Jam. 7: 232 (1936), comb. illegit., superfl.

Melanthera hastata (Walter) L. C. Rich. ssp. *lobata* (Pursh) Borhidi, Bot. Közlem. 58(3): 177 (1971).

Melanthera hastata (Walter) L. C. Rich. ssp. *cubensis* (O. E. Schulz) Borhidi, Bot. Közlem. 58(3): 177 (1971).

Bahamas, Bolivia (Santa Cruz), Colombia, Cuba, Ecuador, Greater and Lesser Antilles, Guatemala, Mexico, Panama, Peru, USA (Florida), Venezuela.

Amazon forest in terra firma forest, roadsides, fields, scrub.

0-800 m.

Note: The record for Bolivia is based on *Guttiérrez* 535 from the Parque Nacional Noel Kempff Mercado, determined by H. Robinson. Wagner & Robinson (2001) recorded the species only from northern South America, the Antilles and the USA, although their species concept was extremely broad encompassing *M. aspera* (Jacq.) Small which was recognized as a separate species (with two varieties) by Parks (1975). The synonymy above combines the Parks' two subspecies and his synonymy of *M. nivea*. Pursh's references to *Melanthera hastata* suggest that L. C. Richard was the combining author. However, since Michaux was the declared author of the whole work then it is Michaux who should be credited with the combinations and new taxa within it. There is an interesting discussion in TL II after the entry for *Flora Boreali-Americana*.

Melanthera oxycarpa S. F. Blake, Contr. U. S. Natl. Herb. 22: 628 (1924) = **Melanthera nivea** (L.) Small

Melanthera oxylepis DC., Prodr. 5: 545 (1836) = **Melanthera nivea** (L.) Small

Melanthera panduriformis Cass., Dict. Sci. Nat. 29: 485 (1823) = **Melanthera nivea** (L.) Small

Melanthera trilobata Cass., Dict. Sci. Nat. 29: 485 (1823) = **Melanthera nivea** (L.) Small

Melanthera urticifolia Cass., Dict. Sci. Nat. 29: 484 (1823), nom. illegit. superfl. = **Melanthera nivea** (L.) Small

Mendezia DC., Prodr. 5: 532 (1836) = **Zinnia** L.

Menotriche Steetz in Peters, Naturw. Reise Mossambique, Bot. : 472 (1864) = **Wedelia** Jacq.

Meratia Cass., Dict. Sci. Nat. 30: 65 (1824), nom. illegit. non Loisel. (1818) [Calycanthaceae], nom. rej. = **Delilia** Spreng.

Meratia sprengelii Cass., Dict. Sci. Nat. 30: 66 (1824), nom. illegit. superfl., based on *D. berteri* Spreng. = **Delilia biflora** (L.) Kuntze

Merope Wedd., Chloris Andina 1: 160 (1856), p.p. nom. illegit., non *Merope* M.J.Roemer (1846) [RUTACEAE] = **Belloa** Remy

Merope aretioides (Sch.Bip.) Wedd., Chloris Andina 1: 164 (1856) = **Mniodes aretioides** (Sch.Bip.) Cuatrec.

Merope argentea Wedd., Chloris Andina 1: 163 (1856) = **Belloa schultzii** (Wedd.) Cabrera

Merope caespititia Wedd., Chloris Andina 1: 164 (1856) = **Belloa schultzii** (Wedd.) Cabrera

Merope erythraetis Wedd., Chloris Andina 1: 162 (1856) = **Gamochaeta erythraetis** (Wedd.) Cabrera

Merope kunthiana (DC.) Wedd., Chloris Andina 1: 161 (1856) = **Belloa kunthiana** (DC.) Anderb. & S. E. Freire

Merope piptolepis Wedd., Chloris Andina 1: 162 (1856) = **Belloa piptolepis** (Wedd.) Cabrera

Merope schultzii Wedd., Chloris Andina 1: 163 (1856) = **Belloa schultzii** (Wedd.) Cabrera

Merope virescens Wedd., Chloris Andina 1: 163 (1856) = **Belloa schultzii** (Wedd.) Cabrera

Mesanthophora H. Rob., Novon 2(2): 172 (1992) = **Vernonia** Schreb.

Mesanthophora rojasii (Cabrera) H. Rob., Smithsonian Contr. Bot. 89: 76 (1999) = **Vernonia rojasii** Cabrera

Mesoligus Raf., Fl. Tellur. 2: 44 (1836)[1837] = **Symphotrichum** Nees

Metabasis DC., Prodr. 7: 97 (1838) = **Hypochaeris** L.

Meyera Schreb., Gen. : 570 (1791), non Adans. (1763) = **Enydra** Lour.

Meyera fluctuans (Lour.) Spreng., Syst. Veg., ed. 16, 3: 602 (1826) = **Enydra fluctuans** Lour.

Meyera guineensis Spreng., Syst. Veg. 2: 602 (1826), nom. illegit. = **Enydra fluctuans** Lour.

Meyera maritima Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 211 (1818) = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera

Meyeria DC., Prodr. 5: 670 (1836) = **Calea** L.

Meyeria capitata (G. Mey.) Spreng., Syst. Veg., ed. 16, 3: 601 (1826) = **Tilesia baccata** (L.) Pruski

Micrelium Forssk., Fl. Aegypt.-Arab. : 152 (1775) = **Eclipta** L.

Micrelium tolak Forssk., Fl. Aegypt. Arab. : 152 (1775) = **Eclipta prostrata** (L.) L.

Microchaete Benth., Pl. Hartweg.: 209 (1845), nom. rejic. non Thuret ex Bornet & Flahault (1886), nom. cons. = **Monticalia** C. Jeffrey

Microcoecia Hook., Trans. Linn. Soc. London 20: 209 (1847) = **Delilia** Spreng.

Microdonta Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 369 (1841) = **Heterosperma** Cav.

Microdonta nana Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 370 (1841) = **Heterosperma nanum** (Nutt.) Sherff

Microliabum Cabrera subgen. *Austroliabum* (H. Rob. & Brettell) H. Rob., Syst. Bot. 15(4): 743 (1990) = **Microliaabum** Cabrera

Microliaabum Cabrera, Bol. Soc. Argent. Bot. 5(4): 211 (1955), nom. nov. pro *Liabellum* Cabrera

Liabellum Cabrera, Notas Mus. Eva Peron, Bot. 17: 76 (1954), nom. illegit., non *Liabellum* Rydb. (1927).

Angelianthus H. Rob. & Brettell, Phytologia 28(1): 76 (1974), nom. nov. pro *Liabellum* Cabrera, nom. illegit. superfl.

Austroliabum H. Rob. & Brettell, Phytologia 28(1): 48 (1974). Type: *Liabum candidum* Griseb. = *Microliaabum candidum* (Griseb.) H. Rob.

Microliaabum Cabrera subgen. *Austroliabum* (H. Rob. & Brettell) H. Rob., Syst. Bot. 15(4): 743 (1990).

Type: *Microliaabum humile* (Cabrera) Cabrera

References

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Robinson, H. (1983). A generic review of the tribe Liabeae (Asteraceae). Smithsonian Contrib. Bot. 54: 1–69.

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Key to species (based on Robinson, 1990)

Inner pappus setae distinctly broadened, \pm as wide as outer setae; plants 0.3–0.5 m tall

M. mulgediifolium

Inner pappus setae \pm capillary, slightly flattened, narrower than outer setae; plants 0.6–1 m tall

M. polymnioides

Microliabum mulgediifolium (Muschl.) H. Rob., Syst. Bot. 15(4): 744 (1990).

Liabum mulgediifolium Muschl., Bot. Jahrb. Syst. 50(2/3) Beibl. 111: 85 (1913). Type: 'Bolivia: Camacho (FIEBRIG n. 2870).' Holotype: B†; isotypes: K, US (01616631 – two leaves and fragments of a capitulum only, although source unspecified on sheet). Lectotype (selected by Robinson, 1990: 743): K; isolectotype: US.

Austroliabum mulgediifolium (Muschl.) H. Rob. & Brettell, Phytologia 28(1): 49 (1974).

Bolivia (Tarija).

April.

Microliabum polymnioides (R. E. Fr.) H. Rob., Syst. Bot. 15(4): 744 (1990).

Liabum polymnioides R. E. Fr., Arkiv Bot. 5(13): 24 (1906). Type: 'Argentina prov. Jujuy: Quinta, in nemore Citri raro [2/6 01; FR. 74].' Holotype: S (S-R-3243); isotype: UPS. Note: Robinson (1990) merely listed the UPS specimen as 'type', not assigning it as holotype or isotype.

Austroliabum polymnioides (R. E. Fr.) H. Rob. & Brettell, Phytologia 28(1): 49 (1974).

Argentina, Bolivia (La Paz, Santa Cruz, Tarija).

Woodland margins.

May–October.

Mieria La Llave in La Llave & Lex., Nov. Veg. Descr., fasc. 2: 12 (1825) = **Schkuhria** Roth

Mieria virgata La Llave & Lex., Nov. Veg. Descr., fasc. 2: 9 (1825) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Mikania Willd., Sp. Pl. ed. 4, 3(3): 1742 (1803), nom. cons.

Carelia Juss. ex Cav., Anales Ci. Nat. 6: 317 (1802)[1803], non *Carelia* Ponted. ex Fabr. (1759) (= **Ageratum** L.), nec Less. (1832) (= *Radlkoferotoma* Kuntze). Type: *Carelia saturejifolia* Cav. = **Mikania parviflora** (Aubl.) Karsten

Corynanthelium Kunze, Linnaea 20: 19 (1847). Type: *Corynanthelium moronoa* Kunze = *Mikania glomerata* Spreng.

Morrenia Kunze, Linnaea 20: 19 (1847), nom. nud. pro syn.

Kanimia Gardner, London J. Bot. 6: 446 (1847). Type: *Mikania strobilifera* Gardner = *Mikania oblongifolia* DC.

Willoughbya Neck. ex Kuntze, Revis. Gen. Pl. 1: 371 (1891). Type: *Eupatorium scandens* L. = *Mikania scandens* (L.) Willd.

Type: *Eupatorium scandens* L., typ. cons. = *Mikania scandens* (L.) Willd.

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King, R. M. & H. Robinson (1974). Studies in the Eupatorieae (Asteraceae). CXXIII. Additions to the genus *Mikania*. *Phytologia* 28(3): 272–281.

Robinson, B. L. (1922). The mikanias of northern and western South America. *Contr. Gray Herb.* 64: 21–116.

Robinson, H. & W. C. Holmes. (2008). *Mikania*. In: G. Harling & C. Persson (eds), *Flora of Ecuador*, No. 83: 190(3). Compositae-Eupatorieae. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 206–294.

Mikania acrensis B. L. Rob., *Contr. Gray Herb.* 104: 31 (1934) = ***Mikania lindleyana*** DC.

Mikania almagroi Cuatrec., *Anales Ci. Univ. Madrid* 4(2): 233 (1935) = ***Mikania banisteriae*** DC.

Mikania amara Bertero ex DC., *Prodr.* 5: 199 (1836), nom. nud., non Willd. (1803) (= ***Mikania parviflora*** (Aubl.) H. Karst.) = ***Mikania cordifolia*** (L.f.) Willd.

Mikania amara (Aubl.) Willd., *Sp. Pl.* 3: 1477 (1803) = ***Mikania parviflora*** (Aubl.) Karst.

Mikania amara (Aubl.) Willd., var. β *guaco* (Humb. & Bonpl.) Baker in Mart., *Fl. Bras.* 6(2)

Mikania antioquiensis Hieron., *Bot. Jahrb. Syst.* 28(5): 580 (1901) = ***Mikania banisteriae*** DC.

Mikania antioquiensis Hieron. var. *subcuneata* B. L. Rob., *Contr. Gray Herb.* 104: 32 (1934) = ***Mikania banisteriae*** DC.

Mikania anzoatiguensis V. M. Badillo, *Bol. Soc. Venez. Ci. Nat.* 10(No. 68): 301 (1946) = ***Mikania vitifolia*** DC.

Mikania apiifolia DC., *Prodr.* 5: 202 (1836) = ***Mikania ternata*** (Vell.) B. L. Rob.

Mikania aquaria B. L. Rob., *Contr. Gray Herb.* 73: 21 (1924). Type: 'Peru: a liana with succulent hollow and water-filled stems, growing on the montaña along open stream, alt. about 610 m., Aug. 10-24, 1923, J. F.

Macbride, no. 5242'. Holotype: F (536265 – sheet 1, 536266 – sheet 2); isotypes: F (259940, 259941), GH (10243), K.

Bolivia (La Paz), Peru.

Riversides, forest.

0–1000 m.

August.

Mikania archidonensis Cuatrec., *Anales Ci. Univ. Madrid* 4(2): 234 [p. 31 in separately paginated reprint] (1935) = ***Mikania guaco*** Humb. & Bonpl.

Mikania argyrostigma Miq., *Linnaea* 17: 69 (1843) = ***Mikania guaco*** Humb. & Bonpl.

Mikania aspera Miq., *Linnaea* 17: 68 (1843) = ***Mikania guaco*** Humb. & Bonpl.

Mikania atriplicifolia Sch.Bip. ex Miq., *Stirp. Surinam. Select.* : 189 (1851) = ***Mikania congesta*** DC.

Mikania attenuata DC., *Prodr.*, 5: 195 (1836) = ***Mikania speciosa*** DC.

Mikania auricularis Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19([1]): 170 (1874) = ***Mikania periplocifolia*** Hook. & Arn.

****Mikania baccharoidea*** Rusby, *Bull. New York Bot. Gard.* 8(No. 28): 127 (1912). Type: [Bolivia:] 'Climbing over bushes, Cargadira, 8000 ft., July 30, 1902' ([R.S. Williams] No. 1604). Holotype: NY (00215131); isotypes: K, US (01131997).

Bolivia (La Paz).

Scrub.

2500 m.

July.

Mikania badieri DC., *Prodr.* 5: 194 (1836) = ***Mikania hookeriana*** DC.

Mikania badieri DC. var. β *kittsiana* Urb., *Symb. Antill.* 5(2): 220 (May 1907) = ***Mikania hookeriana*** DC.

Mikania banisteriae DC., *Prodr.* 5: 193 (1836). Type: '■? in Brasiliâ? ... (v.s. ex coll. cl. Poeppig.)'. [Poeppig 135] Holotype: G-DC; isotype: B†, F (881475).

Mikania caudata Benth., *Pl. Hartweg.* : 201 (1845). Type: 'In sylvis prope Guacluas, prov. Bogota.' [A climber in the woods near the village of Guaduas in the province of Bogota. *Hartweg* 1112]. Holotype: K (ex herb. Benthonianum); isotypes: GH (fragment of holotype), K (ex herb. Hookerianum) – simply labelled '1112'

- with 'Columbia/Hartweg' written on the sheet. Note: the printed version of the name (Guacluas) differs from that on the holotype label, and in reality, Guaduas.
- Mikania ruiziana* Poepp., Nov. Gen. Sp. 3: 53 (1845). Type: 'Crescit in Peruviae subandinae sylvis lucifioribus versus Cuchero. Novembre florebat. [Poeppig 1473? or 1475]' Holotype: W; ?isotype (as Poeppig 1475): NY (00230570).
- Mikania pilosa* Baker in Mart., Fl. Bras. 6(2): 234 (1876). Types: 'Habitat prov. Minas Geraës in campis et sylvis prope Caldas: Regnell III. n. 722, Lindberg n. 40; ad Lagoa Santa: Warming; prov. Mato Grosso ad Cuiabá: Manso.' Note: In K there are duplicates of the Regnell and the Warming collections, the latter numbered '273' on a handwritten label. The Manso collection is in BR. Robinson & Holmes (2008: 216) simply cited 'syntypes BM, syntype US'; the US syntype (US- 01400870) is a duplicate of the Regnell collection.
- Mikania gabrieli* Baker in Mart., Fl. Bras. 6(2): 235 (1876). Type: 'Habitat prov. do Alto Amazonas, in „Capoeira” ad S. Gabriel da Cachoeira: Spruce n. 2203.' Holotype: K; isotype: BM, NY (00564031).
- Willoughbya banisteriae* (DC.) Kuntze, Revis. Gen. Pl. 1: 371 (1891).
- Willoughbya gabrieli* (Baker) Kuntze, Revis. Gen. Pl. 1: 372 (1891).
- Mikania ruiziana* Poepp. var. *lehmanniana* Hieron., Bot. Jahrb. Syst. 19(1): 45 (1895). Type: 'Colombia: crescit in fruticetis prope Dolores, prov. Tolima, alt. s. m. 1000–1800 m ([Lehmann] n. 7483). – Floret mense Martio.' Holotype: B†; isotypes: F (550860), K, NY (00230571).
- Willoughbya ferruginea* Rusby, Mem. Torrey Bot. Club 6(1): 58 (1896). Types: [Bolivia:] 'Between Guanai and Tipuani, Apr.–June, 1892 ([Bang] 1419). The same as Jameson's 5095.' Syntypes: ?. Isosyntypes: Bang 1419, F (163762), NY (00278061 – considered in NY as the 'holotype', 00278062), Z × 2 (000003665, 000003666). Note: Robinson & Holmes (2008: 216) cited 'holotype NY, isotype US' based on the Bang collection, which is clearly incorrect, although this could be considered as a lectotypification.
- Mikania ferruginea* (Rusby) Buchtien, Contr. Fl. Bolivia pt. 1: 190 (1910). Note: B. L. Robinson (1922) did not consider this a valid combination, but it is allowed under the current Code (2006).
- Mikania antioquiensis* Hieron., Bot. Jahrb. Syst. 28(5): 580 (1901). Types: 'Columbia: crescit in silvis densis camporum sábanas dictorum prope Santo Domingo, Cancan et Amalfi, alt. s. m. 1500–2000 m, mense Septembri florens (L.[EHMANN] n. XCVII. 19 Sept. 1884); prope Amalfi, mense Septembri florens (L.[EHMANN] n. 7971).' Isosyntype (Lehmann 97), GH (10240), US (1402656).
- **Mikania ferruginea* (Rusby) Rusby ex B. L. Rob., Contr. Gray Herb. 64: 101 (1922), comb. superfl.
- Mikania antioquiensis* Hieron. var. *subcuneata* B. L. Rob., Contr. Gray Herb. 104: 32 (1934). Type: 'PERU: "vine, climbing tangle, in open," sandy soil along trail from Iquitos to San Juan, alt. 105 m., flowers white, Feb. 7, 1932, Mrs. Ynes Mexia, no. 6492'. Holotype: GH (10241); isotype: US (1664516).
- **Mikania ferruginea* (Rusby) Rusby ex B. L. Rob. var. *subglabra* B. L. Rob., Contr. Gray Herb. 104: 36 (1934). Type: 'BOLIVIA: Mapiro Region at San Carlos, alt. 850 m., May 24, 1927, Buchtien, no. 1576.' Holotype: GH (10305); isotype: NY (00215194), US (01399154).
- Mikania almagroi* Cuatrec., Anales Ci. Univ. Madrid 4(2): 233 (1935). Type: 'Ecuador: San José, jun. 1865, leg. Juan Isern (núm. 368).' Holotype: MA.
- Mikania skutchii* S. F. Blake, Brittonia 2(4): 333 (1937). Type: 'COSTA RICA: In forest, vicinity of El General, Prov. San José, altitude 1130 m., Jan. 1936, Skutch 2514'. Holotype: US (1,642,451).
- Mikania canaguensis* V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 9(No. 58): 132 (1944). Type: [Venezuela:] 'Montañas de los alrededores de Canaguá, 1600 m. Edo. Mérida, 8 de Noviembre de 1943, (V. M. Badillo No. 562; tipo en el Herbario Nacional de Venezuela).' Holotype: VEN.
- Mikania molinensis* V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10(No. 68): 296 (1946). Type: [Venezuela:] 'Edo. Mérida: bosques cerca de El Molino, entre Canaguá y Sta. Cruz de Mora, 1500 m., noviembre 16 de 1943 (V. M. Badillo 610)'. Holotype: VEN.
- Mikania oniaensis* V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10(No. 68): 297 (1946). Type: [Venezuela:] 'Edo. Mérida: bosques a lo largo del río Onia, cerca de Bolero, al Norte de Mesa Bolívar, 545–915 m., mayo de 1944 (Steyermark 56736)'. Holotype: VEN; isotype: F (1357657).
- Mikania kavanayensis* V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10(No. 68): 300 (1946). Type: [Venezuela:] 'Edo. Bolívar: Gran Sabana, entre la Misión de Sta. Teresita de Kavanayen y el Río Karuai, 1200 m., octubre 26 de 1944 (J. Steyermark 59374)'. Holotype: VEN; isotype: F (1390425).
- Mikania ptaretepuensis* V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10(No. 68): 302 (1946). Type: [Venezuela:] 'Edo. Bolívar: cerro Petare-tepui, 2410–2450 m., noviembre 7 de 1944, (J. Steyermark 59936)'. Holotype: VEN; isotype: F (1390427).

Mikania charua Griseb., Abh. Königl. Ges. Wis. Göttingen 24: 174 (1879); Symb. Fl. Argent.: 174 (1879) = **Ophryosporus charua** (Griseb.) Hieron.

Mikania cinnamomifolia* Lingelsh., Repert. Spec. Nov. Regni Veg. 7: 251 (1909) = **Mikania dioscoreoides (Rusby) B. L. Rob.

Mikania cissampelina DC., Prodr. 5: 195 (1836) = **Mikania micrantha** Kunth

Mikania cocaensis Gardner, London J. Bot. 5: 487 (1846) = **Mikania cordifolia** (L.f.) Willd.

***Mikania cochabambana** B. L. Rob., Contr. Gray Herb. 90: 33 (1930). Type: 'BOLIVIA. – Dept. Cochabamba: Prov. Chapare: borders of woodland, Quebrada de Corani, alt. 1800 m., June 22, 1929, *Steinbach*, no. 9878'. Holotype: GH (see following note); isotypes: GH, S. Note: There are two specimens in GH (10280, 10281) both marked as types.

Bolivia (Cochabamba).

Woodland margins.

1800 m.

June.

***Mikania comarapensis** B. L. Rob., Contr. Gray Herb. 90: 34 (1930). Type: 'BOLIVIA: Department of Santa Cruz: Yungas de San Mateo, Comparapa, alt. 2800 m., 25 Oct. 1925, *José Steinbach*, no. 8545'. Holotype: GH (10282); isotypes: K, S.

Bolivia (Santa Cruz).

2800 m.

October.

Mikania congesta DC., Prodr. 5: 197 (1836). Type: ' . in Porto-Ricco legit cl. *Bertero*. *M. scandens* ex Proto-Ricco Spreng.! syst. 3. p. 421 in h. Balb. ips. teste, sed excl. syn. ... (v.s. comm. à cl. Balbis.)'. Holotype: G-DC.

Mikania sieberiana DC., Prodr. 5: 196 (1836). Type: ' . in insulâ Trinitatis. *Eupatorium Sieb!* fl. trin. exs. n. 225. ... (v.s. ex coll. Sieb.)' Holotype: G-DC.

Mikania parkeriana DC., Prodr. 5: 199 (1836). Type: ' . in Guianâ circa Demerari legit cl. *Parker*. ... (v.s. comm. à cl. Parker.)'. Holotype: G-DC.

Mikania variabilis Gardner, London J. Bot. 5: 486 (1846), nom. illegit. non Meyen & Walp. (1843)(= **Mikania micrantha** Kunth). Types: 'HAB. Piassabisu, Province of Alagoas ([*Gardner*] n. 1344), and between Ico and Crato, Province of Cear ([*Gardner*] n. 1725), Brazil. Fl. April to Sept.' Holmes (1993: 20) noted, referring only to *Gardner* 1344, 'HOLOTYPE: K' failing to account for the other syntype; this was later repeated (Robinson & Homes, 2008: 224).

Mikania atriplicifolia Sch.Bip. ex Miq., Stirp. Surinam. Select. : 189 (1851). Type: [Surinam:] 'In sylva prope Vredenburgerkreek m. Octobri legit cl. FOCKE.' Holmes (1993: 20) cited 'HOLOTYPE: BREM?', but later (Robinson & Homes, 2008: 224) changed this to 'holotype U'.

Mikania scandens (L.) Willd. var. δ *congesta* (DC.) Baker in Mart., Fl. Bras. 6(2): 249 (1876).

Willoughbya scandens (L.) Kuntze var. *congesta* (DC.) Kuntze, Revis. Gen. Pl. 3(3): 184 (1898).

**Mikania micrantha* Kunth f. *congesta* (DC.) B. L. Rob., Contr. Gray Herb. 64: 43 (1922). Note: Holmes (1993: 20) attributed this forma to *M. scandens*, whereas Robinson had clearly assigned it to *M. micrantha*.

Puerto Rico, Lesser Antilles, N South America to Peru, Bolivia (?), Brazil.

Riversides, seasonally flooded areas, swamps.

0–500 m.

April–September.

Mikania consanguinea Gardner, London J. Bot. 6: 448 (1847) = **Mikania psilostachya** DC.

Mikania convolvulacea DC., Prodr. 5: 199 (1836) = **Mikania cordifolia** (L.f.) Willd.

Mikania convolvulacea DC. var. β *portoricensis* DC., Prodr. 5: 199 (1836) = **Mikania cordifolia** (L.f.) Willd.

***Mikania cordifolia** (L.f.) Willd., Sp. Pl. 3(1): 1746 (1804).

Cacalia cordifolia L.f., Suppl. : 351 (1781). Type: 'Habitat in America meridionali. D. *Mutis*. ■' Holotype: Herb. LINN 976.5. Note: King & Robinson (1975: 970) considered this was *Mutis* 1818, a duplicate of which is apparently in US. Robinson & Holmes (2008: 225) noted that the material in US was a lectotype fragment.

Eupatorium crenatum Gomes, Mem. Acad. Ci. Lisboa 3, Mem. Corresp.: 23 (1812). [Note: as listed in BPH the title of this publication, for this volume, should be 'Mam. Math. Phis. Acad. Real. Sci. Lisboa'.] Type:

- [Original publication not seen.] Cited by Robinson & Holmes (2008: 225) as 'Brazil, Rio de Janeiro, ca 1800, GOMES s.n. (holotype LISU).'
- Mikania mollis* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4(ed. folio): 105 (1818). Type: 'Crescit in temperatis Regni Peruviani, in ripa fluminis Guancabambæ, alt. 1027 hex. § Floret Julio.' [B: 'n. 3532. Guancabamba'] Holotype: P-Bonpl.
- Mikania suaveolens* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4(ed. folio): 106 (1818). Type: [Colombia:] 'Crescit in umbrosis, humidis prope Guarumo. (Regno Novo-Granatensi.) ■ Floret Majo.' [B: 'mss. n. 1669. Mariquita']. Holotype: B-Bonpl; isotype: B-W.
- Mikania loxensis* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4(ed. folio): 106 (1818). Type: [Colombia:] 'Crescit locis temperatis Regni Novo-Granatensis inter Alto de Pulla et urbem Loxa, alt. 1100 hex. ■ Floret Julio.'
- Mikania rubiginosa* Smith in Rees, Cycl. 23. Mikania N. 12.(1819). Type: 'Native of South America? Of this we have seen but an imperfect specimen in the Linnaean herbarium, on which there is no mark to indicate its native country.' The relevant sheet in LINN is 976.5 which is simply annotated 'Cacalia [quadriflora – which is crossed out] varit. fol. integerrim./ Eupator [which is crossed out]'. The sheet is also the type of *Cacalia cordifolia* L.f.
- Mikania opifera* Mart. in Spix & Mart., Reise Bras.1: 279 (1823). Type: not cited. Note: The protologue to this name appeared in a list of medicinal plants titled 'Anmerkungen zum zweiten Kapitel. Folgende Pflanzen sind ihres Gebrauches wegen in der Capitanie von S. Paul allegemein bekannt:' Holotype: M.
- Mikania poeppigii* Spreng., Syst. Veg., ed. 16, 3: 422 (1826). Type: 'Cuba. (M. denticulata Pöppig.)'. Holotype: P; isotype: W.
- Cacalia cordata* Vell., Fl. Flum.: 334 (1825)[1929]; Fl. Flum. Icones 8: tab. 53 (1831). Type: 'Habitat fruticetis maritimis. Floret Apr. May.' Holotype unknown.
- Cacalia angulata* Vell., Fl. Flum. : 365 (1825)[1829]; Fl. Flum. Icones 8: tab. 55 (1831). Type: 'Habitat silvis maritimis ad loca aquosa. Floret Apr.' Holotype unknown.
- Cacalia pilosa* Vell., Fl. Flum. : 338 (1825)[1829]; Fl. Flum. Icones 8: tab. 61 (1831). Type: 'Habitat maritimis. Floret May.' Holotype unknown.
- Cacalia triangularis* Vell., Fl. Flum. : 338 (1825)[1829]; Fl. Flum. Icones 8: tab. 62 (1831). Type: 'Habitat maritimis. Floret May.' Holotype unknown.
- Mikania carnulosa* DC., Prodr. 5: 197 (1836). Type: '■ in Brasiliae montibus Macahe prope Rio-Janeiro mense julio flor legit cl. Lund. ... (v.s. comm. à cl. inv.)'. Holotype: G-DC. Note: The material in G-DC is numbered and is probably Lund 403, but may well be 463 – the zero is poorly written.
- Mikania gonoclada* DC., Prodr. 5: 199 (1836). Types: '■ in Cubâ juxta Havanam in sylvis humidis legit cl. R. de la Sagra et in Mexico circa Tampico de Tamaulipas cl. Berlandier. ... (v.s. comm. à cl. inv.)'. Note: Since there are four numbered *de la Sagra* collections in G-DC, 75, 199, 424 and 619, under *Mikania gonoclada*, but the *Berlandier* collection, 137, appears only under var. β *ambigua* DC., the proposed type selection by King & Robinson (1975: 970) – *Berlandier* 137 – and again by Holmes (1993: 22) is in error. If the previous authors' selection is considered a lectotypification then this can only be of the varietal name, not that of the species.
- Mikania gonoclada* DC. var. β *ambigua* DC., Prodr. 5: 199 (1836). Types: '• in Mexico ad Tampico de Tamaulipas (Berl.! [137]), in Brasiliâ circa Bahiam (Salzm. [25]! Blanch.! [1551]) ... (v. s.)'. Syntypes: G-DC. Isosyntypes: Salzmann 25, K \times 2. Note: see above for confusion with regards typification of the species.
- Mikania convolvulacea* DC., Prodr. 5: 199 (1836). Type: '■ in Santo Domingo legit cl. Poiteau. ... (v.s.)'. Holotype: G-DC.
- Mikania convolvulacea* DC. var. β *portoricensis* DC., Prodr. 5: 199 (1836). Type: '■ in Porto-Ricco legit cl. Bertero. M. amara Bert.! herb. non Willd. M. cordifolia Spreng. ! in h. Balb. syst. 3. p. 423. excl. syn. ... (v.s.)'. Holotype: G-DC.
- Mikania amara* Bertero ex DC., Prodr. 5: 199 (1836), nom. nud. pro syn., non Willd. (1803) (= **Mikania parviflora** (Aubl.) H. Karst.)
- Mikania fimbriata* Gardner, London J. Bot. 4: 119 (1845). Type: 'HAB. Open bushy places on the Organ Mountains, at an elevation of about 4000 feet. Fl. March.' [Gardner] 5780.
- Mikania cocaensis* [as 'cordiformes [sic!] (*Cocaënsis*)'] Gardner, London J. Bot. 5: 487 (1846). Type: 'HAB. Near Cocaes, Province of Minas Geraes, Brazil. Fl. in August.' [Gardner] 4887. [NB. This is in error as typographically 'Cordiformes' was intended to indicate the 'Section' of *Mikania* and '*Cocaënsis*' the specific epithet.

Mikania thunbergiifolia [as *thunbergiaefolia*] Gardner, London J. Bot. 6: 448 (1847). Type: [Brazil:] 'HAB. Bushy places, near Villa de Arrayas, Province of Goyaz. April, 1840.' [*Gardner*] 4230.

Mikania surinamensis Miq., Stirp. Surinam. Select. : 188 (1851). Type: [Surinam:] 'Prope plantationem La Rencontre m. Aprili legit. cl. FOCKE.' Holotype: U.

Mikania hostmanii Miq., Stirp. Surinam. Select. : 189 (1851). Type: [Surinam:] 'Specimen mancum in Herb. HOSTM. sub n. 717 inveni.' Holotype (according to Holmes, 1993: 22): K; isotype: BM.

Mikania biformis Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 254 (1876), nom. nud. pro syn., non DC.

Mikania scandens (L.) Willd. var. η *rhodotricha* Baker in Mart., Fl. Bras. 6(2): 250 (1876). Types: [Brazil:] 'Prov. Rio de Janeiro: *Gardner* n. 60, *Tweedie*.' Holmes (1993: 22) indicated that the 'holotype' was the *Gardner* collection. Since Holmes had determined two *Gardner* duplicates in K a full lectotypification is still necessary here, rather than regarding Holmes earlier attempt as lectotypification. Lectotype (selected here): *Gardner* 60 (ex herb. Hookerianum); isolectotypes: BM, K (ex herb. Benthamianum), NY (00796869), P. The *Tweedie* syntype is also at K.

Mikania fendleri Klatt, Abh. Naturf. Ges. Halle 15: 324 (1882) [p. 4 in separately paginated pre-print in K].

Type: 'Hab: Chagres, Isthmus of Panama, leg. *Fendler* No. 151.' Holotype: P; isotypes: GH, K \times 2.

Willoughbya cordifolia (L.f.) Kuntze, Revis. Gen. Pl. 1: 372 (1891).

Mikania vellosiana Barb. Rodr., Hort. Flum. : 276 (1894), nom. illegit. (citing *Cacalia pilosa* Vell.)

Willugbaeya halei Small, Fl. S. E. U. S.: 1170. Type: 'In low grounds, Louisiana.' p. 1338: 'Type, La. *Hale*, no. 342, in Herb. C. U.' . Holotype: NY (00278033). Note: 'C. U.' = 'Columbia University' now in NY

Mikania yapasensis B. L. Rob., Contr. Gray Herb. 104: 48 (1934). Type: 'PERU: Dept. Junín: Pichis Trail, Yapas, alt. 1350-1600 m., June 28-29, 1929, *Killip & Smith*, no. 25,493'. Holotype: GH (10511).

Mikania huitzensis Standley & Steyer., Publ. Field Mus. Nat. Hist. Bot. Ser. 23: 260 (1947). Type: 'Guatemala: Dept. Huehuetenango: Sierra de los Cuchumatanes, Cerro Huitz, between Munanhuitz ans Yulhuitz, alt. 1,500-2,500 meters, July 14, 1942, *Julian A. Steyermark* 48662'. Holotype: F (1148161).

Bolivia (La Paz, Santa Cruz, Tarija). S E United States, Mexico, Central America, West Indies, South America (Ecuador).

Riversides, forest margins, 'Bolivian Pantanal seasonally flooded palm-pampa'.

0-2600 m.

November-June.

Note: Robinson & Holmes (2008: 225) added four names in *Cacalia* from Vellozo's *Flora Fluminensis*.

Unfortunately, all four citations were given incorrect page numbers; the pagination given above is correct, together with the numbers of the tabulae in the *Icones* volume (q.v. Vellozo, 1831).

Vernacular names: CORAÇÃO, ERVA-DE-CABRA, ERVA-DE-SAPO, GUACO (Cabrera & Klein, 1991); ERVA DE COBRA, ERVA DE SAPO, GUACO, MATACAMPO, POMPERO-KOCHO (Freire et al., 2006); GUÁKO, MATACAMPO, POMBEO KOCHÖ, YSYPO KATÍ (Holmes & McDaniel, 1996).

Mikania cornifolia G. Don ex Baker in Mart., Fl. Bras. 6(2): 237 (1876), nom. nud. pro syn. = ***Mikania parviflora*** (Aubl.) H. Karst.

Mikania cryptodonta B. L. Rob., Contr. Gray Herb. 73: 22 (1924) = ***Mikania vitifolia*** DC.

Mikania cumingii Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on *Mandon* 264 and *Cuming* 102) = ***Ophryosporus cumingii*** Benth. ex Baker

Mikania cuneata Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud. = ***Mikania guaco*** Humb. & Bonpl.

****Mikania decora*** Poepp., Nov. Gen. Sp. Pl. 3: 53 (1845). Type: [Peru:] 'Crescit in sylvis ad Cuchero. Florebat Januario.' Note: There is a possible isotype in F (881488), one in GH (10289), and B† - *Poeppig* 1654.

Willoughbya bangii Rusby, Mem. Torrey Bot. Club 3(3): 53 (1891). Type: 'Yungas, 1890 ([*Bang*] 639 a). =

Matthew[s], Peru, 1737, and *Lechler* 2315, fide Britton.' Isosyntypes (*Matthews* 1717): K \times 2. Isosyntype (*Bang* 639 a): US (01402657 - marked as isotype).

Mikania tarapotensis B. L. Rob., Contr. Gray Herb. 61: 21 (1920). Type: 'PERU: in the mountains along the River Mayo near Tarapoto, July-Aug., 1850, *R. Spruce*, no. 4822'. Holotype: GH (10489); isotype: F (fragment of holotype).

Mikania decora Poepp. var. *heteroneura* B. L. Rob., Contr. Gray Herb. 73: 23 (1923). Type: 'PERU: liana wit hgreenish flowers and pinkish pappus, Villacabamba, Hacienda on Rio Chinchao, alt. about 610 m., July 17-26, 1923, *J. F. Macbride* no. 5167'. Holotype: F (536210); isotypes: F (259969), GH (10476), US. Note: The GH material is apparently *Macbride* 5163.

Bolivia (La Paz), Ecuador, Peru.

Wet evergreen forest, river banks, montane rainforest.
0–3000 m.
July–August.

Mikania decora Poepp. var. *heteroneura* B. L. Rob., Contr. Gray Herb. 73: 23 (1923) = **Mikania decora** Poepp.
Mikania dentata Spreng., Syst. Veg. Fl. Peruv. Chil. 3: 422 (1826), sensu auctt., non *M. dentata* G. M. Barroso
(1959), nom. illegit. = **Mikania ternata** (Vell.) B. L. Rob.

***Mikania desmocephala** B. L. Rob., Contr. Gray Herb. 64: 7 (1922). Type: 'BOLIVIA: "near Yungas" [i.e. within or near the boundaries of the province so called], alt. 1220 m., *Rusby*, no. 1740'. Robinson merely quoted 'N.Y., photo. and fragm. Gr.' Whilst not specifying the holotype, for practicality it is taken that the material in NY is the holotype (NY 00215186), that in GH (10290) the isotype (fragment of holotype). Note: quotation in square brackets is from Robinson (1922: 8).

Mikania desmocephala B. L. Rob. var. *peruviana* B. L. Rob., Contr. Gray Herb. 77: 50 (1926). Type: 'PERU: Dept. Junin: on sunny brush, La Merced, Hacienda Schunke, alt. 1220 m., Aug. 27–Sept. 1, 1923. *J. Francis Macbride*, no. 5776'. Holotype: F (536806); isotypes: GH (10291), K.
Bolivia (La Paz), Peru.

***Mikania dictyota** B. L. Rob., Contr. Gray Herb. 68: 37 (1923). Type: 'BOLIVIA: Unduavi, Nor Yungas, in the Andean region, 3200 m., alt., *Dr. Otto Buchtien*, no. 4762'. Syntypes: GH (10293, 10294), US (1157921).
Bolivia (La Paz).
3200 m.

***Mikania dioscoreoides** (Rusby) B. L. Rob., Contr. Gray Herb. 64: 97 (1922).

Willoughbya dioscoreoides Rusby, Mem. Torrey Bot. Club 6(1): 58 (1896). Type: [Bolivia:] 'Vic. Cochabamba, 1891 ([*Bang*] 1256)'. Holotype: NY (00278039); isotypes: F (163688), K, NY (00278038), US (01418288).

**Mikania cinnamomifolia* Lingelsh., Repert. Spec. Nov. Regni Veg. 7: 251 (1909). Types: 'Bolivien: San Carlos bei Mapiri, Wälder, 750 m (*Buchtien*, no. 1398!, 1508!)'. Isosytype (*Buchtien* 1398): US (01157923 – but marked as isotype by B. L. Robinson!). Isosytype: *Buchtien* 1508, Z (000003663).
Bolivia (Cochabamba, La Paz).
750 m.

Mikania divaricata Poepp., Nov. Gen. Sp. Pl. 3: 53 (1845) = **Mikania parviflora** (Aubl.) H. Karst.

***Mikania eucosma** B. L. Rob., Contr. Gray Herb. 64: 9 (1922). Type: 'Bolivia: Yungas, alt. 1830 m., *Rusby*, no. 1736'. Syntypes: NY (00215192, 00215193), GH (fragment), i.e. no 'type' specified as in other new taxa of Robinson. Duplicate also in US (01418280).
Bolivia (La Paz).
1830 m.

Mikania fendleri Klatt, Abh. Naturf. Ges. Halle 15: 324 (1882) = **Mikania cordifolia** (L.f.) Willd.

Mikania ferruginea (Rusby) Buchtien, Contr. Fl. Bolivia pt. 1: 190 (1910) = **Mikania banisteriae** DC.

Mikania ferruginea* (Rusby) Rusby ex B. L. Rob., Contr. Gray Herb. 64: 101 (1922), comb. superfl. = **Mikania banisteriae DC.

Mikania ferruginea* (Rusby) Rusby ex B. L. Rob. var. *subglabra* B. L. Rob., Contr. Gray Herb. 104: 36 (1934) = **Mikania banisteriae DC.

***Mikania fiebrigii** Hieron., Bot. Jahrb. Syst. 40(3): 390 (1908). Type: 'Bolivia: habitat prope Pinos haud procul ab urbe Tarija et prope Chiquiaca, alt. s. m. 1000–2200 m (K. FIEBRICH [sic!] n. 3132; 11. m. Martii 1904)'. Holotype: B†; isotype: K, US (01157931). Note: it is quite clear this is a *Fiebrig* collection.

'*Mikania saltensis* Hieron. var. *stipulata* Hieron., Bot. Jahrb. Syst., 50, Beibl. 111: 77 (1913)' appears in Hieronymus' treatment of Weberbauer's collections and is simply linked to *M. fiebrigii* as a synonym; Hieronymus' varietal name is nom. nud.

Bolivia (Tarija).
1000–2200 m.
March.

Mikania fimbriata Gardner, London J. Bot. 4: 119 (1845) = **Mikania cordifolia** (L.f.) Willd.

***Mikania flaccida** B. L. Rob., Contr. Gray Herb. 64: 9 (1922). Type: BOLIVIA: Polo-Polo near Coroico, Prov. Nor-Yungas, alt. 1100 m., Oct. and Nov. 1912, *Dr Otto Buchtien*, no. 3951'. Holotype: NY (00215197); isotype: US (01399164).

Bolivia (La Paz).

1100 m.

October–November.

Mikania fockeana Miq., Linnaea 17: 68 (1843) = ***Mikania psilostachya** DC.

Mikania gabrieli Baker in Mart., Fl. Bras. 6(2): 235 (1876) = **Mikania banisteriae** DC.

Mikania glastifolia Mart. ex Baker in Mart., Fl. Bras. 6(2): 321 (1876), nom. nud. pro syn. = **Raulinoreitzia crenulata** (Spreng.) R. M. King & H. Rob.

Mikania glechomifolia Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 249 (1876), nom. nud. pro syn. = **Mikania micrantha** Kunth

Mikania gonoclada DC., Prodr. 5: 199 (1836) = **Mikania cordifolia** (L.f.) Willd.

Mikania gonoclada DC. var. β *ambigua* DC., Prodr. 5: 199 (1836) = **Mikania cordifolia** (L.f.) Willd.

Mikania gracilis Sch.Bip. ex Miq., Stirp. Surinam. Select. : 187 (1851) = **Mikania vitifolia** DC.

Mikania grandifolia Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 246 (1876), nom. nud. pro syn. = **Mikania vitifolia** DC.

***Mikania guaco** Humb. & Bonpl., Pl. Aequinoct. 2: 84 (1809). Type: 'Habitat in Nova Granada.' [*Humboldt & Bonpland* 1447] Holotype: P-Bonpl.

Mikania huaco Rieux ex Spreng., Syst. Veg., ed. 16, 3: 422 (1826), nom. nud.

Mikania aspera Miq., Linnaea 17: 68 (1843). Type: 'Crescit Surinami in sylvis prope flumen Commewyne sup. Septembri fructifera lecta.' [*Focke*]. Note: Robinson & Holmes (2008: 238) cited 'holotype U'.

Mikania argyrostigma Miq., Linnaea 17: 69 (1843). Type: 'Crescit Surinami inter frutices; fl. Martio.' [*Focke*]. Note: Robinson & Holmes (2008: 238) cited 'holotype U'.

Mikania brachiata Poepp., Nov. Gen. Sp. Pl. 3: 53 (1845). Type: 'Crescit in sylvis Peruviae orientalis circum Tocache. Florebat Augusto.' Holotype: W. Holmes (1990: 16) noted the type collection was *Poeppig* 2041, with a fragmentary isotype in F.

Mikania cuneata Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud. (based on *Lechler* 2477).

Mikania amara Willd. var. β *guaco* (Kunth) Baker in Mart., Fl. Bras. 6(2): 237 (1876).

Willoughbya guaco (Humb. & Bonpl.) Kuntze, Revis. Gen. Pl. 1: 372 (1891).

Mikania olivacea Klatt, Bull. Soc. Roy. Bot. Belgique 31: 195 (1892). Type: [Costa Rica:] 'Forêts de Buenos-Aires, janv. 1892, 2-300 m. (*Pitt.*[*ier*] no 4433).' Holotype: BR; isotype: GH (10182). Note: MATERIAL in GH suggests that the collection was *Pittier* 4933, the protologue representing a typographic error.

Mikania archidonensis Cuatrec., Anales Ci. Univ. Madrid 4(2): 234 [p. 31 in separately paginated reprint] (1935). Type: 'Ecuador: Archidona, apr.-mai 1865 (*Isern*] núm. 72).' Holotype: MA; isotype: F (843133).

Mikania napensis S. F. Blake, J. Wash. Acad. Sci. 28: 484 (1938). Type: 'ECUADOR: Vine, climbing small trees in forest border, frequent near Archidona, Cantón Napo, Prov. Napo-Pastaza, alt. 650 m, 19 Apr. 1935, *Ynes Mexia* 7259 (type no. 1,692,951, U.S. Nat. Herb.)'. Holotype: US (1692981); isotype: NY (2250441).

Mikania zonensis R. M. King & H. Rob., Phytologia 28(3): 275 (1974). Type: 'PANAMA: Canal Zone: Albrook; U. S. Army Tropic Test Center Site, April 1965, *Dwyer & Robyns* 115'. Holotype: MO; isotype: US (2572251). Note: Robinson & Holmes (2008: 239) added the following note after this synonyms citations: 'here typified by fertile part of mixed specimen.'; the specimen possesses two sterile stem portions without leaves.

Holmes (2000) noted on a det. slip that the leaves were of another species – '*Mikania leiostachya* Benth.?'.

Bolivia (La Paz, Santa Cruz), Brazil, Colombia, Costa Rica, Ecuador, Mexico, Panama, Praraguay, Peru, Surinam.

Rainforest, riverbanks, humid forest, hills.

0–2500 m.

Flowering throughout the year.

Mikania guatemalensis Stendl. & Steyerem., Publ. Field. Mus. Nat. Hist., Bot. Ser. 23: 105 (1944) = **Mikania houstoniana** (L.) B. L. Rob.

***Mikania haenkeana** DC., Prodr. 5: 196 (1836). Type: ‘– in montanis Peruanis Orinocensibus legit cl. *Haenke*. ... (v.s. in h. Henk. ab. ill. de Sternberg comm.)’. Holotype: PR; isotype: G-DC.

Willoughbya haenkeana (DC.) Kuntze, Revis. Gen. Pl. 1: 372 (1891).

Mikania pellucidivonia Hieron., Bot. Jahrb. Syst. 36: 474 (1905). Types: ‘Peruvia: crescit prope Tambillo (J.[*elski*] n. 600, 10. m. Aug. 1878; n. 642, 13. m. Aug. 1878).’

Mikania monzonensis Hieron., Bot. Jahrb. Syst. 40: 391 (1908). Type: ‘Peruvia: habitat prope Monzon, dep. Huanaco, prov. Huamalies, alt. s. m. 900–1000 m, in silvis raris fruticetisque (A. WEBERBAUER n. 3430; 23. m. Julii 1903).’ Holotype: B†.

Argentina, Bolivia (La Paz, Santa Cruz), ?Ecuador, Peru.

Forests, riversides.

500–2000 m.

July–August.

Mikania hexagona B. L. Rob., Proc. Amer. Acad. Arts 47: 196 (1911) = **Mikania microptera** DC.

Mikania hookeriana DC., Prodr. 5: 195 (1836). Type: ‘β.? in Guianâ. ... (v.s. in h. Lindl. à cl. Hooker comm.)’.

Note: There is one specimen in G-DC (fragments – one leaf and a small part of an inflorescence). Rather surprisingly Holmes (1990: 17) has equated this with *Schomburgk* 479 and cited the fragmentary specimen in G-DC as the holotype, with a duplicate in K. There are two duplicates of this *Schomburgk* collection in K, one ex herb. Benthamianum, the other ex herb. Hookerianum, and both are clearly marked *Schomburgk* 1837, the former on a script label, the other written on the sheet itself. This coincides with Schomburgk’s expeditions to ‘British Guiana’ and were probably collected in 1837 (rather than distributed then), one year after the publication of de Candolle’s *Prodromus* volume 5. It is also worth noting comments in Bentham’s first paper on Schomburgk’s plants (Ann. Nat. Hist. 2(8): 105–111. Oct. 1838) covering part of the Compositae.

Schomburgk 479 is mentioned alongside ‘*Mikania Hookeriana*. DC. Prod. 5. p. 195.’ (p. 109). Bentham enumerated Schomburgk’s Compositae collections following the volume five of the *Prodromus*. It is highly unlikely that Schomburgk material was used to describe this species. Type material may well exist in CGE. Robinson & Holmes (2008: 244) cited the holotype, by an unknown collector, as in K, with a fragment in G-DC.

Mikania badieri DC., Prodr. 5: 194 (1836). Type: ‘■ in Guadalupâ legit olim *Badier* [137]; an fortè etiam in Jamaicâ si Eupat. houstonis Swartz obs. p. 300 huc referendum. ... (v.s.)’. The *Badier* material is in G-DC.

**Mikania platyphylla* DC., Prodr. 5: 195 (1836). Type: ‘. in Peruviâ? ex coll. *Poeppig* [2184]. ... (v.s. comm. à cl. inv.)’. Holotype: G-DC.

Mikania imrayana Griseb., Fl. Brit. W. I. : 363 (1861). Type: ‘HAB. Dominica!, *Imr[ay]*’. Holotype: K; isotype/s: K × 2. Note: the material that is supposedly the holotype (ex Herb. Hookerianum) bears a label in part by Imray, but completed with the specific epithet by Grisebach. There are two potential isotypes in K, one clearly an *Imray* collection, numbered ‘111’ on the sheet itself, and a second sheet bears a label apparently written entirely by Grisebach, although purportedly also an *Imray* collection but without a number. There is a duplicate of *Imray* 52 in GOET.

Willoughbya imrayana (Griseb.) Kuntze, Revis. Gen. Pl. 1: 372 (1891).

Willoughbya platyphylla (DC.) Kuntze, Revis. Gen. Pl. 1: 372 (1891).

Mikania badieri DC. var. *β kittsiana* Urb., Symb. Antill. 5(2): 220 (May 1907). Type: ‘Hab. in St. Kitt’s in faucibus sylvaticis ad Belmont, m. Sept. – Oct. fl. et fr.: *Britton et Cowell* n. 385.’ Holotype: ?US (419943); isotypes: K, ?NY (00126671). Note: Holmes (1990: 17) indicated that the holotype was in US, but later Robinson & Holmes (2008: 244) cited the holotype as in NY and an isotype in US.

Mikania vitrea B. L. Rob., Contr. Gray Herb. 61: 22 (1920). Type: ‘VENEZUELA: Colonia Tovar in the State of Aragua, alt. 1983 m., *August Fendler*, no. 2349’. Holotype: GH (10508); isotypes: G, K, PH.

Mikania hylibates B. L. Rob., Cont. Gray Herb. 77: 52 (1926). Type: ‘COSTA RICA: large woody vine in wet forests; leaves thick; flowers white, El Muñeco, south of Navarro, Province of Carago, alt. about 1400 m., Feb 8, 9, 1924, *Paul C. Standley*, no. 33,848.’ Holotype: US (01226446); isotype: GH (fragment of holotype).

Mikania hookeriana DC. var. *badieri* (DC.) B. L. Rob., Contr. Gray Herb. 104: 52 (1934).

Mikania hookeriana DC. var. *kittsiana* (Urb.) B. L. Rob., Contr. Gray Herb. 104: 52 (1934).

Mikania hookeriana DC. var. *platyphylla* (DC.) B. L. Rob., Contr. Gray Herb. 104: 52 (1934).

Mikania hookeriana DC. var. *cardiophylla* B. L. Rob., Contr. Gray Herb. 104: 53 (1934). Type: ‘St. Vincents, Lesser Antilles, *H. H. & G. W. Smith*, no. 1890’. Holotype: GH (10214); isotype: K.

Mikania hookeriana DC. var. *crassicaulis* Steyererm., Fieldiana, Bot. 28(3): 658 (1953). Type: [Venezuela:] 'Type in herb. Chi. Nat. Hist. Mus., collected on Ptari-tepui, steep wooded slopes just below dry ridge and shrubby growth, southeast-facing slopes, state of Bolívar, alt. 1585-1600 m., November 10-11, 1944, Julian A. Steyermark 60015, "vine with thickened fleshy flowering axis; leaves coriaceous, deep green above, pale green below" '. Holotype: F (1388855).
Belize, Bolivia (Bení, ?La Paz), Brazil, Costa Rica, Dominica, Ecuador, Guadaloupe, Lesser Antilles, Mexico, Nicaragua, Panama, Peru, Trinidad, Venezuela.
Disturbed vegetation, secondary rain forest.
0–2000 m.
September–February.

Mikania hookeriana DC. var. *badierei* (DC.) B. L. Rob., Contr. Gray Herb. 104: 52 (1934) = **Mikania hookeriana** DC.

Mikania hookeriana DC. var. *cardiophylla* B. L. Rob., Contr. Gray Herb. 104: 53 (1934) = **Mikania hookeriana** DC.

Mikania hookeriana DC. var. *crassicaulis* Steyererm., Fieldiana, Bot. 28: 658 (1953) = **Mikania hookeriana** DC.

Mikania hookeriana DC. var. *kittsiana* (Urb.) B. L. Rob., Contr. Gray Herb. 104: 52 (1934) = **Mikania hookeriana** DC.

Mikania hookeriana DC. var. *platyphylla* (DC.) B. L. Rob., Contr. Gray Herb. 104: 52 (1934) = **Mikania hookeriana** DC.

Mikania hostmanii Miq., Stirp. Surinam. Select. : 189 (1851) = **Mikania cordifolia** (L.f.) Willd.

Mikania houstoniana (L.) B. L. Rob., Proc. Amer. Acad. Arts 42: 47 (1906).

Eupatorium houstonianum L., Sp. Pl.: 836 (1753). Type: [Mexico:] 'Habitat in Vera Cruce.' Lectotype (selected by King & Robinson in Woodson & Schery, 1975: 973): Herb. Clifford: 396, *Eupatorium* 6 (BM-000646954); isolectotype: MW).

Eupatorium fruticosum Mill., Gard. Dict., ed. 8: *Eupatorium* no. 6 (1768). Type: [Mexico:] 'The sixth sort grows naturally at La Vera Cruz in America, from whence the late Dr. Houston sent me the seeds.' Holotype: BM – see type of *Eupatorium houstonianum* L. cited above.

Mikania houstonis Willd., Sp. Pl. 3: 1742 (1803). Type: 'Habitat in Vera Cruce, Jamaica inter fruticeta. ■' Holotype: B-W (15085). Note: there are apparently two labels on this single sheet, one numbered 448, the other 1169, the former with 'Humboldt' written on it.

Willoughbya houstonis (L.) Kuntze, Revis. Gen. Pl. 1: 373 (1891).

Mikania guatemalensis Standl. & Steyererm., Publ. Field. Mus. Nat. Hist., Bot. Ser. 23: 105 (1944). Type: 'Guatemala: Dept. Izabal: Puerto Barrios, at sea level, February 25, 1905, C. C. Deam 40.' Holotype: F (200592).

Mikania sanjacintensis V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10(No. 68): 298 (1946). Type: [Venezuela:] 'Edo. Mérida: Montaña de San Jacinto, al norte del río Chama, 2195–2375 m., mayo 19 de 1944 (J. Steyermark 56665)'. Holotype: VEN; isotype: F (1388856). Note: King & Robinson (1987: 556) and Robinson & Homes (2008: 245) included this name within the synonymy of *M. hookeriana*, a different position to that held by Holmes (1990).

Bolivia (?), Colombia, ?Ecuador, Guatemala, Mexico, Venezuela.

Mikania houstonis Willd., Sp. Pl. 3: 1742 (1803) = **Mikania houstoniana** (L.) B. L. Rob.

Mikania huaco Rieux ex Spreng., Syst. Veg., ed. 16, 3: 422 (1826), nom. nud. = **Mikania guaco** Humb. & Bonpl.

Mikania huitzensis Standley & Steyererm., Publ. Field Mus. Nat. Hist. Bot. Ser. 23: 260 (1947) = **Mikania cordifolia** (L.f.) Willd.

Mikania hylibates B. L. Rob., Contr. Gray Herb. 77: 52 (1926) = **Mikania hookeriana** DC.

Mikania imrayana Griseb., Fl. Brit. W. I. : 363 (1861) = **Mikania hookeriana** DC.

Mikania karuaiensis V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 296 (1946) = **Mikania psilostachya** DC.

Mikania kavanayensis V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 300 (1946) = **Mikania banisteriae** DC.

***Mikania lanuginosa** DC., Prodr. 5: 201 (1836). Type: 'in brasiliae prov. Sancti-Pauli. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 425 miss.)'. Holotype: P; isotype: G-DC (fragments of a leaf and a portion of an inflorescence).

Willoughbya lanuginosa (DC.) Kuntze, Revis. Gen. Pl. 1: 372 (1891).

Bolivia (?), Brazil, Venezuela.

Vernacular names: CIPÓ-CABELUDO, MICÂNIA (Cabrera & Klein, 1991).

Mikania lechleri Sch.Bip., Bonplandia 4(5): 54 (1856), nom. nud. = **Mikania vitifolia** DC.

Mikania lechleri Sch.Bip. ex B. L. Rob., Contr. Gray Herb. 90: 35 (1930) = **Mikania vitifolia** DC.

***Mikania leucophylla** (Rusby) B. L. Rob., Proc. Amer. Acad. Arts 47: 196 (1911).

Willoughbya leucophylla Rusby, Bull. New York Bot. Gard. 4(14): 382 (1907). Type: [Bolivia:] '([Bang] No. 2241.)' Holotype: NY (00278065); isotypes: F (78045), K, NY (00278066), US (01401483), Z (000053953).

Bolivia (Cochabamba, La Paz).

Mikania lima Schltld. ex Mart., Flora 4, 2 Beibl.: 110 (1841) = **Mikania psilostachya** DC.

Mikania lindleyana DC., Prodr. 5: 195 (1836). Type: 'in Guianâ. ... (v. s. in h. Lindl. à cl. Hooker comm.)'.

Holotype: ?CGE; isotype: G-DC (fragments).

Willoughbya lindleyana (DC.) Kuntze, Revis. Gen. Pl. 1: 372 (1891).

Mikania pastazae B. L. Rob., Contr. Gray Herb. 73: 29 (1924). Type: 'ECUADOR: Province Tungurahua; Valley of Pastaza River between Baños and Cashurco, 8 hours east of Baños, alt. 1300-1800 m., Sept. 25, 1923, Prof. A. S. Hitchcock, no. 21,875'. Holotype: GH (10420); isotype: US (01195715).

Mikania acrensis B. L. Rob., Contr. Gray Herb. 104: 31 (1934). Type: 'Brazil: Seringal San Francisco on the Rio Acre, June 1911, E. Ule, no. 9883 (TYPE, in herb. Royal Gardens, Kew, phot. and small fragm. Gr.)'.

Holotype: K; isotype: GH (10234 - photo of holotype and fragment of holotype).

Bolivia (La Paz), Brazil, Colombia, Ecuador, Guyana, ?Panama, ?Paraguay, Peru, Trinidad, Venezuela. Note: Robinson & Holmes (2008: 254) did not include Bolivia in their distribution of *M. lindleyana*.

Riversides.

0-2000 m.

Vernacular name: MICÂNIA-DE-LINDLEY (Cabrera & Klein, 1991).

***Mikania longiacuminata** (Rusby) Rusby ex B. L. Rob., Contr. Gray Herb. 64: 103 (1922).

Willoughbya longiacuminata Rusby, Mem. Torrey Bot. Club 6(1): 59 (1896). Type: [Bolivia:] 'Mapiri, July-Aug., 1892 ([Bang] 1504.)' Holotype: NY (00278067); isotypes: F (163775), K, NY (002780680), US (00050637), Z (000003670).

Bolivia (La Paz).

***Mikania longiflora** (Rusby) B. L. Rob., Proc. Amer. Acad. Arts 47: 196 (1911).

Willoughbya longiflora Rusby, Bull. New York Bot. Gard. 4(14): 382 (1907). Types: [Bolivia:] ' "Climbing 8 to 10 ft. in forest shade, the flowers greenish-white; scarce." Calapampa, near Coroico, July 5, 1894. ([Bang] No. 2325.) Also no. 2297.' Syntypes: F, K, NY, Z; isosyntype (*Bang* 2325): F (78087, 163874), NY (00278069 - marked as 'holotype', 00278070), US (00032921); isosyntype (*Bang* 2297): F (163847).

Bolivia (La Paz).

Mikania lorentensis B. L. Rob., Contr. Gray Herb. 64: 15 (1922) = **Mikania parviflora** (Aubl.) H. Karst.

Mikania loxensis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4(ed. folio): 106 (1818) = **Mikania cordifolia** (L.f.) Willd.

Mikania mandonii* Sch.Bip., Linnaea 34(5): 536 (Feb. 1866) = **Ophryosporus piquerioides (DC.) Benth. ex Baker

Mikania meridana V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 303 (1946) = **Mikania banisteriae** DC.

***Mikania micrantha** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 ed. folio): 105 (1818). Type: 'Crescit in umbrosis prope Caripe Cumanensium, alt. 412 hex. ■ Floret Septembri.' [B: 'n. 235. Caripe, in umbrosis'].

Holotype: P-Bonpl.

Mikania orinocensis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 ed. folio): 105 (1818). Type: 'Crescit in humidis Insulae Pararuma. (Misiones del Orinoco.) ■ Floret Majo.' Holotype: P-Bonpl.

Mikania subcrenata Hook. & Arn., Companion Bot. Mag. 1(No. 8): 243 (1836). Type: 'Woods of Tucuman, Tweedie (n. 1189.)' Holotype: K.

Mikania cissampelina DC., Prodr. 5: 195 (1836). Type: ' . in Sancto Domingo. ... (v.s.)' [Coulon s.n.]. Holotype: G-DC.

Mikania variabilis Meyen & Walp., Nov. Actorum. Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 257 (1843). Type: 'Peruvia: Lima. (v.s.)'. Holotype: B†.

Mikania umbellifera Gardner, London J. Bot. 4: 119 (1845). Type: 'HAB. Bushy places, Organ Mountains, common at an elevation of about 4000 feet. Fl. March.' [Gardner] 483.

Mikania subcymosa Gardner, London J. Bot. 6: 448 (1847). Type: 'HAB. Bushy places near Villa de Natividade, Province of Goyaz. February, 1840.' [Gardner] 3271. Holotype: BM; isotypes: K, NY (00230597, 00230598, 00230599)US (01066772). Note: Holmes (1990: 24) noted 'holotype K; isotypes: NY, P, US.'

Mikania scandens (L.) Willd. var. *α subcymosa* (Gardner) Baker in Mart., Fl. Bras. 6(2): 249 (1876).

Mikania scandens (L.) Willd. var. *γ umbellifera* (Gardner) Baker in Mart., Fl. Bras. 6(2): 249 (1876).

Mikania glechomifolia Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 249 (1876), nom. nud. pro syn.

Willoughbya variabilis (Meyen & Walp.) Kuntze, Revis. Gen. Pl. 1: 373 (1891).

Mikania scandens (L.) Willd. var. *hirsuta* Hieron., Bot. Jahrb. Syst. 19(1): 47 (1894). Type: 'Colimbia: crescit in fruticetis apertis in valle Cauca prope Cali et Quilichao, alt. s. m. 1000-1300 m ([Lehmann] n. 4888). Floret mense Julio.' Holotype: B†; isotypes: K × 2.

Willoubya micrantha (Kunth) Rusby, Mem. Torrey Bot. Club 4(3): 211 (1895).

Mikania scandens (L.) Willd. var. *villosa* Hieron., Bot. Jahrb. Syst. 36(5): 473 (1905). Types: 'Peruvia: crescit prope Tambillo ([Jelski]. n. 600, 640, 641, 695, 10. et 23. m. Aug. 1878).' Syntypes: B†. Isosyntypes (*Jelski* 640): US (01234169); isosyntype (*Jelski* 641): US (01234170).

**Mikania sinuata* Rusby, Bull. New York Bot. Gard. 8(No. 28): 127 (1912). Types: [Bolivia:] ' "San Juan, 3200 ft., March 20, 1902" ([R.S. Williams] No. 207)./ The same as *Rusby's* No. 1648.' Syntypes: K, NY. Isosyntype (*Williams* 207): NY (00230583), US (01157819). Note: Holmes (1990: 24) effectively lectotypified this name by stating, based on *Williams* 207, '(holotype: NY!; isotype: US!)'; no mention was made of the *Rusby* syntype.

Argentina, Bolivia (Bení, La Paz, Santa Cruz), Brazil, Ecuador, Mexico, Panama, Peru, Venezuela, West Indies. Naturalized in southeast Asia, Sri Lanka, India, Hong Kong, Solomon Islands, Fiji, Samoa, etc.

Swamps, rainforest, secondary forest, seepage areas, 'Bolivian Pantanal seasonally flooded palm-pampa'. 0-3000 m.

Flowering throughout the year.

Vernacular names: BEJUCO, CHARRUÁ, GUACO, ISIPÓ, POMPERO-KOCHO (Freire et al., 2006); POMBERO KOCHŌ (Holmes & McDaniel, 1996).

Santa Cruz: *Churchill & Arroyo* 21493.

Note: Holmes (1990: 24 & 41) included *Mikania denticulata* (Willd.) Vahl within the synonymy of *M. micrantha* but noting problems in interpreting Vahl's *Eupatorium denticulatum*; it has been left out of the synonymy above. If it were to be included this would clearly, should type material ever be found to confirm its identity, have priority over the name presently applied, *M. micrantha*.

Mikania micrantha* Kunth f. *congesta* (DC.) B. L. Rob., = *Mikania congesta* DC.**

****Mikania microptera* DC.**, Prodr. 5: 196 (1836). Types: ' . in Brasiliã prope Bahiam (*Blanchet!* n. 1710) et in Peruvia? (ex coll. *Poeppig!* [2335]). ... (v.s.)'. Syntypes: G-DC. Lectotype (effectively selected by Holmes, 1982: 237): *Blanchet* 1710, G-DC; isolectotypes: K, MO. Note: Holmes' citation of *Blanchet* 1710 as the holotype constitutes lectotypification, although still cited as a holotype by various authors (e.g. Robinson & Holmes, 2008: 259; Smith, 2005: 833).

Mikania scandens (L.) Willd. var. *θ microptera* (DC.) Baker in Mart., Fl. Bras. 6(2): 250 (1876).

Mikania hexagona B. L. Rob., Proc. Amer. Acad. Arts 47: 196 (1911). Type: 'Near Tovar, Venezuela, 1854-55, altitude 1700 m., *A. Fendler*, no. 626.' Holotype: GH (10332).

Bolivia (?), Brazil, Peru, Venezuela, Guayana, Surinam, tropical west Africa to Zaire, Angola, Tanzania.

Roadsides, riverbanks, forest.

0-1200 m.

Mikania molinensis V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 296 (1946) = ***Mikania banisteriae* DC.**

Mikania mollis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4(ed. folio): 105 (1818) = ***Mikania cordifolia* (L.f.) Willd.**

Mikania monzonensis Hieron., Bot. Jahrb. Syst. 40(3): 391 (1908) = ***Mikania haenkeana* DC.**

Mikania moyobambensis Hieron., Bot. Jahrb. Syst. 40(3): 393 (1908) = ****Mikania psilostachya* DC.**

Mikania napensis S. F. Blake, J. Wash. Acad. Sci. 28: 484 (1938) = **Mikania guaco** Humb. & Bonpl.
Mikania niederleinii Hieron., Bot. Jahrb. Syst. 22(4-5): 792 (1897) = **Mikania periplocifolia** Hook. & Arn.

***Mikania officinalis** Mart. in Spix & Mart., Reise Bras. 1: 283 (1823). Type: not cited. Note: The protologue to this name appeared in a list of medicinal plants titled 'Anmerkungen zum zweiten Kapitel. Folgende Pflanzen sind ihres Gebrauches wegen in der Capitanie von S. Paul allegemein bekannt:' Holotype: *Mikania brachypoda* DC., Prodr. 5: 201 (1836). Type: ■ in Brasiliae prov. Sancti-Pauli. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 406 miss.)'. Holotype: P; isotype: G-DC (fragments – one leaf and a few florets).
Willoughbya officinalis (Mart.) Kuntze, Revis. Gen. Pl. 1: 372 (1891).
Bolivia (La Paz, Santa Cruz), Brazil.
Marshy areas, wet flushes.
650–1500 m.
October–December.
Vernacular names: CORAÇÃO-DE-JESUS, GUACO, GUACO-DA-SERRA (CABRERA & KLEIN, 1991).

Mikania olivacea Klatt, Bull. Soc. Roy. Bot. Belgique 31: 195 (1892) = **Mikania guaco** Humb. & Bonpl.
Mikania oniaensis V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 297 (1946) = **Mikania banisteriae** DC.
Mikania opifera Mart. in Spix & Mart., Reise Bras. 1: 279 (1823) = **Mikania cordifolia** (L.f.) Willd.

***Mikania oreimeles** B. L. Rob., Contr. Gray Herb. 68: 39 (1923). Type: 'BOLIVIA: Dept. Cochabamba: Espirito Santo, 1891, *Bang*, no. 1267'. Holotype: GH (10415); isotypes: ?F, MO, NY (00230547, 00230548), PH, US (00207131).
Bolivia (Cochabamba, La Paz).
The following collections were cited as paratypes: 'Dept. La Paz: Orv. Nor Yungas, in thickets, Unduavi, alt. 3300 m., *Buchtien*, no. 198 (N.Y.); also in woods at same locality, alt. 3200 m., *Buchtien*, nos. 683 (U.S., fragm. Gr.) and 4183 (U.S., Gr.)'.

Mikania orinocensis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 ed. folio): 105 (1818) = **Mikania micrantha** Kunth
Mikania parkeriana DC., Prodr. 5: 199 (1836) = **Mikania congesta** DC.

Mikania parviflora (Aubl.) H. Karst., Deut. Fl. : 1061 (1880-1883).

Eupatorium parviflorum Aubl., Hist. Pl. Guiane 2: 797 (1775), non Sw. (1788)(= *Critonia paviflora* DC.). Type: 'Habitat in Guiana ad ripam rivuli, in territorio Oyac. ...J'ai trouvé cette plante en fleur & en fruit dans le mois d'Août. au bord d'un ruisseau, sur l'habitation de Madame Bertier.' Holotype: ?P-JJR.
Eupatorium vincifolium Lam., Encycl. 2: 410 (1786), nom. nov. pro *E. parviflorum* Aubl.
Eupatorium micranthon J. G. Gmel., Syst. 1198 (1792), nom. superfl. incl. *E. parviflorum* Aubl.
Eupatorium amarum Vahl, Symb. Bot. 3: 93 (1794), nom. illegit., citing *Eupatorium paviflorum* Aubl. in synon. [Note: The following collections were cited: 'In Caribaeis legit Dn. MARTFELT, in Surinamo Dn. ROLANDER.']

Mikania satureiifolia Cav., Anales Ci. Univ. Madrid 6: 317 (1803), nom. nud.

Mikania amara (Vahl) Willd., Sp. Pl. 3: 1744 (1803).

Mikania divaricata Poepp., Nov. Gen. Sp. Pl. 3: 53 (1845). Type: 'Crescit in fruticetis circum Ega. Januario florebat.' Holotype: U; isotype: P.

Mikania stipitata Sch.Bip. ex Miq., Stirp. Surinam. Select.: 191 (1851). Type: 'In Surinamo detexit cl.

HOSTMANN (Herb. no. 602), prope *M. Fockeanam* et *M. asperam* inserenda. '. Holotype: U; isotype: P.

Mikania cornifolia G. Don ex Baker in Mart., Fl. Bras. 6(2): 237 (1876), nom. nud. pro syn.

Willoughbya divaricata (Poepp.) Kuntze, Revis. Gen. Pl. 1: 372 (1891).

Willoughbya stipitata (Sch.Bip. ex Miq.) Kuntze, Revis. Gen. Pl. 1: 373 (1891).

Mikania lorentensis B. L. Rob., Contr. Gray Herb. 64: 15 (1922). Type: 'Peru: Dept. Loreto, at Iquitos, *E. Ule*, no. 6238'. Holotype: K; isotype: GH (fragment of holotype).

Mikania brooksii W. C. Holmes & McDaniel, Phytologia 41(3): 193 (1979). Type: 'PERU: Loreto. Prov. Maynas. Dtto. Iquitos. Río Momón (trib. Río Nanay), Santa Rosa, January 3, 1978, *McDaniel, Rimachi & Brooks* 21387'. Holotype: IBE.

Bolivia (Bení, Pando, Santa Cruz), Brazil, Cayenne, Colombia, Ecuador, Peru, Venezuela.
Forest, riversides, seasonally flooded areas, 'Bení scarcely flooded Varzea forest'.

0–1400 m.

January.

Mikania pastazae B. L. Rob., Contr. Gray Herb. 73: 29 (1924) = **Mikania lindleyana** DC.

Mikania pellucidivenia Hieron., Bot. Jahrb. Syst. 36: 474 (1905) = **Mikania haenkeana** DC.

***Mikania pennellii** B. L. Rob., Contr. Gray Herb. 61: 19 (1920). Type: 'COLOMBIA: shaded roadside between Villavicencio and "Buenavista," Intendencia Meta, alt. 700-900 m., Dr. F. W. Pennell, no. 1649'. Syntypes: GH (10422), NY (00230552).

Bolivia (?La Paz), Colombia.

Note: Robinson (1923: 40) noted under *Mikania pennellii* that the species had been found amongst *Buchtien* collections 'recently purchased by the United States National Herbarium. It proves, in fact, to be the plant collected by Dr. Buchtien at San Carlos near Mapiri, Bolivia, as his no. 1554, and reported in his Contrib. Fl. Boliv. i. 190 (1910) as *M. hastata* (L.) Willd., of which the determination was doubted on geographic ground by the writer ...'

***Mikania periplocifolia** Hook. & Arn., Companion Bot. Mag. 1(No. 8): 243 (1836). Type: [Argentina:] 'Marshes about Buenos Ayres and Rio Grande, Tweedie.'

Mikania auricularis Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 170 (1874); Pl. Lorentz.: 123 (1874).

Type: [Argentina:] 'Cordoba, in fruticetis et sepibus pr. urbem, floribus suaveolentibus.' Holotype: Lorentz 244, GOET (6072).

Willoughbya scandens (L.) Kuntze var. *periplocifolia* (Hook. & Arn.) Kuntze, Revis. Gen. Pl. 1: 372 (1891).

Mikania niederleinii Hieron., Bot. Jahrb. Syst. 22(4–5): 792 (1897). Type: [Argentina] 'Misiones: auf dem Cerro de Santa Ana (NIEDERL., 17. März 1884, n. 143).' Holotype: B†.

Mikania scandens (L.) Kuntze var. *sagittifolia* Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 368 (1913). Type: [Paraguay:] 'Gran Chaco: Herba scandens inter gamina 0,5–1 m longa, in campis humidis Loma Clavel, flor. mens. Nov.; Hassler no. 2494.' Holotype: G.

Argentina, Bolivia (?), Brazil, Paraguay, Uruguay.

Chaco - 'Bosque chaqueño mal drenado sin palma Saó' [Poorly-drained Chaco woodland without palms].

Vernacular names: ENTREDADERA DE CAMPO, GUACO, GUACO DEL RÍO, LOCONTE, NAKOLÓ, TAPA CERCO (Freire et al., 2006).

Mikania perstipulata W. Holmes, Phytologia 58(4): 243 (1985). Type: Bolivia. Cochabamba, Incachaca, small power station about 80 miles NE of Cochabamba, 17-00 S, 65-30 W, 8000 ft., 16 Aug 1950, W. M. A. Brooke 6717.' Holotype: BM.

Bolivia (Cochabamba).

2400 m.

August.

Mikania phyllopoda* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 170 (1874); Pl. Lorentz.: 122 (1874) = **Mikania urticifolia Hook. & Arn.

Mikania pilosa Baker in Mart., Fl. Bras. 6(2): 234 (1876) = **Mikania banisteriae** DC.

Mikania platyphylla* DC., Prodr. 5: 195 (1836) = **Mikania hookeriana DC.

Mikania poeppigii Spreng., Syst. Veg., ed. 16, 3: 422 (1826) = **Mikania cordifolia** (L.f.) Willd.

Mikania polybotrys G. Don ex Baker in Mart., Fl. Bras. 6(2): 266 (1876), nom. nud. pro syn. = ***Mikania psilostachya** DC.

Mikania polystachya DC., Prodr. 5: 190 (1836) = ***Mikania psilostachya** DC.

***Mikania psilostachya** DC., Prodr. 5: 190 (1836). Type: '■ in Peruvîa ex coll. Poeppig.[2344] ... (v.s. comm. à cl. invent.)'. Holotype: G-DC.

Mikania polystachya DC., Prodr. 5: 190 (1836). Type: '■ in convallibus et paludosis circa Bahiam legerunt cl.

Salzmann [11] et Blanchet (n. 1033 et 1885!). ... (v.s.)'. Syntypes: G-DC. Isosyntypes: Salzmann 11, K × 2.

Mikania scabra DC., Prodr. 5: 190 (1836). Type: '■ in Cayennâ olim legit cl. Patris (v.s.)'. Holotype: G-DC.

Mikania racemulosa Benth., Ann. Nat. Hist. 2(8): 109 (Oct. 1838), non Klatt (1882)(= *M. nigropunctulata* Hieron.). Type: 'British Guiana. Schomburgk, n. 480.' Holotype: K; isotype: US.

'*Mikania racemulosa* Benth., J. Bot. (Hooker) 2(9): 41 (1840)'. Note: Cited by King & Robinson (1987) this is actually a reptition of the earlier protologue, q.v.

Mikania lima Schltld. ex Mart., Flora 24, Beibl. 2(6): 110 (1841). Note: The 'diagnosis' provided ('Suffrutex, ramis volubilis') would hardly qualify as sufficient, even in 1841, to distinguish this as a new species and is best regarded as a nom. nud. In the context used in the rest of this paper it was probably not intended as a new species name. The locality provided by Martius was: [Brazil:] 'Prope Pari in prov. Cujabensi, Junio.' under 'Mart. Herb. Fl. Bras. 700', was based on a *Manso* collection now in BR.

Mikania fockeana Miq., Linnaea 17: 68 (1843). Type: 'Crescit Surinami in districto Parae; fl. Martio et Aprili.' [Focke]. Note: Robinson & Holmes (2008: 269) cited 'holotype U'.

Mikania consanguinea Gardner, London J. Bot. 6: 448 (1847). Type: 'HAB. Bushy places, near Villa de Arrayas, Province of Goyaz. March, 1840.' [Gardner] 4228. Note: Robinson & Holmes (2008: 270) cited 'holotype K' which is an effective lectotypification as no herbarium was originally cited by Gardner, who provided the description in a paper written in Kandy, Ceylon.

Mikania psilostachya DC. var. β *scabra* (DC.) Baker in Mart., Fl. Bras. 6(2): 265 (1876).

Mikania psilostachya DC. var. γ *racemulosa* (Benth.) Baker in Mart., Fl. Bras. 6(2): 266 (1876).

Mikania polybotrys G. Don ex Baker in Mart., Fl. Bras. 6(2): 266 (1876), nom. nud. pro syn.

Willoughbya polystachya (DC.) Kuntze, Revis. Gen. Pl. 1: 372 (1891). NB. Kuntze included *M. psilostachya* DC. and *M. scabra* DC. under this synonym and did not provide the combinations *W. psilostachya* and *W. scabra* as indicated by King & Robinson, 1987: 573!

Mikania moyobambensis Hieron., Bot. Jahrb. Syst. 40(3): 393 (1908). Type: 'Peruvia: crescit prope oppidum Moyobamba, dep. Loreto, alt. supra m. 800–900 m in fruticetis campestribus (A. WEBERBAUER n. 4476; 7. m. Aug. 1904).' Holotype: B†; isotype: ?GH.

Mikania karuaiensis V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10(No. 68): 296 (1946). Type: [Venezuela:] 'Edo. Bolívar: La Gran Sabana, entre la Misión de Santa Teresita, de Kavanayén y el río Karuai, 1220 m. octubre 26 de 1944 (J. Steyermark 59372)'. Holotype: VEN.

Argentina, Bolivia (Bení, La Paz, Santa Cruz), Brazil, Ecuador, Panama, Peru.

Disturbed areas, forest, scrub.

0–2000 m.

August–October.

Mikania psilostachya DC. var. γ *racemulosa* (Benth.) Baker in Mart., Fl. Bras. 6(2): 266 (1876) = **Mikania psilostachya** DC.

Mikania psilostachya DC. var. β *scabra* (DC.) Baker in Mart., Fl. Bras. 6(2): 265 (1876) = **Mikania psilostachya** DC.

Mikania ptaretepuiensis Badillo, Bol. Soc. Venez. Ci. Nat. 10: 302 (1946) = **Mikania banisteriae** DC.

Mikania punctata Klatt, Bull. Soc. Roy. Bot. Belgique 31: 195 (1892) = **Mikania vitifolia** DC.

Mikania racemulosa Benth., J. Bot. (Hooker) 2: 41 (1840) = ***Mikania psilostachya** DC.

***Mikania rubella** Lingelsh., Fedde Repert. Spec. Nov. Regni Veg. 7(146/148): 250 (1909). Type: 'Bolivien: San Carlos bei Mapiri, Wälder, 750 m (Buchtien, no. 1552)!'. Holotype: B†; isotypes: NY (00230565), US (01157930). Bolivia (La Paz).

750 m.

September.

Mikania rubiginosa Smith in Rees, Cycl. 23. Mikania N. 12.(1819) = **Mikania cordifolia** (L.f.) Willd.

Mikania ruiziana Poepp., Nov. Gen. Sp. 3: 53 (1845) = **Mikania banisteriae** DC.

Mikania ruiziana Poepp. var. *lehmanniana* Hieron., Bot. Jahrb. Syst. 19(1): 45 (1895) = **Mikania banisteriae** DC.

***Mikania rusbyi** B. L. Rob., Contr. Gray Herb. 64: 18 (1922). Type: 'BOLIVIA: Prov. Nor Yungas: Unduavi, alt. 2440 m., Oct. 1885, *Rusby*, no. 1737'. Holotype: NY (00230573); isotypes: GH(fragment), NY (00230572), US (01417622).

Bolivia (La Paz).

2440–3300 m.

October.

'... at same locality [As holotype - Prov. Nor Yungas: Unduavi], Nov. 1900, alt. 3300 m., *Buchtien*, no. 3044.' – NY.

'*Mikania saltensis* Hieron. var. *stipulata* Hieron., Bot. Jahrb. Syst., 50, Beibl. 111: 77 (1913)', nom. nud. = **Mikania fiebrigii** Hieron.

Mikania sanjacacintensis V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 298 (1946) = **Mikania houstoniana** (L.) B. L. Rob.

Mikania saturiifolia Cav., Anales Ci. Univ. Madrid 6: 317 (1803), nom. nud. = **Mikania parviflora** (Aubl.) H. Karst.

Mikania scabra DC., Prodr. 5: 190 (1836) = ***Mikania psilostachya** DC.

Mikania scandens (L.) Willd. var. δ *congesta* (DC.) Baker in Mart., Fl. Bras. 6(2): 249 (1876) = **Mikania congesta** DC.

Mikania scandens (L.) Willd. var. *hirsuta* Hieron., Bot. Jahrb. Syst. 19(1): 47 (1894) = **Mikania micrantha** (L.) Willd.

Mikania scandens (L.) Willd. var. θ *microptera* (DC.) Baker in Mart., Fl. Bras. 6(2): 250 (1876) = **Mikania microptera** DC.

Mikania scandens (L.) Kuntze var. *sagittifolia* Hassl., Repert. Spec. Nov. Regni Veg. 12(22/24): 368 (1913) = **Mikania periplocifolia** Hook. & Arn.

Mikania scandens (L.) Willd. var. α *subcymosa* (Gardner) Baker in Mart., Fl. Bras. 6(2): 249 (1876) = **Mikania micrantha** (L.) Willd.

Mikania scandens (L.) Willd. var. γ *umbellifera* (Gardner) Baker in Mart., Fl. Bras. 6(2): 249 (1876) = **Mikania micrantha** (L.) Willd.

Mikania scandens (L.) Willd. var. *villosa* Hieron., Bot. Jahrb. Syst. 36(5): 473 (1905) = **Mikania micrantha** (L.) Willd.

***Mikania schultzei** B. L. Rob., Contr. Gray Herb. 64: 19 (1922). Type: 'Bolivia: prov. Larecaja: in the upper (subalpine) part of the wooded region between Queliguaya and Chilieca, near Sorata, alt. 3200-3400 m., Mandon, no. 265'. Holotype: GH (10463); isotypes: GH (10462), K, NY (00230579, 0038513), S. *Mikania boliviensis* Sch.Bip. Linnaea, 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 265) Bolivia (Cochabamba, La Paz).

Forest, scrub.

3200-3400 m.

'Prov. Nor yungas: in thickets, Unduavi, alt. 3300m., Buchtien, no. 198'. - NY.

Mikania serratifolia Sieber ex DC., Prodr. 5: 181 (1836), nom. nud. pro syn. non Kunth = **Condylidium iresinoides** (Kunth) R. M. King & H. Rob.

Mikania sieberiana DC., Prodr. 5: 196 (1836) = **Mikania congesta** DC.

Mikania sinuata* Rusby, Bull. New York Bot. Gard. 8(No. 28): 127 (1912) = **Mikania micrantha Kunth

Mikania skutchii S. F. Blake, Brittonia 2(4): 333 (1937) = **Mikania banisteriae** DC.

***Mikania speciosa** DC., Prodr. 5: 196 (1836). Type: '■ in peruanis montibus Orinocensibus legit cl. Haenke. ... (v.s. in h. Haenk. ab ill. de Sternberg comm.)'. Holotype: PR; isotype: G-DC.

Mikania attenuata DC., Prodr., 5: 195 (1836). Type: ' - in Perviae montibus Guanocensibus legit cl. Haenke. ... (v.s. in h. Haenke ab ill. de Sternberg comm.)'. Holotype: G-DC.

Willoughbya speciosa (DC.) Kuntze, Revis. Gen. Pl. 1: 373 (1891).

Willoughbya hieronymi Rusby, Bull. New York Bot. Gard. 4(14): 383 (1907). Type: [Bolivia:] ' "Prostrate in wet, clayey soil, the flowers bluish-green; scarce." Coripata, Yungas, April 28, 1894. ([Bang] No. 2169.)'

Holotype: NY (00278063); isotypes: K, NY (00278064), US (01402636).

Bolivia (La Paz, Santa Cruz), Ecuador, Peru.

Cloud forest, scrub.

1000-2500 m.

April.

***Mikania steinbachii** B. L. Rob., Contr. Gray Herb. 80: 40 (1928). Type: 'BOLIVIA: Dept. Santa Cruz: Prov. Cercado: Bañados del Piray, alt. 450 m., 18 July, 1924, Jose Steinbach, no. 6257'. Holotype: K. Bolivia (Santa Cruz).

Mikania stipitata Sch.Bip. ex Miq., Stirp. Surinam. Select.: 191 (1851) = **Mikania parviflora** (Aubl.) H. Karst.

***Mikania stygia** B. L. Rob., Contr. Gray Herb. 90: 36 (1930). Type: 'BOLIVIA: Dept. La Paz: region of Mapiri, alt. 850m., 12 May 1927, Dr Otto Buchtien, no. 1874'. Holotype: GH (10482); isotypes: GH (10483), K \times 2, S, US

(01399088). Note: The K and US isotype material clearly indicates that this is *Buchtien* 1574, not 1874 as in the protologue, which is apparently in error.

Bolivia (La Paz), Brazil, Ecuador, Peru.

500–1500 m.

May.

Mikania suaveolens Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4(ed. folio): 106 (1818) = **Mikania cordifolia** (L.f.) Willd.

Mikania subcrenata Hook. & Arn., Companion Bot. Mag. 1(No. 8): 243 (1836) = **Mikania micrantha** Kunth

Mikania subcymosa Gardner, London J. Bot. 6: 448 (1847) = **Mikania micrantha** Kunth

Mikania surinamensis Miq., Stirp. Surinam. Select. : 188 (1851) = **Mikania cordifolia** (L.f.) Willd.

Mikania tarapotensis B. L. Rob., Contr. Gray Herb. 61: 21 (1920) = **Mikania decora** Poepp.

Mikania tenuiflora Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 174 (1879) = **Austrobrickellia patens** (Hook. & Arn.) R. M. King & H. Rob.

Mikania ternata (Vell.) B. L. Rob., Proc. Amer. Acad. Arts 47: 198 (1911).

Mikania dentata Spreng., Syst. Veg. Fl. Peruv. Chil. 3: 422 (1826), sensu auctt., non *M. dentata* G. M. Barroso (1959), nom. illegit.

Cacalia ternata Vell., Fl. Flum. : 336 (1825)[1829]. Type: 'Habitat silvis maritimis Pharmacopolitanus. Floret Mart.' [Fl. Flum. Icones 8: tab. 56 (1831)].

Cacalia septemnata Vell., Fl. Flum.: 338 (1825)[1829]. Type: 'Flores jam erant decidui, cum eam offendi; sed ex habitu, et floris fragmento, quod superabat, Cacaliam esse cognovi.' [Fl. Flum. Icones 8: tab. 63 (1831)].

Mikania apiifolia DC., Prodr. 5: 202 (1836). Type: '■ in Brasiliae prov. Sancti-Pauli. ... (v. s. in h. Mus. reg. Par. a Mus. imp. Bras. sub n. 421 miss.)'. Holotype: P; isotype: G-DC. Note: the material in G-DC is somewhat fragmentary and consists of part of one inflorescence and broken portions of leaves.

Mikania trifolia Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 266).

Willoughbya trifolia Rusby, Bull. New York Bot. Gard. 4(14): 382 (1907). Types: [Bolivia:] ' " A low climber, with white flowers, in wet forest-mould, scarce." Coroico, September 10, 1894. ([Bang] No. 2426.) The same as Mandon 266, which Schultz-Bipontinus has called without description *Mikania trifolia* (Linnaea 34(5): 535. 1865-66). Syntypes: GH, K, NY; isosyntype (Bang 2426): F (164447), MO, NY (00278071, 00278072 – marked as holotype in NY), PH, US (00032775), Z (000053950); isosyntype (Mandon 266): S.

Mikania trifolia (Rusby) B. L. Rob., Proc. Amer. Acad. Arts 47: 198 (1911).

**Mikania trifolia* (Rusby) B. L. Rob., Contr. Gray Herb. 64: 107 (1922), comb. superfl.

Argentina, Bolivia (Cochabamba, La Paz), Brazil, Paraguay, Peru.

Forest margins, river margins, lake margins.

0–3000 m.

March–June.

Note: The expanded synonymy includes *M. trifolia* which, upon close examination, is shown to be conspecific with the plant widespread in Brazil, Paraguay, Peru and northern Argentina. Holmes & McDaniel (1989) clarified the early synonymy of this taxon, although later pointing out that I had clarified that the material on which *Mikania dentata* Spreng. was based was in fact a species of *Calea*

[HELIANTHEAE], *C. pinnatifida* (R. Br.) Less.

Vernacular name: MICÁNIA (Cabrera & Klein, 1991).

Mikania thunbergiifolia Gardner, London J. Bot. 6: 448 (1847) = **Mikania cordifolia** (L.f.) Willd.

Mikania trifolia (Rusby) B. L. Rob., Proc. Amer. Acad. Arts 47: 198 (1911) = **Mikania ternata** (Vell.) B. L. Rob.

Mikania trifolia* (Rusby) B. L. Rob., Contr. Gray Herb. 64: 107 (1922), comb. superfl. = **Mikania ternata (Vell.) B. L. Rob.

Mikania trifolia Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. =

Mikania ternata (Vell.) B. L. Rob.

Mikania umbellifera Gardner, London J. Bot. 4: 119 (1845) = **Mikania micrantha** Kunth

Mikania urticifolia [as *urticaefolia*] Hook. & Arn., Companion Bot. Mag. 1(No. 8): 244 (1836). Type:

[Argentina:] 'Woods of Tucuman, and also cultivated in the gardens, on account of its agreeable scent, the flowers smelling like a well-ripened Peach, *Tweedie* (n. 1286).

- **Mikania phyllopoda* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 170 (1874); Pl. Lorentz.: 122 (1874).
Type: [Argentina:] 'Cordoba, pr. Ascochinga, in fruticetis ornamentum suaveolens.' Holotype: Lorentz 242, GOET.
- Willoughbya phyllopoda* (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 184 (1898).
Argentina, Bolivia (?).
Forest, cultivated areas.
0–1000 m.
- Mikania variabilis* Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 257 (1843) =
Mikania micrantha Kunth
- Mikania variabilis* Gardner, London J. Bot. 5: 486 (1846), nom. illegit. non Meyen & Walp. (1843) = **Mikania congesta** DC.
- Mikania vellosiana* Barb. Rodr., Hort. Flum. : 276 (1894), nom. illegit. = **Mikania cordifolia** (L.f.) Willd.
- Mikania vitifolia** DC., Prodr. 5: 202 (1836). Type: '– in Brasiliae prov. Sancti-Pauli. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 426 miss.)'. Holotype: P; isotype: G-DC (somewhat fragmentary consisting of an inflorescence, part of one leaf and a segment of stem).
- Mikania gracilis* Sch.Bip. ex Miq., Stirp. Surinam. Select. : 187 (1851). Type: [Surinam:] 'Plantam scandentem, floribus candidis, in virgultis detexerunt HOSTMANN et KAPPLER (Herb. n. 1017)'. Holotype (as cited by Holmes, 1990: 39): G; isotype: F (881442). Note: Robinson & Holmes (2008: 289), in contrast, cited 'holotype U, isotypes F, MO'.
- Mikania lechleri* Sch.Bip., Bonplandia 4(5): 54 (1856), nom. nud. (based on *Lechler* 2480).
- Mikania grandifolia* Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 246 (1876), nom. nud. pro syn.
- Willoughbya vitifolia* (DC.) Kuntze, Revis. Gen. Pl. 1: 373 (1891).
- Mikania punctata* Klatt, Bull. Soc. Roy. Bot. Belgique 31: 195 (1892). Types: '[Costa Rica:] Clairières du Général, 600 m., janv. 1891 (Pitt. n° 3434); [Argentina:] bords d'un ruisseau à Buenos Aires, janv. 1892 ([Pittier] n° 4934)'. Syntypes: ?BR.
- Mikania boliviensis* Lingelsh., Repert. Spec. Nov. Regni Veg. 7(146/148): 251 (1909). Type: 'Bolivien: San Carlos bei Mapiri, 750 m (*Buchtien*, no. 1553!)'. Holotype: WRSL; isotypes: NY (00215135), US (01157928). Note: Holmes (1990: 39) cited *Buchtien* 71 against this name, with the holotype in F; this is clearly incorrect. Lingelsh. worked on the *Buchtien* collections, along with Baenitz and Pax, in Breslau, now Wrocław, Poland.
- Mikania cryptodonta* B. L. Rob., Contr. Gray Herb. 73: 22 (1924). Type: 'PERU: herbaceous or nearly so, clambering over stumps or in sunny woods, about 610 m. alt., Pozuzo, June 20–22, 1923, J. F. Macbride, no. 4683'. Holotype: F (535757); isotypes: F (259966), ?GH, K.
- Mikania caustolepis* B. L. Rob., Contr. Gray Herb. 77: 49 (1926). Type: 'PERU: Dept. Cuzco: climbing white-flowered shrub in forest near Rio Yanamayo, below "Pillahuata," alt. 2000–2300 m., May 4–5, 1925, Pennell, no. 14,070'. Holotype: GH (10274); isotypes: F (558288, 259957), US (1340724).
- Mikania lechleri* Sch.Bip. ex B. L. Rob., Contr. Gray Herb. 90: 35 (1930). Type: 'Peru: Dept. Puno: Prov. Carabaya: " inter virgult. St. Gavan, Aug. '54," *Lechler*, no. 2480'. Holotype: K; isotype: ?GH. [Note: Robinson (1930: 36) added the following note – 'From the brief data given, it is clear that this plant was collected on the eastern slopes of the Cordilleras north of Lake Titicaca probably near the Riven San Gavan, therefore in the upper drainage of the great river Madre de Dios.']
- **Mikania vitifolia* DC. f. *boliviensis* (Lingelsh.) B. L. Rob., Contr. Gray Herb. 104: 54 (1934).
- Mikania anzoatiguensis* V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10(No. 68): 301 (1946). Type: [Venezuela:] 'Edo. Anzoátegui: bosques de las cabeceras de los tributarios del río Neverí, entre Río León y Carmelita, al NE de Bergantín, 800–1200 m., marzo 5 de 1945 (*J. Steyermark* 61376)'. Holotype: VEN; isotype: F (1390387), US (2046784).
- Argentina, Bolivia (Bení, La Paz, Santa Cruz, Tarija), Brazil, Costa Rica, Ecuador, Mexico, Peru, Surinam, Venezuela.
Cloud forest, montane forest, rain forest, riversides.
0–1500 m.
January–June.
- **Mikania vitifolia* DC. f. *boliviensis* (Lingelsh.) B. L. Rob., Contr. Gray Herb. 104: 54 (1934) = **Mikania vitifolia** DC.

Mikania vitrea B. L. Rob., Contr. Gray Herb. 61: 22 (1920) = **Mikania hookeriana** DC.

***Mikania werdermannii** B. L. Rob., Contr. Gray Herb. 104: 47 (1934). Type: 'BOLIVIA: Dept. El Beni: Rio Chaparé-Marmoré, alt. ca. 250 m., Aug. 1926, Dr. E Werdermann, no. 2235'. Holotype: S; isotype: GH (fragment).

Bolivia (Bení).

250 m.

August.

***Mikania williamsii** B. L. Rob., Contr. Gray Herb. 64: 19 (1922). Type: 'BOLIVIA: Charopampa, Prov. Caupolicán, Dept. La Paz, alt. 488 m., R.S. Williams, no. 696'. Holotype: NY (00230614); isotypes: GH (fragment), K.

Bolivia (La Paz, Santa Cruz).

450–500 m.

Mikania yapasensis B. L. Rob., Contr. Gray Herb. 104: 48 (1934) = **Mikania cordifolia** (L.f.) Willd.

Mikania zonensis R. M. King & H. Rob., Phytologia 28(3): 275 (1974) = **Mikania guaco** Humb. & Bonpl.

Milleria biflora L., Sp. Pl. : 919 (1753) = **Delilia biflora** (L.) Kuntze

Milleria chiloensis Juss., Gen. Pl. : 187 (1789), nom. nud. pro syn. = **Flaveria bidentis** (L.) Kuntze

Milleria contrayerba Cav., Icon. 1: 2, pl. 4 (1791) = **Flaveria bidentis** (L.) Kuntze

Mimela Phil., Anales Univ. Chile 27(2): 336 (1865) = **Leucheria** Lag.

Minyranthes Turcz., Bull. Soc. Imp. Naturalistes Moscou 24(1): 181 (1851) = **Sigesbeckia** L.

Minythodes Phil. ex Benth. & Hook.f., Gen. Pl. 2: 496 (1873), nom. nud. = **Chaetanthera** Ruiz & Pav.

Mirasolia (Sch.Bip.) Benth. & Hook. f., Gen. Pl. 2: 367 (1873) = **Tithonia** Desf. ex Juss.

Misbrookea V. A. Funk, Brittonia 49(1): 111 (1997).

Type: **Misbrookea strigosissima** (A. Gray) V. A. Funk

Reference

Funk, V. A. (1997). A revision of a new monotypic genus removed from *Werneria* s.l. (Compositae: Senecioneae). Brittonia 49(1): 110–117.

Misbrookea strigosissima (A. Gray) V. A. Funk, Brittonia 49(1): (1997).

Werneria strigosissima A. Gray, Proc. Amer. Acad. Arts 5: 140 (1861). Type: 'High Andes of Peru near Casa Cancha. [Collections of the United States South Pacific Exploring Expedition under Captain Wilkes]' Lectotype (selected by Funk, 1997: 111) US (42763); isolectotype: NY (1085896).

**Werneria setosa* Wedd. ex Sch.Bip., Linnaea 34(5): 530 (Feb. 1866), nom. nud. pro syn. (based on *Mandon* 100).

**Werneria* [sub *Weneria*] *boraginifolia* Kuntze, Revis. Gen. Pl. 3(3): 184 (1898). Type: 'Bolivia: 4000 m Paso Cuchichanchi.' ['Bolivia. Paso Cuchichanchi, 4000 m, 13–21 Apr 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 339]. Holotype: NY (01085895); isotype: B†.

Bolivia (Cochabamba, La Paz), Peru.

Open rock, rocky slopes, lateral moraine, Puna Peruana.

(1700–) 3800–4500 (–4900) m.

February – June.

Mniodes A. Gray ex Benth. & Hook. f., Gen. Pl. 2(1): 301 (1876).

Antennaria sect. *Mniodes* A. Gray, Proc. Amer. Acad. Arts 5: 138 (1862). Type: not stated.

Lectotype (effectively selected by Cuatrecasas, 1954: 3): **Mniodes andina** A. Gray ex B. D. Jacks.

References

Cuatrecasas, J. (1954). El género *Mniodes*. *Folia Biol. Andina* 1: 1-7.

Dillon, M. O. & A. Sagéstegui Alva. (1991). *Mniodes*. In: J. F. Macbride & collab., *Flora of Peru, Family Asteraceae: Part V. Fieldiana, Bot. n.s. 26 (1422): 52-56.*

Mniodes aretioides (Sch.Bip.) Cuatrec., *Folia Biol. Andina* 1: 3 (1954).

Baccharis aretioides Sch.Bip., *Bonplandia* 4(4): 51 (1856). Type: 'Peru, Agapata ad limit. niv. aet. Junio 1854: Lechler! n. 1823.' Holotype: B†; isotypes: ?F, G-DEL, GH, K. Note: The GH duplicate is oddly attributed to R. F. Hohenacker – the author of the paper in *Bonplandia*, not the collector! – and is GH (3912), but without any other details.

Merope aretioides (Sch.Bip.) Wedd., *Chloris Andina* 1: 164 (1856).

Antennaria aretioides (Sch.Bip.) A. Gray, *Proc. Amer. Acad. Arts* 5: 139 (1861).

Bolivia (La Paz, Oruro), Peru.

Scrub.

4000-4700 m.

June.

Mniodes tunariensis (Kuntze) Hieron. ex Weberb., *El Mundo Veg. de los Andes Peruanos* : 731 (1945) =

Noenia acaulis (Wedd. ex Benth. & Hook.f.) S. E. Freire & F. Hellwig

Mocinna Lag., *Gen. Sp. Pl. Nov.* : 31 (1816) = **Calea** L.

Molina Ruiz & Pav., *Fl. Peruv. Prodr.* : 111, t. 24 (1794), nom. illegit. = **Baccharis** L.

Molina articulata (Lam.) Less., *Linnaea* 6(1): 140 (1831) = **Baccharis articulata** (Lam.) Pers.

Molina caespitosa Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 203 (1798) = **Baccharis caespitosa** (Ruiz & Pav.) Pers.

Molina crispa (Spreng.) Less., *Linnaea* 6(1): 141 (1831) = **Baccharis genistelloides** (Lam.) Pers. ssp. **crispa** (Spreng.) Joch. Müller

Molina cylindrica Less., *Linnaea* 6(1): 144 (1831) = **Baccharis genistelloides** (Lam.) Pers. ssp. **crispa** (Spreng.) Joch. Müller

Molina incana Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 211 (1794) = **Loricaria thujoides** (Lam.) Sch.Bip.

Molina latifolia Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 208 (1798) = **Baccharis latifolia** (Ruiz & Pav.) Pers.

Molina nitida Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 204 (1798) = **Baccharis nitida** (Ruiz & Pav.) Pers.

Molina oblongifolia Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 203 (1798) = **Baccharis oblongifolia** (Ruiz & Pav.) Pers.

Molina parviflora Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 209 (1798) = **Baccharis salicifolia** (Ruiz & Pav.) Pers. ssp. **salicifolia**

Molina prostrata Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 204 (1798) = **Baccharis linearifolia** (Lam.) Pers.

Molina rhexioides (Kunth) Less., *Linnaea* 6: 406 (1831) = **Baccharis trinervis** Pers. var. **rhexioides** (Kunth) Baker

Molina sagittalis Less., *Linnaea* 6(1): 144 (1831) = **Baccharis sagittalis** (Less.) DC.

Molina salicifolia Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 210 (1798) = **Baccharis salicifolia** (Ruiz & Pav.) Pers.

Molina trimera Less., *Linnaea* 6(1): 141 (1831) = **Baccharis genistelloides** (Lam.) Pers. ssp. **crispa** (Spreng.) Joch. Müller

Molina venosa Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 212 (1798) = **Baccharis genistelloides** (Lam.) Pers. ssp. **genistelloides**

Molina viscosa Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* : 207 (1798) = **Baccharis glutinosa** Pers.

Monanthemum Griseb., *Fl. Brot. W. Ind. Isl.* : 354 (1861), nom. illegit., non Steele (1843) = **Piptocarpha** R.Br.

Monenteles Labill., *Sertum Austrocal.* : 43 (1825) = **Pterocaulon** Elliott

**Montanoa orbignyana* Klatt, Abh. Naturf. Gess. Halle 15: 328 (1881) = *Hyptis* sp. [LABIATAE], q.v. Funk (1982: 123).

Monticalia C. Jeffrey, Kew Bull. 47(1): 69 (1992).

Microchaete Benth., Pl. Hartweg.: 209 (1845), nom. rejic. non Thuret ex Bornet & Flahault (1886), nom. cons.

Type: *Microchaete corymbosa* Benth.

Monticalia pulchella (Kunth) C. Jeffrey, Kew Bull. 47(1): 72 (1992).

Cacalia senecioides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): (1818). Type: 'Crescit locis frigidis, scopulosis Andium Assuayensium, inter Cuenca et Alausi, alt. 1700 hex. ■Floret Julio.' [*Humboldt & Bonpland* 3266]. Holotype: P-Bonpl.; isotype: B-W.

*?*Senecio senecioides* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 177 (1898)

?Bolivia (?La Paz), Colombia. Note: This species was listed by Foster (1958: 218), as *S. senecioides*, and linked to *Senecio assuayensis* DC., (by Kuntze, based on his own collection from La Paz) but Cabrera (1985) did not list it under either name for Bolivia; it is apparently a Colombian species. The genus may have to be excluded from the Bolivian list.

Moquinia DC., Prodr. 7: 22 (1838), pp. = **Gochnatia** Kunth

Moquinia boliviana* Rusby, Bull. New York Bot. Gard. 4(14): 399 (1907) = **Gochnatia rusbyana Cabrera

Moquinia macrocephala Rusby, Descr. New Sp. S. Amer. Pl. : 162 (1920) = **Llerasia macrocephala** (Rusby) Pruski

Moquinia polymorpha (Less.) DC., Prodr. 7: 23 (1838) = **Gochnatia polymorpha** (Less.) Cabrera

Moquinia polymorpha (Less.) DC. α *ceanothifolia* (Less.) DC., Prodr. 7: 23 (1838) = **Gochnatia polymorpha** (Less.) Cabrera

Moquinia polymorpha (Less.) DC. β *elaeagnifolia* (Less.) DC., Prodr. 7: 23 (1838) = **Gochnatia polymorpha** (Less.) Cabrera

Moquinia polymorpha (Less.) DC. γ *obtusifolia* (Less.) DC., Prodr. 7: 23 (1838) = **Gochnatia polymorpha** (Less.) Cabrera

Moquinia polymorpha (Less.) DC. δ *populifolia* (Less.) DC., Prodr. 7: 23 (1838) = **Gochnatia polymorpha** (Less.) Cabrera

Morrenia Kunze, Linnaea 20: 19 (1847), nom. nud. pro syn. = **Mikania** Willd.

Munnozia Ruiz & Pav. subgen. *Erato* (DC.) H. Rob. & Brettell, Phytologia 28(1): 56 (1974) = **Erato** DC.

Munnozia Ruiz & Pav. subgen. *Kastnera* (Sch.Bip.) H. Rob. & Brettell, Phytologia 28(1): 57 (1974) = **Munnozia** Ruiz & Pav.

Munnozia Ruiz & Pav., Fl. Peru Chil. Prodr. : 108 (1794).

Alibum Less., Syn. Gen. Comp. : 152 (1832). Type: *Alibum liaboides* Less. = *Munnozia liaboides* (Less.) H. Rob. & Brettell

Prionolepis Poepp., Nov. Gen. Sp. Pl. 3: 55, tab. 261 (1845). Type: *Prionolepis silphoides* Poepp. = *Munnozia silphoides* (Poepp.) H. Rob. & Brettell

Kastnera Sch.Bip., Flora 36: 38 (1853). Type: *Kastnera tenera* Sch.Bip. = *Munnozia tenera* (Sch.Bip.) H. Rob. & Brettell

Liabum Adans. subgen. *Chrysastrum* Willd. ex Sch.Bip. Flora 36(3): 37 (1853). Type: not stated.

Munnozia Ruiz & Pav. subgen. *Kastnera* (Sch.Bip.) H. Rob. & Brettell, Phytologia 28(1): 57 (1974). Type: *Munnozia tenera* (Sch.Bip.) H. Rob. & Brettell

'*Chrysastrum* Willd. ex Wedd., Chloris Andina 1: 211 (1857)' was cited as 'in nota; nom. nud. in syn.' by Robinson (1983: 54). The generic designation '*Chrysastrum*' was not validly published, the included species, a name, just a nom. nud.

Lectotype (selected by Robinson & Brettell, 1974: 53): *Munnozia lanceolata* Ruiz & Pav.

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- Blake, S. F. (June 1927). New South American species of *Liabum*. J. Wash. Acad. Sci. 17(11): 288–303.
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- Schultz-Bipontinus, C. H. (1853). Triga novorum Cassiniacearum generum. Flora 36(3): 33–38.
- Munnozia ariste-josephi* Rusby, Bull. Torrey Bot. Club 54(4): 314 (1927) = **Munnozia senecionidis** Benth.
- Munnozia attenuata* Rusby, Bull. Torrey Bot. Club 54(4): 317 (1927) = **Munnozia senecionidis** Benth.
- Munnozia cardenasii** (Cabrera) H. Rob. & Brettell, Phytologia 28(1): 54 (1974).
- **Liabum cardenasii* Cabrera, Notas Mus. La Plata, Bot. 14(No. 71): 191 (1949). Type: 'BOLIVIA. – Cochabamba, camino a Chimoré, 2200 m.s.m., leg. Martín Cárdenas, 784, III-1940'. Holotype: LP (60353).
Bolivia (Cochabamba).
2200 m.
March.
- Munnozia chrysanthemoidea* Rusby, Bull. Torrey Bot. Club 54(4): 313 (1927) = **Munnozia foliosa** Rusby
- Munnozia deltoidea* Rusby, Bull. Torrey Bot. Club 54(4): 315 (1927) = **Munnozia pinnulosa** (Kuntze) H. Rob. & Brettell
- Munnozia filipes* Rusby, Bull. Torrey Bot. Club 54(4): 318 (1927) = **Munnozia senecionidis** Benth.
- Munnozia foliosa** Rusby, Bull. Torrey Bot. Club 54(4): 312 (1927). Types: 'Collected by M. Bang near Cochabamba, Bolivia, 1891 (No. 1195). Distributed as *Liabum Rusbyi* Britton, but very distinct from that species. Also collected by Otto Buchtien at Unduavi, Bolivia, 10,000 ft., Nov. 1900 (No. 3032). Buchtien says "A shrub, to 2 meters high, with violet flowers." ' Isosyntypes (Bang 1195): NY (1 sheet marked as 'Type', NY-230709, 1 sheet marked as 'Isotype', NY-230710, both as 'Munnozia foliosa n. sp.' in Rusby's hand), US (00050630), Z (000003623).
- Munnozia chrysanthemoidea* Rusby, Bull. Torrey Bot. Club 54(4): 313 (1927). Type: 'Collected by M. Bang [1581] near Mapiro, Bolivia, 10,000 ft. (?), September, 1892, and distributed and published as *Liabum Rusbyi* Britton, from which it differs markedly in the form and proportion of the disk corollas, and in other ways. The plant is apparently a shrub, with handsome purple or rose-colored flowers.' Holotype: NY (00230704); isotypes: K, NY (00230705), US (01403175).
- Liabum herrerae* Cabrera, Revista Univ. Cuzco 33(No. 87): 119 (1945). Type: [Original publication not seen].
- Liabum foliosum* (Rusby) Ferreyra, Bol. Soc. Peru. Bot. 1(1–4): 18 (1948).
- **Liabum foliosum* (Rusby) Cabrera, Notas Mus. La Plata, Bot. 14(No. 71): 193 (1949), in obs.
- Munnozia herrerae* (Cabrera) H. Rob. & Brettell, Phytologia 28(1): 55 (1974).
Bolivia (Cochabamba, La Paz), Peru.
Ceja, forest margins.
2000–4000 m.
September–April. Probably flowering throughout the year.
- Munnozia fournetii** H. Rob., Phytologia 63(5): 407 (1987). Type: 'BOLIVIA: Dept. La Paz: Près de Unduavi, ancienne route de Chulimani, 1.5 km, alt. 2950 m. Herbacée de 1 m de haut. Feuilles opposées, sessiles, hirsutes, de 20 cm de long, triangulaires, dentelées, bord du limbe brunâtre. Latex blanc. Fleurs jaunes, pétales nombreux, sépales vert foncé bords bruns. 24/4/1986. A. Fournet 623'. Holotype: US (03059732). Note: 'Chulimani' = Chulumani.
Bolivia (La Paz).

Paramo Yungeno.
2950 m.
April–May.

Munnozia gigantea (Rusby) Rusby, Bull. Torrey Bot. Club 54(4): 312 (1927).

**Liabum giganteum* Rusby, Bull. New York Bot. Gard. 4(14): 391 (1907). Type: [Bolivia:] ‘ “Plant 2 to 6 ft. high, in wet, shaded situations as a weed in cultivated ground, the flowers yellow.” Sacramento, Yungas, August 14, 1894. ([Bang] No. 2379.) The same collected by Pearce in the valley of Santa Cruz.’ Isosyntypes (Bang 2379): F (163928), NY (2 duplicated from Columbia University Herbarium – 00180655, 00180656, 00180657 – ex College of Pharmacy Herbarium), US (00032974).

Bolivia (Cochabamba, La Paz, Santa Cruz), Peru.
2500–3000 m.
March–October.

Munnozia glandulosa (Kuntze) Rusby, Bull. Torrey Bot. Club 54(4): 312 (1927).

**Liabum glandulosum* Kuntze, Revis. Gen. Pl. 3(3): 163 (1898). Type: ‘Bolivia: 1000 m Rio Juntas.’ [‘BOLIVIA. Rio Juntas, 1000 m, 13–21 Apr 1982, Kuntze s.n.’ – according to Wetter & Zanoni, 1985: 334] Holotype: NY (00180654); isotype: US (01440068 – fragments only, including a few florets).

Bolivia (La Paz).
1000–1500 m.
April.

?*Munnozia hastata* Wedd. ex Britton, Bull. Torrey Bot. Club 19: 263 (1892), nom. nud. pro syn. = **Munnozia senecionidis** Benth.

Munnozia hastifolia (Poepp.) H. Rob. & Brettell, Phytologia 28(1): 55 (1974).

**Liabum hastifolium* Poepp., Nov. Gen. Sp. Pl. 3: 43 (1843). Type: ‘Crescit in versuris cultorum cum praecedente, nec non in fruticetis circum Missionem Tocache. Augusto iterumque Julio florens lectum.’ [q.v. *Liabum amplexicaule* – Crescit in insulis arenosis fluminis Tocache Peruviae orientalis Augusto [sic!] florebat.’

**Heterotheca deltoidea* Klatt, Ann. Naturh. Hofmus. Wien 9: 358 (1894). Type: ‘Hab.: Peru, leg. d’Orbigny, Nr. 466.’ Holotype: W.

Liabum lactiferum V. M. Badillo, Bol. Soc. Venez. Cienc. Nat. 10(No. 68): 312 (1946). Type: ‘Edo. Mérida: cerca de El Gritadero, Torondoy, 1400 m. mayo 20 de 1944 (Badillo 896), tipo; idem. (Badillo 897).’ Holotype: VEN. Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz), Colombia, Ecuador, Peru, Venezuela.
Cloud forest.
0–3000 m.
May–November.

Munnozia herrerae (Cabrera) H. Rob. & Brettell, Phytologia 28(1): 55 (1974) = **Munnozia foliosa** Rusby

Munnozia hirta (Kuntze) Rusby, Bull. Torrey Bot. Club 54(4): 312 (1927).

**Liabum hirtum* Kuntze, Revis. Gen. Pl. 3(3): 163 (1898). Type: ‘Bolivia: 1900 m Rio Juntas.’ [‘BOLIVIA. Rio Juntas, 1800 n, 13–21 Apr 1892, Kuntze s.n.’ – according to Wetter & Zanoni, 1985: 334]. Holotype: NY (00180658); isotype: US (01440069 – one small leaf fragment only).

Bolivia (Cochabamba, La Paz).
1800–3500 m.
April–July.

Munnozia isodonta (S. F. Blake) H. Rob. & Brettell, Phytologia 28(1): 55 (1974) = **Munozia senecionidis** Benth.

Munnozia klattii H. Rob. & Brettell, Phytologia 28(1): 55 (1974), nom. nov. pro *Liabum corymbosum* Sch.Bip. ex Klatt = **Munnozia maronii** (André) H. Rob.

Munnozia laxiflora Rusby, Bull. Torrey Bot. Club 54(4): 319 (1927) = **Munozia senecionidis** Benth.

Munnozia longifolia Rusby, Bull. Torrey Bot. Club 54(4): 313 (April 1927). Type: 'Collected by *Otto Buchtien* at Unduavi, Bolivia, 3300 meters, Nov. 1910 (No. 3079)./ "A shrub." ' Holotype: NY (00230712/00230715 – the two barcodes have been applied to the same sheet); isotype: US (00043733).

**Liabum hexagonum* S. F. Blake, J. Wash. Acad. Sci. 17(11): 300 (June 1927). Type: 'BOLIVIA: Unduavi, North Yungas, alt. 3300 m., Nov. 1910, *Buchtien* 3079'. Holotype: US (00043733); isotype: NY (00230712/00230715 – the two barcodes have been applied to the same sheet).

**Liabum longifolium* (Rusby) S. F. Blake, J. Wash. Acad. Sci. 25: 322 (1935).

Bolivia (La Paz).

Cloud forest.

2500–3300 m.

October–March.

Munnozia maronii (André) H. Rob., Phytologia 35(3): 200 (1977).

Andromachia maronii André, Rev. Hort. : 496 (1887). Type/s?: 'Il y a deux ans, M. Maron, jardinier en chef au château de Saint-Germain, Près Corbeil, reçut quelques poignées d'une terre venue du Brésil et qu'il sema avec soin. ... L'espèce la plus voisine de la nôtre est une plante trouvée par *Mandon* (n° 420) au Chili et étiquetée *Munnozia*, dans l'herbier du Muséum; ...'

Liabum (*Munnozia*) *corymbosum* Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); *Linnaea* 34(5): 535 (Feb. 1866), nom. nud. (based on *Mandon* 240).

**Liabum corymbosum* Sch.Bip. ex Klatt, Ann. K. K. Naturh. Hofmus. Wien 9: 363 (1894), non (Ruiz & Pav.) Sch.Bip. (1853). Type: 'Hab.: Viciniis Sorata, [Valle rivi Challasuyo,] in nemoribus, leg. *G. Mandon*, regione temp., ad 2700–3000 m., Jan.–Nov. 1852, Nr. 240.' Holotype: W; isotypes: GH (9733, 9734), GOET (1044), NY (00180648, 00180649, 00180650), RB, US (01706033). Note: The label data actually reads 'Jun–9^{br} 1858 – which is equivalent to September, not November.

Munnozia klattii H. Rob. & Brettell, Phytologia 28(1): 55 (1974), nom. nov. pro *Liabum corymbosum* Sch.Bip. ex Klatt

Bolivia (La Paz).

Dry Chaqueno forest, Yungas.

500–3000 m.

June–September.

Munnozia megacephala (Sch.Bip.) H. Rob. & Brettell, Phytologia 28(1): 55 (1974) = **Munnozia senecionidis** Benth.

Munnozia muricata Rusby, Bull. Torrey Bot. Club 54(4): 315 (1927) = **Munnozia pinnulosa** (Kuntze) H. Rob. & Brettell

Munnozia pinnulosa (Kuntze) H. Rob. & Brettell, Phytologia 28(1): 56 (1974).

**Liabum pinnulosum* Kuntze, Revis. Gen. Pl. 3(3): 163 (1898). Type: 'Bolivia: 2600 m zwischen La Seja und Santa Rosa. *L. hastifolium* Poeppig & Endl. gen. III 43 ex descr. weicht ab „petiolis basi nudis“ „tomento deciduo floccoso adpersi“ „Flores aurantii“.' ['BOLIVIA. Zwischen La Seja und Santa Rosa, 2600 m, Apr 1892, *Kuntze* s.n.' – according to Wetter & Zandoni, 1985: 334] Holotype: NY (00180666); isotype: US (00701987).

Munnozia muricata Rusby, Bull. Torrey Bot. Club 54(4): 315 (1927). Type: 'Collected by *Otto Buchtien* at Unduavi, Bolivia, 3300 meters, November 1910, (No. 681).' Holotype: NY(00230713); isotype: US (01098160).

Munnozia deltoidea Rusby, Bull. Torrey Bot. Club 54(4): 315 (1927). Type: '*Rusby* 1744'. [Note: in a contorted explanation, Rusby mentioned *Bang* 670 and *Buchtien* 475 as well, and these are to be taken as paratypes; there are two duplicates of *Bang* 670 in K.] Material of *Rusby* 1744 in NY (00230706) was determined simply as type, but is considered to be the holotype.

Bolivia (Cochabamba, La Paz).

Cloud forest.

2500–3500 m.

February–September.

Munnozia polymnioides (DC.) H. Rob. & Brettell, Phytologia 28(1): 56 (1974) = **Erato polymnioides** DC.

Munnozia pulchra (S. F. Blake) H. Rob. & Brettell, *Phytologia* 28(1): 56 (1974) = ***Munnozia venosissima*** Ruiz & Pav.

Munnozia rusbyi (Britton) Rusby, *Bull. Torrey Bot. Club* 54(4): 312 (1927).

**Liabum rusbyi* Britton, *Bull. Torrey Bot. Club* 19(9): 263 (1892). Type: 'Mapiri, 10,000 ft. ([Rusby] 1745).'

Holotype: NY (00180668); isotypes: K, NY (00180669 - ex College of Pharmacy Herbarium, 00180670 - ex Princeton University Herbarium), US (00043985).

Bolivia (La Paz).

Munnozia sagittata Wedd., *Chloria Andina* 1: 211 (1857) = ***Munnozia senecionidis*** Benth.

Munnozia sagittata (Sch.Bip.) H. Rob. & Brettell, *Phytologia* 28(1): 56 (1974), com. illegit. = ***Munnozia senecionidis*** Benth.

Munnozia senecionidis Benth., *Pl. Hartweg* : 134 (1840). Type: 'In montibus Paccha.' [*Hartweg*]. Holotype: K.

Liabum sagittatum Sch.Bip., *Flora* 36(3): 37 (1853). Types: '= *Chrysartrum* Willd. herba n. 16525 e Peruvia calidis: *Humboldt!* folia habet supra glabra. Eandem habeo e Nova Granada, prov. Bogota, salto de Tequendama, alt. 7200-7800 ped. Dec. 1842: *Linden!* n. 805, et e prov. Pamplona, La Baja, alt. 8000 ped. Dec. 1846. *Funk et Schlimm!* n. 1293.' Syntypes: B†.

Liabum megacephalum Sch.Bip., *Flora* 36(3): 38 (1853). Types: 'Venezuela, prov. Merida-Jaji, alt 7500 ped. Nov. 1846: *Funk et Schlimm!* . 1201; et Colombia, colonia Tovar, in sylvis umbrosis ad viam La victor in summis montibus. Junio, Julio: *Moritz!* n. 837.'

Munnozia sagittata Wedd., *Chloria Andina* 1: 211 (1857), Types: [Ecuador:] 'Hab. In Andibus quitensibus, regione frigida sylvatica, alt. 3000 metr. (*Jameson*, exsicc., ann. 1856, n. 392) et [Colombia:] in prov. Bogota et Pamplona Nov. Granatae (*Humb. et Bonpl.*; *Goudot*; *Funck et Schlim*, exsicc., n. 1293).'

Chrysastrum sagittatum Willd. ex Wedd., *Chloris Andina* 1: 211 (1855), nom. nud. pro syn.

**Liabum hastatum* (Wedd.) Britton, *Bull. Torrey Bot. Club* 19: 263 (1892).

?*Munnozia hastata* Wedd. ex Britton, *Bull. Torrey Bot. Club* 19: 263 (1892), nom. nud. pro syn.

Munnozia ariste-josephi Rusby, *Bull. Torrey Bot. Club* 54: 314 (1927). Type: 'Collected by Brother Ariste-Joseph, at Guassia, Colombia, Sept. 1919 (No. A455).'

Munnozia strigulosa Rusby, *Bull. Torrey Bot. Club* 54(4): 317 (1927). Type/s?: 'Collected by F. W. Pennell, along roadside, on a forested slope of Tequendema, Cundinamarca, Colombia, 2300 to 2400 meters, Sept. 15, 1917 (No. 1970). No. 4432, from the State of Bolivae, Cordillera Occidental, 2800 to 3100 meters, "a shrub with yellow flowers," is probably a form of the same, although its involucre scales are scarcely acute and are somewhat arachnoid. It is less likely that No. 7450 belongs to this species. This is "a climbing shrub, with yellow flowers, from Mt. Santa Ana, Cauca, 2800 to 3000 meters, June 29-30, 1922.' Holotype: NY (00230714).

Munnozia attenuata Rusby, *Bull. Torrey Bot. Club* 54(4): 317 (1927). Types: 'Collected by Rusby and Pennell in the edge of a bog, at Balsillas, Huila, Colombia, 2000 to 2200 meters, August 3-5, 1917 (No. 769)./" A shrub, with light yellow flowers," It appears to be identical with *Lehmann's* No. B.T. 1206, from Ecuador.'

Isosytype: *Lehmann* B. T. 1206, K.

Munnozia filipes Rusby, *Bull. Torrey Bot. Club* 54(4): 318 (1927). Type: 'Collected by Rusby and Pennell in the forest west of Balsillas, Colombia, 2,00 to 2200 meters, Aug. 3-6, 1917 (No. 911, the type).' Holotype: NY (00230708).

Munnozia laxiflora Rusby, *Bull. Torrey Bot. Club* 54(4): 319 (1927). Types: 'Collected by Pennell and Killip, in the Cordillera Central, Colombia, July 11-12, 1922, above tree level, 3300 to 3400 meters (No. 6518)./ Apparently belonging to this species are *Triana's* No. 1150 from New Granada and *Sodirol's* No. 594, from the mountains of Alacatzo, Ecuador. This has been called *Liabum sagittatum* by Schultes-Bipontinus, but this name cannot obtain under *Munnozia*, as it is preoccupied. *Pennell's* 3154, a tall herb from the Murillo Road, Tolima, is identical with *Triana's* plant.' Isosytype: *Triana* 1150, K.

Liabum isodontum S. F. Blake, *J. Wash. Acad. Sci.* 17(11): 298 (1927). Type: 'BOLIVIA: Unduavi, North Yungas, alt. 3300 m., Nov. 1910, *Buchtien* 4808'. Holotype: US (01179268).

Liabum taeniotrichum S. F. Blake, *J. Wash. Acad. Sci.* 17(11): 298 (1927). Type: 'PERU: Province of Chachapoyas, *Mathews'*. Holotype: K; isotypes: K × 2, US (fragment).

Munnozia megacephala (Sch.Bip.) H. Rob. & Brettell, *Phytologia* 28(1): 55 (1974)

Munnozia sagittata (Sch.Bip.) H. Rob. & Brettell, *Phytologia* 28(1): 55 (1974).

Munnozia isodonta (S. F. Blake) H. Rob. & Brettell, *Phytologia* 28(1): 55 (1974)
Munnozia taeniotricha (S. F. Blake) H. Rob. & Brettell, *Phytologia* 28(1): 56 (1974).
Bolivia (Cochabamba, La Paz), Peru, Venezuela.
Ceja.
2300–3570 m.
June–November. Probably flowering throughout the year.

Munnozia strigulosa Rusby, *Bull. Torrey Bot. Club* 54(4): 317 (1927) = **Munnozia senecionidis** Benth.

Munnozia subviridis (S. F. Blake) H. Rob. & Brettell, *Phytologia* 28(1): 1974).

**Liabum subviride* S. F. Blake, *J. Wash. Acad. Sci.* 17(11): 294 (1927). Type: 'PERU: "Shrub with yellow flowers,"
Lucumayo Valley, not far from Ollantaytambo, Prov. Cuzco, alt. 1800–3600 m., 19 June 1915, O. F. Cook &
G. B. Gilbert 1365'. Holotype: US (604546).

Bolivia (?), Peru.
1800–3600 m.
June.

Munnozia taeniotricha (S. F. Blake) H. Rob. & Brettell, *Phytologia* 28(1): 56 (1974) = **Munnozia senecionidis**
Benth.

Munnozia venosissima Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chile* 1: 195 (1798). Type: 'HABITAT in Peruviae
montibus silvaticis versus Pillao vicum./FLORET Augusto, et Septembri.' Holotype: MA.

Liabum venosissimum (Ruiz & Pav.), *Sch.Bip., Flora* 36: 34 (1853).

Liabum pulchrum S. F. Blake, *J. Wash. Acad. Sci.* 17: 299 (1927). Type: 'PERU: "Beautiful liana, bright yellow,"
Muña, trail to Tambo de Vaca, Dept. Huánuco, alt. 2440 m., 5–7 June 1923, Macbride 4312 (type no. 535394,
Field Mus.; dupl. no 1,191,493, U. S. Nat. Herb.)'

Munnozia pulchra (S. F. Blake) H. Rob. & Brettell, *Phytologia* 28(1): 56 (1974).

Bolivia (La Paz), Peru.
2550m.
April.

La Paz: *Funk* 11322 (US).

Musteron Raf., *Fl. Tellur.* 2: 50 (1836) = **Erigeron** L.

Mutisia L.f., *Suppl. Pl.* : 57 (1781).

Guariruma Cass., *Dict. Sci. Nat.* 33: 472 (1824). Type: not designated.

Aplophyllum Cass., *Dict. Sci. Nat.* 33: 472 (1824). Type: not designated. Note: it is likely that this name may be
considered invalid since Cassini (1824: 472) provided only a provisional name, but as a subgenus. On the
following page (Cassini, 1824: 473) '*Aplophyllum*' was definitely mentioned as a genus!

Type: *Mutisia clematis* L.f.

References

Cabrera, A. L. (1934). Notas sobre el género *Mutisia*. *Notas Prelim. Mus. La Plata* 3(1): 157–172 + Lam. I–II.

Cabrera, A. L. (1965). Revisión del género *Mutisia* (*Compositae*). *Opera Lilloana* 13: 1–227.

Key to species

1. Leaves compound with rachis terminating in a tendril (sect. *Mutisia*) 2
Leaves simple, entire, dentate or profoundly divided 5
2. (1) Leaves compound with lanceolate, ovate or elliptic leaflets contracted at the base and more
than 10 mm long; phyllaries glabrous or abaxially tomentose; corollas red, reddish orange or
scarlet 3
Leaves profoundly divided with oblong or linear segments, or markedly with ovoid to
circular segments/lobes, less than 10 mm long; phyllaries tomentose along margins;
corollas white or pink *M. hamata*

- | | | | |
|----------|--|--------------------------|----|
| 3. (2) | Apices of outer phyllaries recurved; pappus of rayed florets almost as long as corolla tube of these florets | <i>M. lanata</i> | |
| | Apices of outer phyllaries not or scarcely recurved; pappus of rayed florets half as long or much shorter than corolla tube of these florets | | 4 |
| 4. (3) | Involucre 35–60 mm tall; phyllary margins not ciliate-lanose, outer phyllaries obtuse | <i>M. acuminata</i> | |
| | Involucres 30–35 mm tall; phyllary margins ciliate-lanose | <i>M. vicia</i> | |
| 5. (1) | Capitula with isomorphic corollas, all hermaphrodite, corollas bilabiate or rayed; shrubs; leaves lacking tendril (sect. <i>Isantha</i>) | | 6 |
| | Capitula heterogamous, marginal florets female, sub-ligulate/rayed, disc florets hermaphrodite, bilabiate | | 7 |
| 6. (5) | Florets 15–20 per capitulum; leaves broad-lanceolate or elliptic | <i>M. kurtzii</i> | |
| | Florets 5–8 per capitulum; leaves linear or narrowly-lanceolate | <i>M. orbignyana</i> | |
| 7. (5) | Leaves subulate, margins revolute, with or without a terminal tendril (sect. <i>Hoplophyllum</i>) | <i>M. friesiana</i> | |
| | Leaves lanceolate or ovate | | 8 |
| 8. (7) | Shrubs; leaves lanceolate, entire dentate or partite, without tendril (sect. <i>Fruticosa</i>) | | 9 |
| | Climbing or scandent plants; leaves usually with tendrils (sect. <i>Guariruma</i>) | | 11 |
| 9. (8) | Leaves pectinate-lobate | <i>M. comptoniifolia</i> | |
| | Leaves entire or dentate | | 10 |
| 10. (9) | Female florets ± 6; corollas white, ray well developed; leaves 2–6 mm wide | <i>M. ledifolia</i> | |
| | Female florets few (sometimes absent), almost equal to hermaphrodite; leaves 5–10 mm wide | <i>M. homoeantha</i> | |
| 11. (8) | Leaves dentate, at least in lower half; phyllary apices lanose | <i>M. lanigera</i> | |
| | Leaves entire (or at most with one or two lobes at base); phyllary apices glabrous | | 12 |
| 12. (11) | Leaves short-petioalate, base sagittate | <i>M. cochabambense</i> | |
| | Leaves sessile, rarely subpetiolate, but then base rounded | | 13 |
| 13. (12) | Capitula large, involucre 50 mm tall × 30–35 mm diam. | <i>M. mandoniana</i> | |
| | Capitula smaller, involucre 25–45 mm tall × 12–25 mm diam. | <i>M. andersonii</i> | |

Mutisia acuminata Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 192 (1798). Type/s: 'Habitat in umbrosis et praeruptis Provinciarum Tarmae, Huarocherí et Caxatambo ad Cheuchin vicum. Floret à Majo ad Augustum.' Cabrera (1965: 57) cited the 'holotype' as 'Ceuchin 1779 mayo' in MA, and a possible isotype in BM ('Ex Perú. Ruiz et Pavón.). The holotype appears as the first image marked as A6 on the microfiche sheet 294 of the Ruiz & Pavón herbarium; the second image A6 appears to be a duplicate of the first, and the third image a continuation of the profuse notes on this plant.

**Mutisia viciifolia* [as *viciaefolia*] Cav., Icon. 5: 62, tab. 490 (1799). Type: 'Mutisia. Nee herbar. ... Habitat prope Valparaiso in Regno chilensi, floretque Martio. Vidi siccam in dicto herbario.' Holotype: MA (476009 – sheet shown in Fiche 50/C8). Note: There are two sheets in MA which correspond to this name, 476009 (Fiche 50/C7) with only a typewritten label, and a second, also numbered 476009 (Fiche 50/C8) on which there is a handwritten label.

Mutisia peduncularis Cav., Icon. 5: 62, tab. 491 (1799). Type: 'Mutisia. Nee herb. ... Habitat prope oppidum peruvianum S. Buenaventura. Floret Iulio. Vidi siccam apud D. Ludovicum Née.' Holotype: MA (476004 – Fiche 50/C2).

Mutisia viciifolia Ruiz & Pav. var. *α genuina* Wedd., Chloris Andina 1: 15 (1855), based on *Mutisia viciifolia* Cav.

Cabrera (1978: 600) merged the variety *paucijuga* under the species in his account for Jujuy in Argentina. However, this appeared to indicate that this variety occurred only in Argentina!

var. **acuminata**

Bolivia (Chuquisaca, Cochabamba), Peru.

1000–4000 m.

November–March.

var. **candolleana** (Gardner) Cabrera, Opera Lilloana 13: 60 (1965).

Mutisia candolleana Gardner, Sertum Pl. 1: tab. 45–46 (1844). Type: 'Hab. Bolivia. Mr. Pentland.' Holotype: OXF.

**Mutisia viciifolia* Ruiz & Pav. β *candollena* (Gardner) Wedd., Chloris Andina 1: 15 (1855).

Mutisia petiolulata Decne. ex Wedd., Chloris Andina 1: 15 (1855), nom. nud. pro syn.

**Mutisia viciifolia* Ruiz & Pav. forma *intermedia* Cuatrec., Anales Univ. Madrid (Pl. Iserniana) 4(2) 1: 237 (1935). Types: 'Bolivia: cercanías de La Paz, 3-VII-1863 ([*Isern*] núm. 369). Perú: común en el valle de Tarma, 29-IX-1863 ([*Isern*] núm. 583).' Syntypes: MA. Cabrera (1965: 60) noted only one of the types, '*Isern* 369', which he had not seen and which he appears to have designated the duplicate in LP as the lectotype. Bolivia (Chuquisaca, Cochabamba, La Paz, Oruro, Potosí, Tarija).

Bosque semidecídúo montano Boliviano-Tucumano (Boliviano-Tucumano montane semideciduous forest). 2500–3350 m.

November–May.

var. **hirsuta** (Meyen) Cabrera, Opera Lilloana 13: 59 (1965).

Mutisia hirsuta Meyen, Reise um die Erde 1: 451 (1834). Type: not cited. [Walper in Observat. Bot. : 284–285 (1843) cited 'Peruvia: Cordillera de Tacna. (v.s.)'] Holotype: B†.

**Mutisia viciifolia* Ruiz & Pav. var. γ *hirsuta* (Meyen) Wedd., Chloris Andina 1: (1855).

Bolivia (La Paz, Oruro), Chile, Peru.

Ceja vegetation, Yungas.

2500–3500 m.

July–September.

var. **paucijuga** (Griseb.) Cabrera, Opera Lilloana 13: 58 (1965).

Mutisia viciifolia Ruiz & Pav. var. *paucijuga* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 211 (1879);

Symb. Fl. Arg. : 211 (1879). Types?: 'S. J.: („Peru – Chile“). Syntypes: Lorentz & Hieronymus 330, GOET;

Lorentz & Hieronymus 726, GH (14282), GOET, NY, S. Cabrera (1965: 58) cited only the isotypes of Lorentz & Hieronymus 726, but not specifically lectotypifying this name.

Argentina, Bolivia (Chuquisaca, Tarija).

Vernacular name: CHINCHIRCOMA (Katinas, 1996: 26).

Mutisia andersonii Sodiro ex Hieron., Bot. Jahrb. Syst. 29(1): 80 (1900*). Type: [Ecuador:] 'Crescit in declivibus orientalibus et occidentalibus montis Pichincha, item in fruticetis prope Pango, alt. s. m. 3000–3500 m (S.[*odiro*] n. 63/1).' Holotype: B†. [*Note: See Reference section concerning problem with date of publication]

Mutisia sagittifolia S. F. Blake, Bot. Gaz. 74: 428 (1922). Type: 'ECUADOR. – On slopes of Mt. Pichincha, August 23, 1920, E.W.D. and M.M. Holway 941'. Holotype: US (1058634); isotype: GH (10666).

Bolivia (La Paz), Ecuador, Peru.

Rocky areas with very large rocks and scrub vegetation

2000–4000 m.

January–August.

Mutisia anomala Lillo, Prim. Reunión Nac. Soc. Argent. Ci. Nat., Tucumán 1916: 230 (1919) = **Mutisia kurtzii** var. **anomala** (Lillo) Cabrera

Mutisia bipontina Mandon ex Rusby, Mem. Torrey Bot. Club 6(1): 68 (1896) = **Mutisia lanata** Ruiz & Pav.

Mutisia bipontini Mandon ex Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 527 (Feb. 1866), nom. nud. (based on Mandon 6) = **Mutisia lanata** Ruiz & Pav.

Mutisia bipontina* Mandon ex Weberb. in Engl. & Drude, Veget. Erde 12: 237 (1911), nom. nud. = **Mutisia lanata Ruiz & Pav.

Mutisia camptosorifolia* Rusby, Mem. Torrey Bot. Club 4(3): 213 (1895) = **Mutisia cochabambensis Hieron.

Mutisia camptosorifolia Rusby var. *nana* Beauverd ex Herzog, Pflanzenw. Bolivischen Anden : 209 (1923), nom. nud. = **Mutisia cochabambensis** Hieron.

Mutisia candolleana Gardner, Sertum Pl. 1: tab. 45–46 (1844) = **Mutisia acuminata** Ruiz & Pav. var.

candolleana (Gardner) Cabrera

*? *Mutisia clematis* L.f., Suppl. Pl. : 373 (1781). Listed for Bolivia by Foster (1958: 214) but referred only to Colombia by Cabrera (1965). It isn't immediately obvious which reference was the source of Foster's record but may well refer to **Mutisia lanata** Ruiz & Pav.

Mutisia cneorifolia Dec. ex Wedd., *Chloris Andina* 1: 22 (1855), nom. nud. pro syn. = **Mutisia orbignyana** Wedd.

***Mutisia cochabambensis** Hieron., *Bot. Jahrb. Syst.* 19(1): 74 (1894). Type: 'Proxime affinis quoque est species tertia nova a cl. M. BANG prope Cochabamba in republica Bolivia lecta et sub n. 881 a cl. N. L. BRITTON et H. H. RUSBY nomine *M. hastatae* distributa, cui nomen *M. cochabambensis* Hieron. n. sp. impositum sit, ...' Holotype: B†; isotypes: GH (10651), MO, NY (00230726, 00230727), US (01403696), WIS.

**Mutisia iserni* Phil., *Anales Univ. Chile* 85: 823 (1894). Type: 'Habitat ad Tiahuanaco in Bolivia, legit Joh. Isern.' ['Se halla en Tiahuanaco; en Bolivia la recolectó Juan Isern. - Pizarro, 1960: 151.] Holotype: SGO (64919); isotype: LP.

**Mutisia camptosorifolia* Rusby, *Mem. Torrey Bot. Club* 4(3): 213 (1895). Type: [Bolivia:] '[Bang] 881.' Noted (Rusby, 1895: 213) as 'Published as "*Mutisia hastata* Cav." is MUTISIA CAMPTOSORIFOLIA sp. n.' Holotype: NY (00230727); isotypes: GH (10651), MO, NY (00230726), US (01403696). Note: The types in NY (holotype and isotype) are also the isotypes of *M. cochabambensis* - and both have two barcodes!

Mutisia camptosorifolia Rusby var. *nana* Beauverd ex Herzog, *Pflanzenw. Bolivischen Anden* : 209 (1923), nom. nud.

**Mutisia flagellaria* J. Koster, *Blumea* 5(3): 672 (1945). Type: 'Hab.: windend und rankend im Gebüsch des Araca-Thalgehänges, 3500 m alt., Okt. 1911, [Herzog] n. 2362.' Holotype: L(94437206); isotype: L(94437205 - a specimen lacking a collecting label), LP, S.

Bolivia (La Paz, Cochabamba), Peru.

3000-4000 m.

***Mutisia comptoniifolia** [as *comptoniaefolia*] Rusby, *Mem. Torrey Bot. Club* 3(3): 65 (1893). Type: [Bolivia:] 'Talca Chugiaguilla, April, 1890, ([Bang] 795).' Holotype: NY (00230728); isotypes: GH (10653), NY (00230729), O, US (01403695), WIS.

Bolivia (La Paz).

Note: Cabrera (1965: 133) suggested that this may well be treated as a hybrid, intermediate between *M. orbignyana* Wedd. and *M. acuminata* var. *hirsuta* (Meyen) Cabrera.

Mutisia flagellaria* J. Koster, *Blumea* 5(3): 672 (1945) = **Mutisia cochabambensis Hieron.

Mutisia friesiana Cabrera, *Notas Mus. La Plata, Bot.* 13(No. 56): 19 (1948). Type: 'ARGENTINA. -Salta, Departamento de Poma, Quebrada de Cobres, 3500 m.s.m., leg. A. L. Cabrera 8716, 13-II-1945'. Holotype: LP. Argentina, Bolivia (Chuquisaca, Oruro, Potosí, Tarija).

Vernacular names: CHINCHIRCOMA COLORADO; ROMERILLO (Katinas, 1996: 27).

Mutisia hamata Reiche, *Anales Univ. Chile* 115: 103 (1904), as nom. nov. pro *M. microphylla* Phil., non Willd. *Mutisia microphylla* Phil., *Anales Mus. Nac. Chile, Bot.* 8: 30 (1891), non Willd. Type: 'Ad Amincha c. 3800 m s. m. lecta.' [F. *Philippi*] Holotype: ?SGO.

Mutisia philippii R. E. Fr., *Nova Act. Reg. Soc. Sci. Upsal.*, ser. 4, 1(1): 92 (1905). Types: [Argentina:] 'Prov. Jujuy: El Angosto in Dep. de S:a Catalina in fruticetis ca. 3600 m. s. m. (1 Febr. 1901; KURTZ 11547); Laguna Tres Cruces in petrosis (12 Febr. 1901; KURTZ 11669); Moreno ad Nevado de Chañi in *Baccharide polifolia volubilis*, 3500 m. s. m. (11-16 Dec. 1901; FR. 824 a, capitulis vix evolutis). Prov. Salta: Toro in Quebrada del Toro ca. 3300 m. s. m.; specimina erecta (17 Nov. 1901; FR. 824; leg. G. V. HOFSTEN).' Syntypes: S. Isosyntype (*Fries* 824a): UPS.

Argentina, Bolivia (Chuquisaca, Potosí, Tarija), Chile.

3300-3600 m.

December-February.

Vernacular name: CHINCHIRCOMA BLANCO (Katinas, 1996: 27).

Mutisia hastata* Cav., *Icon.* 5: 64, t. 494 (1799). Listed by Foster (1958: 214), based on Rusby's determination of *Bang* 881. This specimen was, a year later, used by Hieronymus (1894) as the type of **Mutisia cochabambensis, q.v., although Rusby (1895) later used the same specimen as the type of his *Mutisia camptosorifolia*.

Mutisia hirsuta Meyen, *Reise um die Erde* 1: 451 (1834) = **Mutisia acuminata** Ruiz & Pav. var. *hirsuta* (Meyen) Cabrera

***Mutisia homoeantha** Wedd., *Chloris Andina* 1: 21 (1855). Type: 'Hab. BOLIVIE: bord des précipices, dans les montagnes du sud du département de Chuquisaca!, à une élévation d'environ 3500 mètres (Wedd.).'
Holotype: P; isotype: F (970346 -fragments only, 2 leaves, a shoot apex and remnants of one capitulum).
Note: Cabrera (1965: 137) cited the holotype as *Weddell* 4075.
Argentina, Bolivia (Chuquisaca).
3500 m.

Mutisia iserni* Phil., *Anales Univ. Chile* 85: 823 (1894) = **Mutisia cochabambensis Hieron.

Mutisia kurtzii R. E. Fr., *Nova Acta Regiae Soc. Sci. Upsal.*, ser. 4, 1(1): 94 (1905). Type: [Argentina:] 'Prov. Jujuy: Tilcara, Quebrada de Juelle, in glareosis (21 Febr. 1901; KURTZ 11732).' Holotype: S. Note: Cabrera (1965: 101) cited the holotype as *F. Claren* 11732, with the holotype in S and an isotype in BAF.

var. **kurtzii**

Argentina, Bolivia (?).

Cabrera (1965: 101) suggested that this species might also occur in southern Bolivia, as might the var. *anomala* which occurs throughout the same range as the type variety. Both varieties will have to be looked out for.

var. **anomala** (Lillo) Cabrera, *Opera Lilloana* 13: 103 (1965).

Mutisia anomala Lillo, [Reseña fitogeográfica de la Prov. de Tucumán.] *Actas Prim. Reunión Nac. Soc. Argent. Ci. Nat., Tucumán* 1916: 230 (1919). Type: [Argentina: ?Tucumán] 'Es un arbusto de hasta 2 metros, común en la región de la Puna.' [Lectotype (selected by Descole et al., 1939: 61): [Argentina:] 'Tucumán. Dep. Trancas: Cumbres Calchaquies: Lara, alt. 4000 m, *Baer*, II-1903', LIL.] Note: Cabrera (1934: 158), after providing the relevant extract of Lillo's text, noted 'Nomen seminudum' but without any other comments. Lillo provided minimal distinction from *Mutisia kurtzii* and a note on the locality only. Cabrera's Latin description (Cabrera, 1934: 158) is more than ample to distinguish the taxon, although no type was, but several specimens were, cited.

var. *anomala* (Lillo) Cabrera, *Revista Invest. Agríc.* 11(4): 409 (1958). This new combination (Cabrera, 1958: 409) was not published with full and direct reference to its basionym; it is therefore invalid following ICBN 2006 - Art. 33.4.

Argentina, Bolivia (?).

4000 m.

February.

Note: Descole et al. (1939) have provided a commentary on several of Lillo's new taxa that appeared in the 'Resena ...' as well as lectotypifying the names they treated, and citing other material in LIL corresponding to the species. Most of Lillo's taxa are also illustrated (in Descole et al., 1939) with a half-tone plate of the corresponding lectotype, some also accompanied by black and white illustrations of dissections.

Mutisia lanata Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* 1: 192 (1798). Type: 'Habitat in Peruviae nemoribus prope Muña vicum in Pozuz via. Floret à Julio ad Septembrem.' Holotype: MA (B4 on microfiche sheet 294 of the Ruiz & Pavon herbarium); probable isotype: MA (B2 on microfiche sheet 294 of the Ruiz & Pavón herbarium) but unannotated, other than an MA name label. B3 is similarly identified as *M. lanata* but is most probably not original material as the bottom of the label is marked 'Ex Herb. Fl. Peru/anno 1828'.

Mutisia bipontini Mandon ex Sch.Bip., *Bull. Soc. Bot. France* 12: 79 (1865); *Linnaea* 34(5): 527 (Feb. 1866), nom. nud. (based on *Mandon* 6).

Mutisia bipontina Mandon ex Rusby, *Mem. Torrey Bot. Club* 6(1): 68 (1896). Types: [Bolivia:] 'Espirito Santo, 1891 ([Bang] 1253) = *Mandon's* no. 6 and *Rusby's* 1549.' Lectotype (Cabrera, 1965: 36 - of '*M. bipontini* Mandon'): *Mandon* 6 - NY (00230719); isolectotypes: GH (10649), F (972045), NY (00230720 - ex Herb. J. Torrey, 00230723 - ex W) S, P. Isosytype (*Bang* 1253): GH (10648), US (00207126). Note: Cabrera (1965: 36) effectively only carried out first stage lectotypification as neither of the sheets in NY (of *Mandon* 6) were specified, although NY (00230723) is annotated as '*Mutisia mandonii* Sch.Bip. Cotype!', a name which has never been published.

**Mutisia bipontina* Mandon ex Weberb. in Engl. & Drude, *Veget. Erde* 12: 237 (1911), nom. nud.

Mutisia lanata Ruiz & Pav. var. *bipontini* (Mandon ex Sch.Bip.) Beauv. ex Herzog in Engl. & Drude, *Veget. Erde* 15: 195 (1923), comb. illegit.

Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija), Peru.
Ceja vegetation, Yungas, Matorralies seriales orotrophicales altiplánico occidentales.
2000–4000 m.
July–September.

Mutisia lanata Ruiz & Pav. var. *bipontini* (Mandon ex Sch.Bip.) Beauv. ex Herzog in Engl. & Drude, Veget. Erde 15: 195 (1923), comb. illegit. = **Mutisia lanata** Ruiz & Pav.

***Mutisia lanigera** Wedd., Chloris Andina 1: 16 (1855). Type: 'Hab. BOLIVIE: province de Carangas! (d'Orbigny, n° 1341).' Holotype: P.

Bolivia (La Paz), Chile, Peru.

Altiplano, Khewiñar Altiplánico occidental (Western Altiplano sclerophyllous seasonal evergreen woodland), Puna, sandy soils, Cardonales orotropicales semiáridos centro-altiplánicos (Central Altiplano semiarid thorn and succulent scrub).

3500–4500 m.

March–April.

***Mutisia ledifolia** Decne. ex Wedd., Chloris Andina 1: 20 (1855). Types: 'Hab. BOLIVIE: sommet de la Cuesta de Lagunillas!, département de Potosi (d'Orbigny, no 1272): punas du département de Chuquisaca, h. 2000 à 3500 mètres (Wedd., nos 2971 et 4703).' Syntypes: P. Lectotype (selected by Cabrera, 1965: 134): *D'Orbigny* 1272, P; Cabrera also cited a 'clastotype', GH (257269).

**Mutisia ledifolia* Decne. ex Wedd. f. *glabrata* Cuatrec., Anales Univ. Madrid 4(2) (Pl. Iserniana 1): 236 (1935). Type: 'Bolivia: Tiaguanaco, 14-VII-1863 ([Isern] núm. 474).' Holotype: MA.

**Mutisia ledifolia* Decne. ex Wedd. f. *longifolia* J. Koster, Blumea 5(3): 673 (1945). Type: 'Hab.: an felsigen Abhängen langs des Rio Cuchupunata, kleiner Strauch, Strahl-blüten oben weiss, 2900 m alt., April 1911, [Herzog] n. 2019.' Holotype: L; isotype: LP.

forma **ledifolia**

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Oruro, Potosí, Santa Cruz), Peru.

Puna, Cardonales orotropicales semiáridos centro-altiplánicos (Central Altiplano semiarid thorn and succulent scrub), steep scrub covered slopes.

3000–4500 m.

April–July.

Vernacular name: CHINCHIRCOMA BLANCO (Cabrera, 1965: 134; Katinas, 1996: 29).

Mutisia ledifolia* Decn. ex Wedd. f. *glabrata* Cuatrec., Anales Univ. Madrid 4(2) (Pl. Iserniana 1): 236 (1935) = **Mutisia ledifolia Decne. ex Wedd. f. **ledifolia**

Mutisia ledifolia* Decne. ex Wedd. f. *longifolia* J. Koster, Blumea 5(3): 673 (1945) = **Mutisia ledifolia Decne. ex Wedd. f. **ledifolia**

Mutisia mandoniana Wedd. ex Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 527 (Feb. 1866) nom. nud. (based on *Mandon* 8) = **Mutisia mandoniana** Wedd. ex Cabrera

Mutisia mandoniana Wedd. ex Cabrera, Opera Lilloana 13: 163 (1965). Type: 'Bolivia. Prov. de Larecaja: inter Sorata et Lacatia, leg. G. Mandon 8'. Holotype: NY (00230734); isotypes: F (974414), NY (00230735), P, S. Note: Whilst Cabrera specified the holotype as being in NY he did not specify which sheet even though it is clear he saw both; NY (00230734) is annotated as 'TYPE' on the 'Annotation label'.

Mutisia mandoniana Wedd. ex Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 527 (Feb. 1866), nom. nud. (based on *Mandon* 8).

Bolivia (La Paz).

'Bosques puneños transicionales subhúmedo-húmedos del Tunari'.

3400–3600 m.

July.

Mutisia microphylla Phil., Anales Mus. Nac. Chile, Bot. 8: 30 (1891), non Willd. = **Mutisia hamata** Reiche
Mutisia nerifolia Decne. ex Wedd., Chloris Andina 1: 22 (1855), nom. nud. pro syn. = **Mutisia orbignyana** Wedd.

***Mutisia orbignyana** Wedd., *Chloris Andina* 1: 22 (1855). Types: 'Hab. BOLIVIE: environs de La Paz!, h. 3800 ? mètres (*d'Orbigny*); Bartolo!, dans le département de Potosi, h. 3350 mètres (*d'Orbigny*, no 1387).' Syntypes: P. Lectotype (selected by Cabrera, 1965: 107): *D'Orbigny* 1387', P. Note: There is an unnumbered *d'Orbigny* collection (of several fragments) in F (972437).

Mutisia cneorifolia Decne. ex Wedd., *Chloris Andina* 1: 22 (1855), nom. nud. pro syn.

Mutisia neriifolia Decne. ex Wedd., *Chloris Andina* 1: 22 (1855), nom. nud. pro syn.

Argentina, Bolivia (La Paz, Oruro, Potosí, Sucre, Tarija), Peru.

Puna, Cardonales orotropicales semiáridos centro-altiplánicos (Central Altiplano semiarid thorn and succulent scrub).

3000–4000 m.

April–June.

Mutisia peduncularis Cav., *Icon.* 5: 62 (1799) = **Mutisia acuminata** Ruiz & Pav.

Mutisia petiolulata Decne. ex Wedd., *Chloris Andina* 1: 15 (1855) = **Mutisia acuminata** Ruiz & Pav. var.

candolleana (Gardner) Cabrera

Mutisia philippii R. E. Fr., *Nova Act. Reg. Soc. Sci. Upsal.*, ser. 4, 1(1): 92 (1905) = **Mutisia hamata** Reiche

Mutisia sagittifolia S. F. Blake, *Bot. Gaz.* 74: 428 (1922) = **Mutisia andersonii** Sodiro ex Hieron.

*? *Mutisia subulata* Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.*: 193 (1798). Listed by Foster (1958: 214) but Cabrera (1965: 121–124) listed the species for Argentina and Chile only. It is unclear on which reference/species it is based.

***Mutisia vicia** J. Koster, *Blumea* 5(3): 670 (1945). Type: 'Hab.: in Gebüsch sonniger Abhänge bei Comarapa, rankend, 2300 m alt., April 1911, Bl. ziegelrot, [*Herzog*] n. 1974.' Holotype: L(94437123); isotypes: LP, S.

var. **vicia**

Bolivia (Cochabamba, Santa Cruz).

Rocky hillsides.

2100–2300 m.

March–April.

var. **glabra** Cabrera, *Opera Lilloana* 13: 66 (1965). Type: 'Bolivia. Dep. Cochabamba: Pocona, 2500 m s. m., leg. J. Steinbach 8705'. Holotype: GH (95580); isotypes: ?F, MO, ?NY, U(96362), S. Note: Freire & Iharlegui (2000: 327) mistakenly cited the holotype as being at UC.

Bolivia (Cochabamba).

Mutisia viciifolia* Cav., *Icon.* 5: 62 (1799) = **Mutisia acuminata Ruiz & Pav.

Mutisia viciifolia* Cav. var. β *candollena* (Gardner) Wedd., *Chloris Andina* 1: 15 (1855) = **Mutisia acuminata Ruiz & Pav. var. **candolleana** (Gardner) Cabrera

Mutisia viciifolia Cav. var. α *genuina* Wedd., *Chloris Andina* 1: 15 (1855) = **Mutisia acuminata** Ruiz & Pav.

Mutisia viciifolia* Cav. var. γ *hirsuta* (Meyen) Wedd., *Chloris Andina* 1: 15 (1855) = **Mutisia acuminata Ruiz & Pav. var. **hirsuta** (Meyen) Cabrera

Mutisia viciifolia* Ruiz & Pav. var. *intermedia* Cuatrec., *ANales Univ. Madrid* 4(2): 237 (1935) = **Mutisia acuminata Ruiz & Pav. var. **candolleana** (Gardner) Cabrera

Mutisia viciifolia Ruiz & Pav. var. *paucijuga* Griseb., *Symb. Arg.* : 211 (1879) = **Mutisia acuminata** Ruiz & Pav. var. **paucijuga** (Griseb.) Cabrera

N

Nardophyllum armatum* (Wedd.) Reiche, *Anales Univ. Chile* 109: 29 (1901) = **Ocyroe armata (Wedd.) Bonif.

Nassauvia Comm. ex Juss., *Gen. Pl.* : 175 (1789).

Pentanthus Less., *Syn. Gen. Comp.*: 397 (1832). Type: *Pentanthus aculeatus* Less. = *Nassauvia aculeatus* (Less.) Poepp.

Acanthophyllum Hook. & Arn., *Companion Bot. Mag.* 1(No. 2): 37 (1835). Type: *Acanthophyllum axillare* (Lag. ex Spreng.) Hook. & Arn. = **Nassauvia axillaris** (Lag. ex Spreng.) D. Don

Strongyloma DC., *Prodr.* 7: 52 (1838). Type: not stated.

Nassauvia Comm. ex Juss. subgen. *Strongyloma* (DC.) Cabrera, *Darwiniana* 24(1–4): 364 (1982).

Type: *Nassauvia magellanica* Gmel.

References

Cabrera, A. L. (1982). Revisión del género *Nassauvia* (Compositae). *Darwiniana* 24(1–4): 283–379.

Freire, S. E., Crisci, J. V. & L. Katinas. (1993). A cladistic analysis of *Nassauvia* Comm. ex Juss. (Asteraceae, Mutisieae) and related genera. *Bot. J. Linn. Soc.* 112(4): 293–309.

Nassauvia axillaris (Lag. ex Spreng.) D. Don, *Philos. Mag.* 11: 390 (1832).

Triptilion axillare Lag. ex Spreng., *Syst. Veg.*, ed. 16, 3: 506 (1826). Type: 'Chili.' Holotype: ?P.

Acanthophyllum axillare (Lag. ex Spreng.) Hook. & Arn., *Companion Bot. Mag.* 1(No. 2): 37 (1835).

Strongyloma axillare (Lag. ex Spreng.) DC., *Prodr.* 7: 52 (1838).

Argentina, Bolivia (Potosí), Chile.

Rocky slopes.

(1000–) 4000–5000 m.

November–April.

Nauenbergia Willd., *Sp. Pl.* 3: 1489, 2393 (1803/4) = **Flaveria** Juss.

Neilreichia Fenzl, *Denkschr. Kaiserlich. Akad. Wissenschaft.* 1: 258 (1850) = **Schistocarpha** Less.

Neilreichia eupatorioides Fenzl, *Nova Gen. Sp. Pl. Vasc.*: 6 & taf. I (1849); *Denkschr. Kaiserlich. Akad. Wissenschaft.* 1: 258 (1850) = **Schistocarpha eupatorioides** (Fenzl) Kuntze

Neja D. Don in Sw., *Hort. Brit.* (ed. 2) : 299 (1830).

Neja D. Don sect. *Podoneja* DC., *Prodr.* 5: 325 (1836). Type: *Neja gracilis* D. Don = *Neja filiformis* (Spreng.) Nees

Neja D. Don sect. *Monogyria* DC., *Prodr.* 5: 325 (1836). Type: not designated. Lectotype (selected by Nesom, 1994: 170): *Neja linearifolia* DC. = *Neja pinifolia* (Poir.) G. L. Nesom

Type: *Neja gracilis* D. Don = *Neja filiformis* (Spreng.) Nees

Reference

Nesom, G. L. (1994). Separation of *Neja* (Asteraceae: Astereae) from *Hysterionica*. *Phytologia* 76(2): 168–175.

Neja nidorelloides DC., *Prodr.* 5: 325 (1836). Type: '■ in Brasiliae prov. Rio-Grande (h. Mus. imp. Bras. n. 1048!). ... (v.s. in h. Mus. reg. Par.)'. Holotype: P; isotype: G-DC.

**Hysterionica nidorelloides* (DC.) Baker in Mart., *Fl. Bras.* 6(3): 12 (1882).

Bolivia (?), Brazil, Paraguay. Note: Cited in Foster (1958: 212) as present in Bolivia but this may not refer to this taxon.

Neoceis Cass., *Bull. Sci. Soc. Philom. Paris* 1820: 90 (1820) = **Erechtites** Raf.

Neoceis carduifolia Cass., Bull. Sci. Soc. Philom. Paris 1820: 91 (1820) = **Erechtites hieraciifolia** (L.) Raf. ex DC.
var. **cacalioides** (Fisch. ex Spreng.) Griseb.

Neocuatrecasia R. M. King & H. Rob., Phytologia 20(3): 332 (1970).

Type: *Eupatorium lobatum* B. L. Rob. = **Neocuarecasia lobata** (B. L. Rob.) R. M. King & H. Rob.

References

King, R. M. & H. Robinson. (1970). Studies in the Eupatorieae (Compositae). XXXII. A new genus *Neocuatrecasia*. Phytologia 20(3): 332–333.

King, R. M. & H. Robinson. (1988). Studies in the Eupatorieae (Asteraceae). CCXXIII. New combinations and new species of Central and South America. Phytologia 65(1): 62–70.

Robinson, H. (2002). Additions to *Neocuatrecasia* (Eupatorieae: Asteraceae). Novon 12(3): 388–392.

Key to species (modified from Robinson, 2002)

- | | | |
|--------|---|-----------------------|
| 1. | Stipitate glandular hairs on pedicels longer than eglandular hairs | 2 |
| | Stipitate glandular hairs (if present) on pedicels scarcely longer than eglandular hairs | 3 |
| 2. (1) | Inflorescence of solitary, or few, capitula with opposite subtending leaves; style base not enlarged; pappus setae half as long as corolla or longer; plants of 2000–3500 m elev. | |
| | Inflorescence cymiform of many capitula; subtending leaves alternate; style base enlarged; pappus setae 1/3 as long as corolla; plants ≤ 500 m | <i>N. yungasensis</i> |
| 3. (1) | Corolla throat 2 times or less as long as lobes | <i>N. tysonii</i> |
| | Corolla throat 3 or more times longer than lobes | <i>N. thymifolia</i> |
| 4. (3) | Leaf lamina usually deeply lobed or dissected | 4 |
| | Leaf lamina not deeply lobed | <i>N. lobata</i> |
| | | <i>N. feuereri</i> |

Neocuatrecasia feuereri R. M. King & H. Rob. Phytologia, 65(1): 65 (1988). Type: 'BOLIVIA: La Paz: Prov. Bautista Saavedra, Chullina, am Weg in die Yungas, Nebelwald, Veg.-Aufn. 811, 3400 m. 28/4/1982. T. Feuerer 11469a'. Holotype: US (03062063).

Bolivia (La Paz).

3400 m.

April–May.

Neocuatrecasia lobata (B. L. Rob.) R. M. King & H. Rob., Phytologia 20(3): 332 (1970).

**Eupatorium lobatum* B. L. Rob., Proc. Amer. Acad. Arts 55: 21 (1919). Types: 'BOLIVIA: on cliffs in the subalpine region, near Yani, Prov. Larecaja, alt. 3500 m., Mandon, n. 263 (Gr., N.Y.); without exact locality, Bang, no. 1912 (Gr., N.Y., U.S.)'. Syntype (Bang 1912): GH, MO, NY (00169090), US. Syntype (Mandon 263): NY (00169091).

Bolivia (La Paz).

Cliffs.

3500 m.

Neocuatrecasia thymifolia (Britton) R. M. King & H. Rob., Phytologia 20(3): 333 (1970).

**Eupatorium thymifolium* Britton, Bull. Torrey Bot. Club 19(1): 1 (1892). Type: [Bolivia:] 'Ingenio del Oro, 10,000 ft. ([Rusby] 1747)'. Holotype: NY (00169239) – ex Columbia College Herbarium; isotype: GH, NY (00169238 – ex Princeton University Herbarium), (00169240 – ex College of Pharmacy Herbarium), US (00050691).

Bolivia (La Paz).

c. 3050 m.

March – April.

Neocuatrecasia tysonii H. Rob., Novon 12(3): 389 (2002). Type: 'Bolivia. Mamore, frequent in tree margin of lagoon, spreading 1 mi. SW San Joaquin, 19 Mar 1964, E. L. Tyson & M. Kuns 997'. Holotype: MO. Bolivia (Bení, Santa Cruz).

Grassland, cerrado, semideciduous forest, forest margins.
150–500 m.
November–May.

Neocuatrecasia yungasensis H. Rob., *Novon* 12(3): 391 (2002). Type: 'Bolivia. Dpto. La Paz: Prov. Sud Yungas, Nor-Oeste de Chojlla valle del Río Ongó Pampa 2230 m, exposición SO, ladera rocosa vertical, hierba –8 cm, flores blancas, 7 Sep. 1987, E. Vargas & R. Seidel 505'. Holotype: US (03189021); isotype: LPB. Bolivia (La Paz).
Cliffs.
2230 m.
September–October.

Neomolina F. H. Hellwig, *Candollea* 48: 211 (1993) = **Baccharis L.**
Neomolina darwinii (Hook. & Arn.) F. H. Hellwig, *Candollea* 48: 212 (1993) = **Baccharis darwinii** Hook. & Arn.
Neomolina gnidiifolia (Kunth) F. H. Hellwig, *Candollea* 48: 212 (1993) = **Baccharis gnidiifolia** Kunth
Neomolina pulchella (Sch.Bip. ex Griseb.) F. H. Hellwig = **Baccharis pulchella** Sch.Bip. ex Griseb.
Neomolina ulicina (Hook. & Arn.) F. H. Hellwig, *Candollea* 48: 213 (1993) = **Baccharis ulicina** Hook. & Arn.

Neurolaena R. Br., *Trans. Linn. Soc.* 12: 12 (1817).

Type: *Conyza lobata* L. = **Neurolaena lobata** (L.) R. Br. ex Cass.

References

Khan, R & C. E. Jarvis. (1989). The correct name for the plant known as *Pluchea symphytifolia* (Miller) Gillis (Asteraceae). *Taxon* 38(4): 659–662.

Robinson, H. (2006). *Neurolaena*. In: G. Harling & L. Andersson (eds), *Flora of Ecuador*, No. 77(2): 190(6). Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 26–30.

Turner, B. L. (1982). Taxonomy of *Neurolaena* (Asteraceae-Heliantheae). *Pl. Syst. Evol.* 140(2–3): 119–139.

Neurolaena integrifolia Cass., *Dict. Sci. Nat.* 34: 501 (1825), nom. nud. = **Neurolaena lobata** (L.) R. Br. ex Cass.
Neurolaena (*Schistocarpha*) *lindenii* Sch.Bip. ex A. Gray, *Proc. Amer. Acad. Arts* 5: 185 (1861), nom. nud. = **Schistocarpha eupatorioides** (Fenzl) Kuntze

Neurolaena lobata (L.) R. Br. ex Cass., *Dict. Sci. Nat.* 34: 501 (1825).

Conyza lobata L., *Sp. Pl.* : 862 (1753). Type: 'Habitat in Vera Cruce. ■ Lectotype (selected by Khan & Jarvis in *Taxon* 38: 661, 1989); *Houston*, 'Herb. Clifford: 405, *Conyza* 4', BM (000647044).

Calea lobata (L.) Sw., *Prodr.* : 113 (1788).

Conyza symphytifolia Mill., *Gard. Dict.*, ed. 8, *Conyza* no. 10 (1768). Type: 'The tenth sort grows naturally at La Vera Cruz, from whence it was sent me by the late Dr. William Houstoun.' Neotype (designated by Khan & Jarvis, 1989: 661): *Houston* s.n. (BM).

Calea suriani Cass., *Dict. Sci. Nat.* 6, suppl. : 33 (1817). Type: 'Parmi plusieurs échantillons divers attribués au *calea lobata*, dans le riche herbier de M. de Jussieu, nous en avons particulièrement remarqué un, rapporté des Antilles par Surian, ...' Syntypes: P-JU.

Neurolaena suriani (Cass.) Cass., *J. Phys.* 1818: 29 (1818).

Neurolaena integrifolia Cass., *Dict. Sci. Nat.* 34: 501 (1825), nom. nud.

Eupatorium valverdianum Klatt, *Bull. Soc. Royale Bot. Belge* 31(2): 188 (1892). Types: 'Piedra del Convento entre Général et Buenos-Aires, 30 janv. 1891 (*Pitt[ier]* n° 3710); bords du Rio Ceibo à Buenos-Aires, 250-300 m., janvier 1892 (*[Pittier]* n° 4935); Surubres près San Mateo, 27 janv. 1892 (*[Pittier]* n° 7018).' Syntypes: GH. Lectotype (selected by Turner, 1982: 134): *Pittier* 3710, GH (7411). Note: All of these syntypes were identically cited as syntypes of Klatt's *E. chrysocephalum*, q.v.

Eupatorium chrysocephalum Klatt, *Bot. Beibl. Leopoldina* 1895: 2 (1895). Types: [Costa Rica:] 'Statio: Piedra del Convento entre Général et Buenos-Aires, leg. 30 janv. 1891 (*Pitt[ier]*. No. 3710); bords du Rio Ceibo à Buenos-Aires, 250–300 m, janvier 1892 (*[Pittier]* No. 4935); Surubres, près San Mateo, 27 janv. 1892 (*[Pittier]*

No. 7018).’ Note: The lectotype, selected by Turner (1982: 134) is, *A. Tonduz* 8597, in GH, also repeated by Robinson (2006: 29). Nothing is mentioned in GH about the *Pittier* syntypes having *Tonduz* numbers as well. Syntypes: *Pittier* 4935 – GH (7413); *Pittier* 7018 – GH (7412).

Critonia chrysocephalum (Klatt) R. M. King & H. Rob., *Phytologia* 22(1): 48 (1971).

Pluchea symphitifolia (Mill.) Gillis, *Taxon* 26(5/6): 591 (1977).

Bolivia (?), Central America, Ecuador, French Guiana, Mexico, Bahamas and through the West Indies. Roadsides and disturbed areas.

0–1400 m.

Flowering throughout the year.

Neurolaena suriani (Cass.) Cass., *J. Phys.* 1818: 29 (1818) = ***Neurolaena lobata*** (L.) R.Br. ex Cass.

Niebuhrria Neck. ex Britton, *J. Bot.* 39: 68 (1901), nom. illegit. non Scop. (1777) = ***Wedelia*** Jacq.

Niebuhrria Scop., *Introdr.*: 134 (1777), nom. superfl. pro *Baltimora* L. = ***Baltimora*** L.

Nocca Cav., *Icon.* 3: 12, pl. 224 (1795), nom. rej. = ***Lagascea*** Cav.

Nocca mollis (Cav.) Jacq., *Frag.* : 58, pl. 85 (1806) = ***Lagascea mollis*** Cav.

Nordenstamia Lundin, *Compositae Newslett.* 44: 15 (2006).

Senecio L. sect. *Praegynoxys* Cuatrec., *Fieldiana, Bot.* 27(2): 72 (1951). Type: *Senecio alternifolius* (Sch.Bip. ex Rusby) Greenm. = ***Nordenstamia repanda*** (Wedd.) Lundin

Gynoxys Cass. sect. *Praegynoxys* (Cuatrec.) Cuatrec., *Brittonia* 8(2): 157 (1955).

Aequatorium B. Nord. subgen. *Praegynoxys* (Cuatrec.) B. Nord., *Compositae Newslett.* 31: 2 (1997).

Type: ***Nordenstamia repanda*** (Wedd.) Lundin

References

Herrera de Loja, B. (1980). Revisión de las especies peruanas del género *Gynoxys*. *Bol. Soc. Peruana Bot.* 8(1 & 2): 3–75.

Lundin, R. (2006). *Nordenstamia* Lundin (Compositae-Senecioneae), a new genus from the Andes of South America. *Compositae Newslett.* 44: 14–18.

Nordenstam, B. (2006). New combinations in *Nordenstamia* (Compositae-Senecioneae) from Argentina, Bolivia, Peru and Ecuador. *Compositae Newslett.* 44: 19–23.

Robinson, H. & J. Cuatrecasas. (1992). Additions to *Aequatorium* and *Gynoxys* (Asteraceae: Senecioneae) in Bolivia, Ecuador, and Peru. *Novon* 2(4): 411–416.

Note: There are a few collections that may well represent further species for Bolivia. *Nordenstamia fabrisii* (Cabrera) B. Nord. is reported from Cochabamba, which requires verification.

Nordenstamia kingii (H. Rob. & Cuatrec.) B. Nord., *Compositae Newslett.* 44: 20 (2006).

Aequatorium kingii H. Rob. & Cuatrec., *Novon* 2(4): 412 (1992). Type: ‘Bolivia. Cochabamba: 15 km from Colomi, on the road to Tunari, 10,600 ft., 7 Feb. 1978, King & Bishop 7680’. Holotype: US(02813072); isotype: K, MO.

Bolivia (Chuquisaca, Cochabamba, Santa Cruz).

Disturbed margins of cloud forest, upper limits of cloud forest.

2000–3000 m.

January–August.

Nordenstamia repanda (Wedd.) Lundin, *Compositae Newslett.* 44: 16 (2006).

**Gynoxys repanda* Wedd., *Chloris Andina* 1: 77 (1856). Type: ‘Hab. BOLIVIE: prov. de Larecaja, dans les taillis, près de la limite supérieure de la végétation forestière, sur le versant oriental du mont Illampù! (Wedd.).’

Holotype: P; isotype: P, US (01803782 – fragments, 2 capitula of one of the P specimens).

Aequatorium repandum (Wedd.) C. Jeffrey, *Kew Bull.* 47(2): 292 (1992).

Gynoxys alternifolia Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5) 531 (1865), nom. nud. (based on Mandon 131).

Gynoxys alternifolia Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 6(1): 67 (1896). Types: [Bolivia:] 'Vic. Mapiri, 8000 ft. Sept., 1892 ([Bang] 1574). Same as Mandon's 131.' Syntypes: K. Isosytype (Bang 1574): NY × 2 (114877 - marked as holotype, 114876 - marked as isotype), US (01418757).

**Schistocarpha* (?) *triangularis* Rusby, Bull. New York Bot. Gard. 4(14): 392 (1907). Type: [Bolivia:] 'Climbing over shrubs in wet forest-mould, the flower yellow.' Unduavi, September, 1894. ([Bang] Nol. 2477.) Holotype: ?NY; isotypes: US (00032819 & 01418293).

Senecio alternifolius (Sch.Bip. ex Rusby) Greenm., Ann. Missouri Bot. Gard. 10(1): 76 (1923).

Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz), Peru.

Upper tree limit, humid forest.

2200 m.

July–September.

Note: Robinson (1979), in his revision of *Schistocarpha*, also synonymized *Schistocarpha triangularis* Rusby, Bull. New York Bot. Gard. 4(14): 392 (1907) with *Senecio alternifolius* (Sch.Bip. ex Rusby) Greenm. which he said was 'Also known as *Gynoxys repanda* Wedd.'; this is reflected in the synonymy above. This agrees with determinations made by Cuatrecasas of Bang 1574 (US - 01418757). However, B. L. Robinson remarked on the material of Bang 2477 in US that this material (distributed as '*Eupatorium trichotomum* Sch.Bip.') was certainly not a *Eupatorium*, nor was it *Schistocarpha triangularis* Rusby, but was apparently a *Senecio*. This suggests a mixed gathering. Greenman only cited duplicates of Bang 2477 in MO, and GH. This suggests that it may have been a mixed collection, and that the material in NY was of a different taxon. Currently much material is determined as this taxon, with widely differing leaf size and shape, doubtless representing several new taxa.

Noticastrum DC., Prodr. 5: 279 (1836).

Aplopappus sect. ? *Leucopsis* DC., Prodr. 5: 348 (1836). Type: not stated.

Aster L. sect. *Noticastrum* Benth. & Hook.f., Gen. Pl. 2(1): 273 (1873), p.p.

Leucopsis (DC.) Baker in Mart., Fl. Bras. 6(3): 5 (1882), p.p.

Type: *Noticastrum adscendens* DC.

References

Cuatrecasas, J. (1973). Miscellaneous notes on Neotropical Flora, III. Phytologia 25(4): 249–256.

Zardini, E. M. (1985). Revision del genero *Noticastrum* (Compositae-Astereae). Revista Mus. La Plata n.s. 13(86): 313–424.

Key to species (modified from Zardini, 1985)

1. Ray limbs 3–6 mm long (rarely to 7 mm), shorter than or just longer than the pappus and involucre; plants glabrous or pubescence lanose or sericeous 2
Ray limbs 6.5–7 mm long, well exerted and conspicuous above pappus and involucre;
pubescence glandular; *N. jujuyense*
2. (1) Plants very small, caespitose to 8 cm tall; densely sericeous; ray limb 2.4–4 mm long
N. argenteum
Plants not caespitose, more than 10 cm tall (rarely less in some forms of *N. marginatum*);
glabrous, lanose or sericeous 3
3. (2) Erect stems more than 40 cm tall, branched above in inflorescence; inflorescence multi-
headed; plants lanose; ray limb 2.5–5 mm long *N. gnaphalioides*
Stems ascending or creeping or trailing, usually less than 40 cm tall; capitula solitary or few;
glabrous or sericeous; ray limb 3.5–7 mm long *N. marginatum*

Noticastrum argenteum Cabrera, Bol. Soc. Argent. Bot. 15(4): 326 (1974). Type: 'ARGENTINA: Prov. Córdoba, Los Gigantes, A. L. Cabrera et al. 18785'. Holotype: LP.

Aster marginatus Kunth var. γ *argenteus* Wedd., Chloris Andina 1: 188 (1957). Type/s [no distinction is made between the specimen citations for the species or the two varieties: 'Hab. NOUVELLE-GRENADE: aux environs de Bogota!, 1370 m. (Humb. et Bonpl.); province d'Ocaña!, dans les paramos (Schlim, exsicc., n.

566). – PÉROU: montagnes de Huasi-huasi! (*Dombey*) – BOLIVIE: région alpestre des Cordillères du département de Chuquisaca! (*d'Orbigny, Wedd.[ell]*). – CHILI: Cordillères des provinces centrales!.' Syntypes: P.

Argentina, Bolivia (Tarija), Chile, Colombia, Peru.

Stony ground, Puna.

1800–4500 m.

December–May.

Noticastrum gnaphalioides (Baker) Cuatrec., *Phytologia* 25(4): 250 (1973).

Leucopsis gnaphalioides Baker in Mart., *Fl. Bras.* 6(3): 8 (1882). Types: 'Habitat in prov. Minas Geraës campis petrosis ad Caldas: *Regnell* III. n. 733!; in Brasilia australi: *Sello* n. 2362!, 4408! sine designatione loci; in Paraguay in campis ad Caaguazu: *Balansa* n. 885!' Lectotype (selected by Cuatrecasas: 1973: 250): *Balansa* 885, US; isolectotypes: BM, K, LP, P. Oddly, the *Regnell* 733 duplicate in US (1402222) is clearly marked as the lectotype by Cuatrecasas.

Aster gnaphalioides (Baker) Hassl., *Repert. Spec. Nov. Regni Veg.* 16(1/4): 26 (1919).

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay, Uruguay.

Grassland, cerrado.

0–1000 m.

December–April.

Noticastrum jujuyense Cabrera, *Bol. Soc. Argent. Bot.* 15(4): 328 (1974). Type: 'ARGENTINA: Prov. Jujuy, Dep. Capital, Lagunas de Yala, A. L. Cabrera et R. Kiesling 20153'. Holotype: LP.

Argentina, Bolivia (La Paz).

Mountains.

1500–3500 m.

November–February.

Noticastrum marginatum (Kunth) Cuatrec., *Webbia* 24(1): 47 (1969).

**Aster marginatus* Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 71 (1818). Type: [Colombia:] 'Crescit in alta planitie Novo-Granatensi juxta urbem Santa Fe de Bogota, alt. 1370 hex. ■ Floret Julio.' Holotype: P-Bonpl.

**Aster acaulis* Wedd., *Chloris Andina* 1: 189, pl. 33A (1857). Types: 'Hab. PÉROU: département de Cuzco! (*Gay*). – BOLIVIE: régio alpine des Cordillères de la province d'Ayopaya!, dans le département de Cochabamba (*Wedd.*).' Lectotype (selected by Zardini, 1985: 400): 'Bolivia, Prov. d'Ayopaya, Decemb. 1846, M. H. Alg. *Weddell*' – P.

Aster perezii Cuatrec., *Trab. Mus. Nac. Ci. Nat. Jard. Bot. Madrid, ser. Bot.* 29: 20 (1935). Type: '«Cordillera» Orientalis Colombiae: in «Sabana de Guasca, in formatione pratense, ad 2.700 m. alt., ubi 24-IV-32 legi ([Cuatrecasas] numerus 2917). *Illustri Botanico Colombiano Doctori E. Pérez Arbeláez, dicta species.*' Note: there were no closing symbols to the '«Sabana'. Holotype: MA; isotype: F (844459), K.

Noticastrum marginatum (Kunth) Cuatrec. f. *acaulis* (Wedd.) Cuatrec., *Phytologia* 25(4): 253 (1973).

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz), Colombia, Peru, Venezuela.

Páramo.

2000–4700 m.

October–March.

Vernacular names: ACHICORIA (Venezuela), TARBERA, CERRAJITA (Colombia) (Zardini, 1985).

Note: Cuatrecasas (1969: 47) also linked *Noticastrum erectum* Remy, *Fl. Chile* 4: 19 (1849) and *Aster erectus* (Remy) Reiche, *Anales Univ. Chile* 119: 333 (1901), along with *Noticastrum philippi* Sch.Bip., *Bonplandia* 4(4): 54 (1856), nom. nud.

Noticastrum marginatum (Kunth) Cuatrec. f. *acaulis* (Wedd.) Cuatrec., *Phytologia* 25(4): 253 (1973) =

Noticastrum marginatum (Kunth) Cuatrec.

Novenia S. E. Freire, *Bol. Soc. Argent. Bot.* 24 (3–4): 296 (1986)

Type: *Gnaphalium tunariense* Kuntze = *Novenia tunariensis* (Kuntze) S. E. Freire = **Novenia acaulis** (Wedd. ex Benth. & Hook. f.) S. E. Freire & F. Hellwig. Note: Nesom & Robinson (2006: 299) cited the incorrect authority

for the type. The name provided by Schultz Bipontinus (based on Weddell's determination) was a nom. nud.; the validating Latin diagnosis was provided in Bentham & Hooker's *Genera Plantarum*, but under *Dolichogyne*, at the end of their treatment of *Lepidophyllum* (q.v. Bentham & Hooker, 1873: 257–258).

References

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- Freire, S. E. (1986). *Novenia*: Nuevo género de Inuleae (Compositae). Bol. Soc. Argent. Bot. 24(3–4): 295–304.
- Freire, S. E. & F. Hellwig. (1990). A new combination in *Novenia* (Compositae: Inuleae). Taxon 39(1): 124–125.
- Nesom, G. L. (1994). Subtribal classification of the Astereae (Asteraceae). Phytologia 76(3): 192–274.

Novenia acaulis (Wedd. ex Benth. & Hook. f.) S. E. Freire & F. Hellwig, TAXON 39(1): 125 (1990).

Dolichogyne acaulis Wedd. ex Sch.Bip., Linnaea 34(5) 534 (1865), nom. nud. (based on *Mandon* 211, but with the note '(Habitus Werneriae).')

Dolichogyne acaulis Wedd. ex Benth. & Hook.f., Gen. Pl. 2: 258 (1873). Type: 'Pl. Mandon. Exs. n. 211.'

Holotype (see note below): K; isotypes: BM, GH (9623, 257213, 257214) GOET (6811), NY (00168250, 00168251, 00168252, 00168253, 00168254), US (01706006). Note: Freire & Hellwig (1990: 125) gave the

following type citation: 'Bolivia: "Prov. a Larecaja, Viciniis Sorata: via ad Lacatia, ad fontes rivi Aparasiri, Sa., in graminosis, Alt. Reg. alpina, 3900 m, 8bre 1858-Mai 1859, *Mandon* 211".'

Lepidophyllum acaule (Wedd. ex Benth. & Hook.f.) B. D. Jacks., Index Kewensis 2(3): 58 (1894). Note: This combination was not made by Bentham & Hooker f. as is sometimes cited.

**Gnaphalium tunariense* Kuntze, Revis. Gen. Pl. 3(2): 155 (1898). Type: 'Bolivia: Tunarigebirge 4000–5000 m, besonders auf Torfmooren häufig. [Apr-May 1892, *Kuntze* s.n.]' Holotype: NY (00169522).

Lucilia tunariensis (Kuntze) K. Schum., Just. Bot. Jahresber. 28: 378 (1898).

Mniodes tunariensis (Kuntze) Hieron. ex Weberb., El Mundo Veg. de los Andes Peruanos : 731 (1945).

Novenia tunariensis (Kuntze) S. E. Freire, Bol. Soc. Argent. Bot. 24(3–4): 295 (1986).

Argentina, Bolivia (La Paz), Peru.

Puna up to permanent snowline, rocky slopes.

3000–>5000 m.

January – June.

Note: The authority of this taxon is corrected here since *Dolichogyne acaulis* was validly described in *Genera Plantarum*. The basionym was oddly lectotypified by Freire & Hellwig, especially since Bentham & Hooker f., and Jackson, would have seen the material in K, but not necessarily in the BM to describe it. Since it is accepted that whilst Bentham is the author of the Compositae account Bentham & Hooker f. are to be taken as authors of any novelties, unless specifically stated. Cabrera (1955: 210, 1975:255) very strangely included the two names, *Dolichogyne acaulis* and *Lepidophyllum acaule* in the synonymy of *Psila caespitosa* and *Baccharis acaulis* respectively. Freire (1986), Freire & Hellwig (1990) and Dillon & Sagástegui Alva (1991) placed it in the Inuleae, but Anderberg (1991) left it unplaced in the Asteroideae (but not in the Plucheae or Gnaphalieae), as did Bremer (1994); Nesom (1994) finally placed the genus in the subtribe Hinterhuberinae Cuatrec. of the Astereae.

Novenia tunariensis (Kuntze) S. E. Freire, Bol. Soc. Argent. Bot. 24(3–4): 295 (1986) = ***Novenia acaulis*** (Wedd. ex Benth. & Hook.f.) S. E. Freire & F. Hellwig

O

Oblivia Strother, Syst. Bot. 14: 541 (1989).

Type: *Salmea mikanioides* Britton = **Oblivia mikanioides** (Britton) Strother

References

Anderson, L. C., Hartman, R. L. & T. F. Stuessy. (1979). Morphology, anatomy, and taxonomic relationships of *Otopappus australis* (Asteraceae). Syst. Bot. 4(1): 44–56.

Robinson, H. (2006). *Oblivia*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(2): 190(6). Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 30–35.

Strother, J. L. (1989). *Oblivia*, a new genus for *Zexmenia mikanioides* (Compositae: Heliantheae). Syst. Bot. 14(4): 541–534.

Oblivia mikanioides (Britton) Strother, Syst. Bot. 14: 541 (1989).

Salmea mikanioides Britton, Bull. Torrey Bot. Club 19: 150 (1892). Type: 'Reis, 1,500 ft. ([Rusby] 1739).'

Holotype: NY (00232914 – ex Columbia College Herbarium); isotypes: F (164299), NY (0023295 – ex College of Pharmacy Herbarium), US (01417425).

**Zexmenia mikanioides* (Britton) S. F. Blake, J. Bot. 52: 200 (1915).

Zexmenia columbiana S. F. Blake, J. Bot. 53: 306 (1915). Type: 'Columbia: alt. 244 m., Aguachica, Prov. Ocana, Novemver (1846-52), L. Schlim [distr. Linden 277]'. Holotype: K.

Otopappus australis S. F. Blake, Contr. U.S. Natl. Herb. 20: 538 + plate 45 (1924). Type: 'Type in the U.S.

National Herbarium, no. 1,065, 071, collected in valleys and hills of Patanemo, east of Puerto Cabello, Carabobo, Venezuela, altitude 10 to 250 meters, December 4 to 5, 1919, by H. Pittier (no. 8656)'. Holotype: US (01065071).

Zexmenia mikanioides (Britton) S. F. Blake var. *australis* (S. F. Blake) Hartman & Stuessy, Syst. Bot. 4(1): 55 (1979).

Otopappus ferrugineus V. M. Badillo, Ernstia 1(3): 4 (1981). Type: [Venezuela:] 'Estado Yaracuy: Deslechal, camino a Aroa ± 1300 m.s.m., enero 1950, B. Trujillo y A. Fernández N° 780'. Holotype: MY.

Bolivia (Bení, La Paz, Santa Cruz), Ecuador, Panama, Peru, Venezuela.

Humid forest.

100–700 m.

November–June.

Ochronelis Raf., Atlantic J.: 153 (1832) = **Verbesina** L.

Ocyroe Phil., Anales Mus. Nac. Chile, Secc. Bot. 8: 33 (1891).

Type: *Ocyroe spinosa* Phil. = **Ocyroe armata** (Wedd.) Bonif.

References

Bonifacino, J. M. (2008). Reinstatement of *Ocyroe* (Compositae: Asterae). Brittonia 60(3): 205–212.

Cabrera, A. L. (1954). Las especies el género *Nardophyllum*. Notas Mus. La Plata, Bot. 17(No. 83): 55–66.

Ocyroe armata (Wedd.) Bonif., Brittonia 60(3): 207 (2008).

Dolichogyne armata Wedd., Chloria Andina 1: 181, tab. 30 B (1856). Types: 'Hab. BOLIVIE: Sur les montagnes, entre Potosi et Chuquisaca!, et dans les punas de la province de Cinti! (Wedd.)'. Syntypes: P. Lectotype (selected by Bonifacino, 2008: 207): '*Dolichogyne armata* Wedd. Chloris, frutex graveolens 1–2 metres flor. lut. Potosi (Bolivie) M. Weddell # 4084', P; isolectotypes: P, F (974848).

Ocyroe spinosa Phil., Anales Mus. Nac. Chile, Bot. 8: 33, tab. 1, fig. 5 (1891). Type/s: [Argentina:] 'Loco dicto Vegas del Diablo lect est, 3700 m. s. m.' Pizarro (1960: 152) cited two collections SGO 44625, 60541.

Bonifacino (2008: 207) cited the holotype merely as SGO, without specifying which of the two collections.

**Nardophyllum armatum* (Wedd.) Reiche, Anales Univ. Chile 109: 29 (1901)
Argentina, Bolivia (Potosí), Chile.

Puna, gravelly and rocky valley bottoms, sandstone rock ledges.
2800–4600 m.

November–April.

Vernacular names: CHOTE, ESPINA DE ZURI, MONTE NEGRO, SURIYANTA, SURI-YANTA, TOQUETOLA (BONIFACINO, 2008); SURI-YANTA (CABRERA, 1978).

Ocyroe spinosa Phil., Anales Mus. Nac. Chile, Secc. Bot. 8: 33, tab. 1, fig. 5 (1891) = **Ocyroe armatum** (Wedd.) Bonif.

Odontocarpa DC., Prodr. 5: 71 (1836) = **Gutierrezia** Lag.

Ogiera Cass., Bull. Sci. Soc. Philom. Paris 1818: 32 (1818) = **Eleutheranthera** Poit. ex Bosc.

Ogiera eleutheranthera Steud., Nomencl. Bot., ed. 2, 1: 549 (1840), nom. nud. pro syn. under *Eleutheranthera ovata* Poit. ex Steud. = **Eleuthernanthera ruderalis** (Sw.) Sch.Bip.

Ogiera ruderalis (Sw.) Griseb., Mem. Amer. Acad. 8: 513 (1863) = **Eleuthernanthera ruderalis** (Sw.) Sch.Bip.

Ogiera triplinervis Cass., Bull. Sci. Soc. Philom. Paris 1818: 32 (1818) = **Eleuthernanthera ruderalis** (Sw.) Sch.Bip.

Oligandra Less., Syn. Gen. Comp. : 123 (1832) = **Lucilia** Cass.

Oligogyne burchellii Hook. f., Icones Pl. 2: t. 101 (1837) = **Blainvillea acmella** (L.) Philipson

Onoseris Willd. sect. *Cladoseris* Less., Linnaea 5(3): 341 (1830) = **Onoseris** Willd.

Onoseris Willd. sect. *Hipposeris* (Cass.) Less., Linnaea 5(3): 342 (1830) = **Onoseris** Willd.

Onoseris Willd. sect. *Isotypus* (Kunth) Benth. & Hook.f., Gen. Pl. 2: 486 (1873) = **Onoseris** Willd.

Onoseris Willd., Sp. Pl. 3(3): 1702 (1803).

Seris Willd., Mag. Neuesten Entdeck. Gesamnten Naturk. Ges. Naturf. Freunde Berlin 1: 139 (1807). Type: not designated.

Isotypus Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 8 (1818). Type: *Isotypus onoserioides* Kunth = **Onoseris onoserioides** (Kunth) B. L. Rob.

Hipposeris Cass., Dict. Sci. Nat. 33: 464 (1824). Type: not designated, only *Onoseris acerifolia* and *Onoseris salicifolia*, without author, were cited. Lectotype (selected by Sancho, 2004: 438): *Onoseris salicifolia* Kunth

Centroclinium D. Don, Trans. Linn. Soc. London 16(2): 254 (1830). Type: *Centroclinium albicans* D. Don = **Onoseris albicans** (D. Don) Ferreyra

Chaetachlaena D. Don, Trans. Linn. Soc. Bot., ser. 2, 16(2): 256 (1830). Type: *Chaetochlaena odorata* D. Don = **Onoseris odorata** (D. Don) Hook. & Arn.

Onoseris Willd. sect. *Cladoseris* Less., Linnaea 5(3): 341 (1830). Type: not designated. Lectotype (selected by Sancho, 2004: 438): *Onoseris annua* Less.

Onoseris Willd. sect. *Hipposeris* (Cass.) Less., Linnaea 5(3): 342 (1830).

Caloseris Benth., Pl. Hartweg. : 88 (1841). Type: *Caloseris rupestris* Benth. = **Onoseris onoserioides** (Kunth) B. L. Rob.

Cladoseris (Less.) Spach, Hist. Veg. Phan. 10: 35 (1841), nom. illegit. superfl.

Cursonia Nutt., Trans. Amer. Philos. Soc. 7: 422 (1841). Type: *Cursonia peruviana* Nutt. = **Onoseris odorata** (D. Don) Hook. & Arn.

Schaetzellia Klotsch in Otto & Dietr. Allg. Gartenz. (Otto & Dietrich) 17: 82 (1849), non Sch.Bip. (1849), a nom. nud. (= *Hinterhubera* Sch.Bip. ex Wedd.). Type: *Schaetzellia deckeri* Klotsch = **Onoseris onoserioides** (Kunth) B. L. Rob.

Rhodoseris Turcz., Bull. Soc. Imp. Naturalistes Moscou 24(2): 95, t. 2 (1851). Type: *Rhodoseris conspicua* Turcz. = **Onoseris onoserioides** (Kunth) B. L. Rob.

Onoseris Willd. sect. *Isotypus* (Kunth) Benth. & Hook.f., Gen. Pl. 2: 486 (1873).

Pereziopsis Coult., Bot. Gaz. 20: 52, t. 6 (1895). Type: *Pereziopsis donnell-smithii* Coult. = *Onoseris donnell-smithii* (Coult.) Ferreyra

Type: *Atractylis purpurea* L.f. = *Onoseris purpurea* (L.f.) S. F. Blake

References

Ferreyra, R. (1944). Revision del genero *Onoseris*. J. Arnold Arb. 25(3): 349–395 & lám. I–IX.

Sancho, G. (2004). Phylogenetic relationships in the genus *Onoseris* (Asteraceae, Mutisieae) inferred from morphology. Syst. Bot. 29(2): 432–447.

Key to species (modified from Ferreyra, 1944)

- | | | |
|--------|--|-------------------------|
| 1. | Petioles winged and with lobed margins | 2 |
| | Petioles wingless, or if winged without lobes | 3 |
| 2. (1) | Phyllaries with acuminate apices and tomentose outside | <i>O. fraterna</i> |
| | Phyllaries with attenuate apices and glabrescent outside | <i>O. sagittata</i> |
| 3. (1) | Plants glandular pubescent; stems terete; phyllary apices attenuate and flexuous, pubescent outside; upper leaf surface pubescent | <i>O. acerifolia</i> |
| | Plants lacking glandular hairs; stems angled; phyllary apices acute or acuminate, glabrous outside; upper leaf surface glabrescent | 4 |
| 4. (3) | Leaf base broad, lamina sagittate or ± ovate | 5 |
| | Leaf base acute, lamina lanceolate or linear | 6 |
| 5. (4) | Capitula solitary; phyllaries broad, 2–2.5 mm wide, arachnoid pubescent outside, apices acuminate | <i>O. hastata</i> |
| | Inflorescence branched, with 2–8 capitula; phyllaries narrow, 1.4–2 mm wide, glabrescent and greyish outside, apices acute | <i>O. alata</i> |
| 6. (4) | Pappus setae biseriate, outer series shorter and thinner; phyllary apices acuminate | <i>O. albicans</i> |
| | Pappus setae uniseriate; phyllary apices acute | <i>O. gnaphalioides</i> |

****Onoseris acerifolia*** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 6 (1818). Type: 'Crescit in frigidis Provinciae Bracamorensis in devexis Parami de Yamoca inter pagos Colazey et Chontali, alt. 1400 hex. ■ Floret Augusto.' [*Humboldt & Bonpland* 'no. 2568 [new line] ____ 3567 in monte Llamoca']. Holotype: P-Bonpl.

Seris acerifolia (Kunth) Kuntze, Revis. Gen. Pl. 1: 364 (1891).

Bolivia (Santa Cruz), Peru.

0–3000 m.

August–April.

Note: Ferreyra (1995: 650) suggested that this was endemic to the intermontane region of northern Peru, having earlier noted its occurrence in Bolivia (Ferreyra, 1944: 381). The minor differences between the Peruvian and Bolivian material (*Steinbach* 8200) he put down to differences in drying. Sancho (2004) recorded the species from northern Peru and central Bolivia, the Bolivian material the same studied by Ferreyra.

Onoseris adpressa [sic!] (Hook.) Less., Syn. Gen. Comp.: 120 (1832) = ***Onoseris albicans*** (D. Don) Ferreyra

****Onoseris alata*** Rusby, Descr. New Sp. S. Amer. Pl. : 163 (1920). Type: ' "In dry gravelly and clayey soil at Coroico, Yungas, Bolivia, July 20, 1894, the flowers rose-colored." (*M. Bang*, No. 2365.)' Holotype: NY (00230813); isotypes: F (78119), NY (00230812), US (01404636).

Argentina, Bolivia (Cochabamba, La Paz, Potosí, Santa Cruz).

Roadside banks, sandy soils, woodland, Bosque Tucumano-Boliviano.

500–3000 m.

October–August, but possibly flowering throughout the year.

****Onoseris albicans*** (D. Don) Ferreyra, J. Arnold Arb. 25: 389 (1944).

Centroclinium albicans D. Don, Trans. Linn. Soc. London 16(2): 254 (name)/256 (description) (1830). Type: 'In Peruvia. *Ruiz et Pavon*. ■ Holotype: originally in Aylmer Bourke Lambert's herbarium, now in BM – see Miller (1970: 538–540).

Onoseris integrifolia Less., *Linnaea* 5(3): 343 (1830). Type: 'In Peruvia legit Dombey. (v. sp. 1. in h. Kth.)'
Holotype: B†; isotype: RB. Note: The RB isotype is numbered '536'.

Centroclinium reflexum Hook., *Curtis's Bot. Mag.* 58: t. 3114 (1831). Type: 'Among the many interesting plants raised last year (1830) from the Peruvian seeds liberally communicated to the Glasgow Botanic Garden by our valued friend, Mr. CRUCKSHANKS, are two species of the family of Compositae, ...'. There is a Cruckshanks collection in K, annotated 'Lima. "44" "Yerba"/Hort. [?]Nash/Cruckshanks' in Hooker's hand, together with pencilled annotations assigning it to this name; it is most probably the holotype.

Centroclinium appressum Hook., *Curtis's Bot. Mag.* 58: t. 3115 (1831). Type: 'This species, for which we are indebted to Mr. CRUCKSHANKS, who brought the seeds from Peru, is undoubtedly, a perennial and frutescent plant. It blossomed for the first time, imperfectly, in December 1830, and again, with larger flowers, in June, 1831.' Note: There appears to be no specimen attributable to this name at K; it may have been painted from fresh material from which no herbarium specimen was made.

Onoseris reflexa (Hook.) Less., *Syn. Gen. Comp.*: 119 (1832).

Onoseris adpressa [sic!](Hook.) Less., *Syn. Gen. Comp.*: 120 (1832). Note: Lessing, in providing the new combination, provided an orthographic variant of Hooker's epithet, which was also later taken up by Kuntze (1891), q.v.

Seris reflexa (Hook.) Kuntze, *Revis. Gen. Pl.* 1: 364 (1891).

Seris adpressa [sic!](Hook.) Kuntze, *Revis. Gen. Pl.* 1: 364 (1891). Note: The specific epithet is based on the orthographic variant provided by Lessing.

Seris integrifolia (Less.) Kuntze, *Revis. Gen. Pl.* 1: 364 (1891).

Onoseris warszewiczii Hieron., *Bot. Jahrb. Syst.* 19(1): 70 (1894). Types: 'Ecuador: crescit in lapidosis aridis, vulcanicis prope Cochapata, prov. Cuenca, alt. s. m. 2000–2500 m, ubi floret mense Octobri ([*Lehmann*] n. 4907). – In Ecuador loco non indicato alt. s. m. 2600 m leg. cl. WARSCIEWICZ (n. 34).' Syntypes: B†.

Isosyntype: *Lehmann* 4907, K.

Bolivia (La Paz), Ecuador, Peru.

Steep, stony slopes.

1000–3500 m.

September–June, but probably flowering throughout the year.

Onoseris discolor Muschl., *Bot. Jahrb. Syst.* 50(2/3), *Beibl.* 111: 94 (1913) = ***Pseudonoseres discolor*** (Muschl.) H. Rob. & Brettell

****Onoseris fraterna*** S. F. Blake, *J. Wash. Acad. Sci.* 33: 368 (1943). Type: 'BOLIVIA: San Bartolomé (near Calisaya), basin of Río Bopi, Prov. S. Yungas, Dept. La Paz, alt. 750–900 meters, 1–22 July, 1939, B. A. Krukoff 10266'. Holotype: US (2249605, 2249606 & 2249607) (originally in U.S. National Arboretum 154679–81); isotypes: GH (10759), NY (00230815), S. Note: As originally cited by Blake the holotype included 3 sheets, 154679, 154680 and 154681, these numbers having crossed out and replaced by the Smithsonian's accession numbers.

Bolivia (La Paz).

750–900 m.

July.

****Onoseris gnaphalioides*** Muschl., *Bot. Jahrb. Syst.* 50(2/3), *Beibl.* 111: 94 (1913). Type: 'Peruvia: Caraz, in Departamento Ancachs, in formatione praesertim herbis composita aperta, 2200–2500 m s.m. (WEBERBAUER n. 3012. – Florens 19. Maii 1903).' Holotype: B†.

Onoseris hyssopifolia Kunth [var.] β *teretifolia* Wedd., *Chloris Andina* 1: 10 (1855). Types (no distinction made between two varieties described in *Chloris Andina* – *planifolia* and *teretifolia*): 'Hab. EQUATEUR: environs de la ville d'Ybarra!, h. 2000 mètres (*Humb. et Bonpl.*). – PÉROU: Cordillères du département de Cuzco! (*Gay*). – BOLIVIE centrale: berges argileuses des montagnes de la province d'Ayopaya, à une élévation de 3000 à 3500 mètres (*Wedd.*, n° 4140).' Syntypes: P.

Bolivia (Cochabamba), Ecuador, Peru.

Dry hillsides, especially of loose soil, dry valleys.

1500–3500 m.

October–August, but probably flowering throughout the year.

Cochabamba: *Wood* 15982, *Wood & Goyder* 17504, *Wood* et al. 18876, *Wood* et al. 23102.

***Onoseris hastata** Wedd., *Chloris Andina* 1: 9 (1855). Type: 'Hab. BOLIVIE MÉRIDIONALE: province de Tomina, au bord des précipices du mont Curi, sur les grès rouges, h. 2800–3200 mètres (*Wedd.*, n° 3763).' Holotype: P; isotype: GH (fragments of holotype).

Seris hastata (Wedd.) Kuntze, *Revis. Gen. Pl.* 1: 364 (1891).

Argentina, Bolivia (Chuquisaca, Tarija).

Pasture, amongst rocks.

2000–3000 m.

December–January.

Onoseris hyssopifolia* Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 7 (1818). Note: Foster (1958) listed this taxon although Ferreyra (1944: 392) viewed *O. hyssopifolia* as an Ecuadorian endemic. The presence of *O. hyssopifolia* [var.] β *teretifolia* Wedd. as a synonym of **O. gnaphalioides Muschl. may explain this.

Onoseris hyssopifolia Kunth [var.] β *teretifolia* Wedd., *Chloris Andina* 1: 10 (1855) = **Onoseris gnaphalioides** Muschl.

Onoseris reflexa (Hook.) Less., *Syn. Gen. Comp.*: 119 (1832) = **Onoseris albicans** (D. Don) Ferreyra

***Onoseris sagittata** (Rusby) Rusby, *Descr. New Sp. S. Amer. Pl.* : 164 (1920).

Seris (Onoseris) sagittatus Rusby, *Mem. Torrey Bot. Club* 6(1): 69 (1896). Type: [Bolivia:] 'In dry gravelly or clayey soil, Turedon, vic. Cochabamba, 1891 ([*Bang*] 1139'. Holotype: NY (00259586 – ex Columbia College Herbarium); isotypes: GH, MO, NY (00259587 – ex Columbia College Herbarium, 00259588 – ex Columbia College Herbarium, but just an inflorescence, 00259585 – ex College of Pharmacy Herbarium, marked as 'holo- or iso-' by Pruski, 1984), US \times 2 (00600285 & 01415319), Z (000053878). Note: Although Pruski determined the College of Pharmacy Herbarium specimen as the possible 'holo- or iso-' type this is unlikely since it contains only immature capitula from which no achenes could have been examined. NY (00259586) however, does possess a capsule with fragments in it; this would be a likely contender for the holotype – or even lectotype if that is considered necessary.

Bolivia (Cochabamba, Potosí).

Steep rocky banks.

2100–2700 m.

February–April.

Onoseris warszewiczii Hieron., *Bot. Jahrb. Syst.* 19(1): 70 (1894) = **Onoseris albicans** (D. Don) Ferreyra

Ooclinium DC., *Prodr.* 5: 133 (1836) = **Praxelis** Cass.

Ooclinium clavatum Benth., *Ann. Nat. Hist.* 1(2): 108 (1839) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.

Ooclinium paucidentatum DC., *Prodr.* 5: 134 (1836) = **Praxelis kleinoides** (Kunth) Sch.Bip.

Ooclinium pedunculare DC., *Prodr.* 5: 134 (1836) = **Praxelis kleinoides** (Kunth) Sch.Bip.

Ophryosporus Meyen, *Reise um die Erde* 1: 402 (1834).

Piqueria sect. *Artemisioides* DC., *Prodr.* 5: 105 (1836). Type: *Piqueria artemisioides* Kunth = *Ophryosporus peruvianus* (J. Gmel.) R. M. King & H. Rob.

Trychinolepis B. L. Rob., *Contr. Gray Herb.*, n.s. 80: 6 (1928). Type: *Trychinolepis hoppii* B. L. Rob. = *Ophryosporus hoppii* (B. L. Rob.) R. M. King & H. Rob.

Type: *Ophryosporus triangularis* Meyen

References

Robinson, B. L. (1906). Studies in the Eupatorieae. II. Revision of the genus *Ophryosporus*. *Proc. Amer. Acad. Arts* 42: 17–27.

Robinson, B. L. (1920). Further notes on the genus *Ophryosporus*. In: I. Further diagnoses and notes on tropical American Eupatorieae. *Contr. Gray Herb. Harvard Univ.*, n.s. 61: 25–28.

***Ophryosporus angustifolius** B. L. Rob., Contr. Gray Herb. 90: 3 (1930). Type: 'BOLIVIA: Cerro La Negra, Dept. Santa Cruz, 9 Oct. 1928, José Steinbach, no. 8187'. Holotype: GH (10772); isotypes: GH (10770, 10771 – also determined as holotype), K, NY (1104694), S, US (01906154).

Bolivia (Santa Cruz).

1800 m.

October.

Ophryosporus axilliflorus (Griseb.) Hieron., Bot. Jahrb. Syst. 22(4–5): 706 (1897).

Eupatorium axilliflorum Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 169 (1874); Pl. Lorentz.: 121 (1874).

Type: [Argentina:] 'Cordoba, pr. Asochinga.' Holotype: Lorentz 195, GOET.

Argentina, Bolivia (Tarija).

1000–2000 m.

March–August.

Ophryosporus charua (Griseb.) Hieron., Bot. Jahrb. Syst. 22(4–5): 705 (1897).

Mikania charua Griseb., Abh. Königl. Ges. Wiss. Göttingen 24: 174 (1879); Symb. Fl. Argent.: 174 (1879). Type:

[Argentina:] 'Ct.: vulgaris ad sepes pr. Yacutula. ['Charua' ihr Absud zu Beidern benü___. Langs der Arequien an Herken Launen etc. in Yacutula gemein. Octob. 72, F. Schickendantz 3]'. Holotype: GOET (6071).

Willoughbya charua (Griseb.) Kuntze, Revis. Gen. Pl. 1: 372 (1891).

Argentina, Bolivia (Cochabamba).

Dry scrub.

3500 m.

October–November.

Ophryosporus clavulatus (Griseb.) Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 173 (March–April 1879);

Symb. Fl. Argent. :173 (1879) = **Ophryosporus piquerioides** (DC.) Benth. ex Baker

***Ophryosporus cumingii** Benth. ex Baker in Mart., Fl. Bras. 6(2): 188 (1876). Type: 'ex Alpibus Boliviae (Mandon 264) ...'. Holotype: K.

Mikania cumingii Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 264 and Cuming 102).

Bolivia (Cochabamba, La Paz).

Disturbed ground.

2500–3000 m.

June.

***Ophryosporus eleutherantherus** (Rusby) B. L. Rob., Contr. Gray Herb. 61: 27 (1920).

Eupatorium eleutherantherum Rusby, Bull. Torrey Bot. Club 3(3): 53 (1893). Types: [Bolivia:] 'Vic. La Paz, 10,000 ft., 1889 ([Bang] 27), 1890 ([Bang] 193). ... Distributed as *Stevia*.' Syntype (Bang 193): GH (10779), K, NY (00169003); isosyntypes (Bang 27): GH (7646, 7647), K, MO, NY (00169004), US (00050621).

Bolivia (La Paz), Peru.

3050–4000 m.

Ophryosporus heptanthus (Sch.Bip. ex Wedd.) R. M. King & H. Rob., Phytologia 58: 528 (1985).

Eupatorium organoides Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl 1: 257 (1843), nom. illegit. non Kunth (1818) (= *Cronquistianthus organoides* (Kunth) R. M. King & H. Rob.).

Type: 'Peruvia: in planitie circa Tacoram, alt. 14–17,000 ped. (v.s.)'. Holotype: B†.

Eupatorium heptanthum Sch.Bip., Bonplandia 4(4): 54 (1856), nom. nud. (based on Lechler 1751).

Eupatorium heptanthum Sch.Bip. ex Wedd., Chloris Andina 1: 217 (1857), non Sch.Bip. ex Rusby (1907) (= **Ageratina sterbergiana** (DC.) R. M. King & H. Rob.). Types: 'Hab. PÉROU: sur les montagnes, aux environs de la ville d'Azangaro! (Lechler, exsicc. n. 1751); Cordillères de Tacora! (Wedd.)'. Syntypes: P. Isosyntype: Lechler 1751, GOET (899).

Ophryosporus organoides Hieron., Bot. Jahrb. Syst. 22(4–5): 707 (1897).

**Ophryosporus organoides* Hieron. var. *microcephalus* Hieron., Bot. Jahrb. Syst. 22(4–5): 708 (1897). Types: 'Bolivia: bei Cochabamba um 4000 m über dem Meeresspiegel (O. KUNTZE, 26. März 1892); ohne

Fundortsangabe (*O. KUNTZE*, 17. März 1892).’ Syntypes: B†. Isosyntype (*Kuntze*, 26 März 1892): NY (00230826). Isosyntype (*Kuntze*, 17 März 1892): NY (00230825).

Bolivia (Cochabamba, La Paz), ?Ecuador, Peru.

Disturbed areas, rocky ground.

2000–4000 m.

March–April.

***Ophryosporus kuntzei** Hieron., Bot. Jahrb. Syst. 22(4–5): 707 (1897). Type: ‘Bolivien: in Süd-Tunari bei 3000 m über den Meeresspiegel (*O. KUNTZE*, April, Mai 1892).’ Holotype: B†; isotype: US (

Bolivia (Chuquisaca, Cochabamba, La Paz).

Yungas.

2000–3000 m.

April–May.

Ophryosporus macrodon Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 173 (March–April 1879), Symb. Fl. Argent.: 173 (1879). Type: [Argentina] ‘S.: Nevado del Castillo.’

**Eupatorium kuntzei* Hieron., Bot. Jahrb. Syst. 22(4–5): 766 (1897). Type: ‘Bolivia: bei Cochabamba (*O. KUNTZE*, 26. März 1892).’ Holotype: B†; isotypes: NY (00169054), US (00701914).

Argentina, Bolivia (Cochabamba).

Scrub thickets, Tucuman-Bolivian forest, dry valleys.

2000–3000 m.

March–April.

Ophryosporus mandonii (Sch.Bip.) B. D. Jacks., Index Kewensis 2: 354 (1895), comb. illegit. = **Ophryosporus piquerioides** (DC.) Benth. ex Baker

Ophryosporus organoides Hieron., Bot. Jahrb. Syst. 22(4–5): 707 (1897), as nom. nov. pro *Eupatorium organoides* Meyen & Walp. = **Ophryosporus heptanthus** (Sch.Bip. ex Wedd.) R. M. King & H. Rob.

**Ophryosporus organoides* Hieron. var. *microcephalus* Hieron., Bot. Jahrb. Syst. 22(4–5): 708 (1897) =

Ophryosporus heptanthus (Sch.Bip. ex Wedd.) R. M. King & H. Rob.

***Ophryosporus piquerioides** (DC.) Benth. ex Baker in Mart., Fl. Bras. 6(2): 188 (1876).

Eupatorium piquerioides DC., Prodr. 5: 175 (1836). Type: ‘– in peruviae montibus Guanoccensibus legit cl.

Haenke. ... (v.s. in h. Haenke ab ill. de Sternberg comm).’ Holotype: PR; isotype: G-DC.

**Mikania mandonii* Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); Linnaea 34(5): 536 (Feb. 1866). Type: [Bolivia:]

‘[Mandon] 268’. Holotype: ?P; isotype: K.

Eupatorium clavulatum Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 168 (1874); Pl. Lorentz.: 120 (1874).

Type: [Argentina:] ‘Tucuman, in m. Cuesta de Periquilla. [Lorentz 178]’ Holotype: GOET.

Ophryosporus clavulatus (Griseb.) Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 173 (March–April 1879); Symb. Fl. Argent. :173 (1879).

Ophryosporus mandonii (Sch.Bip.) B. D. Jacks., Index Kewensis 2: 354 (1895), comb. illegit.

Ophryosporus saltensis Hieron., Bot. Jahrb. Syst. 22(4–5): 705 (1897). Type: [Argentina:] ‘Salta: bei Yacone am

Wege von Salta nach dem Nevado del Castillo (LOR.[ENTZ] u. HIERON.[YMUS], 27./28. März 1873, n. 536).’

Holotype: B†; isotype: NY (00230827).

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz), Peru.

Forest, rocky slopes, scrub.

1000–3500 m.

March–May.

Ophryosporus saltensis Hieron., Bot. Jahrb. Syst. 22(4–5): 705 (1897) = **Ophryosporus piquerioides** (DC.) Benth. ex Baker

Ophryosporus solidagionoides (Kunth) Hieron., Bot. Jahrb. Syst. 29(1): 4 (1900) = **Koanophyllon solidaginoides** (Kunth) R. M. King & H. Rob.

***Ophryosporus steinbachii** B. L. Rob., Contr. Gray Herb. 77: 5 (1926). Type: ‘BOLIVIA: common in low thicket, Incachaca, Prov. Sacaba, Dept. Cochabamba, alt. 2500 m., Aug. 30, 1921, José Steinbach, no. 5726’.

Holotype: F (550500); isotype: GH (‘small fragment’).

Bolivia (Cochabamba).
Scrub.
2500 m.
August–September.

***Ophryosporus venosissimus** (Rusby) B. L. Rob., Proc. Amer. Acad. Arts 42: 24 (1906).
Eupatorium venosissimum Rusby, Mem. Torrey Bot. Club 6(1): 57 (1896). Type: [Bolivia:] 'Vic. Cochabamba, 1891 ([Bang] 1113).' Holotype: NY (00169259); isotypes: K, NY (00169260), US (00050620), Z (000003380).
Bolivia (Cochabamba).
2500–3500 m.
April.

Orcya Vell., Fl. Flum. : 344 (1825)[7 Sept. - 28 Nov. 1829] = **Acanthospermum** Schrank
Orcya adhaerescens Vell., Fl. Flum. : 345 (1825)[7 Sept. - 28 Nov. 1829]; Fl. Flum. Icones 8: tab. 83 (1831) =
Acanthospermum australe (Loefl.) Kuntze

Oreophila D. Don, Trans. Linn. Soc. London 16(2): 178 (1830) = **Hypochoeris** L.
Oreophila meyeniana Walp., Nov. Actorum Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 292 (1843) =
Hypochoeris meyeniana (Walp.) Griseb.
Oreophila sessiliflora (Kunth) D. Don, Trans. Linn. Soc. London 16(2): 178 (1830) = **Hypochoeris sessiliflora**
Kunth
Oreophila taraxacifolia Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 291
(1843) = **Hypochoeris stenocephala** Kuntze

Oresigonia Willd. ex DC., Prodr. 6: 323 (1838), nom. nud. pro syn. = **Werneria** Kunth, p.p. & **Xenophyllum** V.
A. Funk, p.p.
Oresigonia brevifolia Willd. ex Rockh., Bot. Jahrb. Syst. 70(3): 293 (1939), nom. nud. pro syn. = **Xenophyllum**
humile (Kunth) V. A. Funk
Oresigonia grandiflora Willd. ex Rockh., Bot. Jahrb. Syst. 70(3): 301 (1939), nom. nud. pro syn. = **Werneria**
nubigena Kunth
Oresigonia latifolia Willd. ex DC., Prodr. 6: 324 (1838), nom. nud. pro syn. = **Werneria nubigena** Kunth

Oriastrum Poepp., Nov. Gen. Sp. 3: 50, t. 257 (1843) = **Chaetanthera** Ruiz & Pav.

Oribasia Moç. & Sesse ex DC., Prodr. 6: 323 (1838), nom. nud. pro syn. = **Werneria** Kunth
Oribasia acaulis Moç., Sesse & Cerv. ex DC., Prodr. 6: 324 (1838), nom. nud. pro syn. = **Werneria nubigena**
Kunth

Oritrophium (Kunth) Cuatrec., Ciência (Mexico) 21: 21 (1961).
Aster L. sect. *Oritrophium* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 70 (1818).
Erigeron L. sect. *Oritrophium* (Kunth) Benth. & Hook.f., Gen. Pl. 2: 280 (1873).
Celmisia Cass. sect. *Oritrophium* (Kunth) Solbrig, Contr. Gray Herb. 188: 85 (1960).

Lectotype (selected by Cuatrecasas, 1961: 22): *Aster pellitus* Kunth = *Oritrophium peruvianum* (Lam.)
Cuatrec.

References

- Aranguren B. A., Morillo, G. & M. Fariñas. (2008). Distribución geográfica y clave de las especies del género *Oritrophium* (Kunth) Cuatrec. (Asteraceae). Acta Bot. Venez. 31(1): 81–106.
- Cuatrecasas, J. (1961). Notas sobre Astereas Andinas. Ciência (Mexico) 21(1): 21–32.
- Cuatrecasas, J. (1997). Synopsis of the neotropical genus *Oritrophium* (Asteraceae: Astereae). BioLlania Edición Especial 6: 287–303.

Note: Cuatrecasas (1961) transferred Weddell's two erigerons to *Oritrophium*, but these were later transferred by Solbrig (1962) to *Celmisia*. Weddell's plate of *E. hieracioides* is certainly not of a *Celmisia* (which is not considered present in South America) nor is it a species of *Oritrophium*. Later, however, Cuatrecasas (1997) included within the synonymy of *Oritrophium hieracioides* (Wedd.) Cuatrec. ' *Erigeron hieracifolius* Poir.' and the combination ' *Podocoma hieracifolia* (Poir.) Cass.', as well as including *Erigeron ferrugineum* Wedd. as a synonym. Based on Beck 21528, *Oritrophium peruvianum* (Lam.) Cuatrec. is recorded for Bolivia.

Oritrophium ferrugineum (Wedd.) Cuatrec., *Ciencia (Mexico)* 21(1): 26 (1961) = ?***Podocoma hieracifolia*** (Poir.) Cass.

Oritrophium hieracioides (Wedd.) Cuatrec., *Ciencia (Mexico)* 21(1): 26 (1961) = ?***Podocoma hieracifolia*** (Poir.) Cass.

Oritrophium limnophilum (Sch.Bip.) Cuatrec., *Ciencia (Mexico)* 21(1): 27 (1961)

**Erigeron frigidum* Wedd., *Chloris Andina* 1: 231 (1857), nom. illegit., non *E. frigidum* Boiss. in DC. (1838).

Type: 'Hab. BOLIVIE!: Cordillères du département de la Paz (*Mandon* [225]).' Holotype: P; isotype: F (1022724), NY (00168652), P, S.

Erigeron limnophilus [as *limnophilum*] Sch.Bip., *Bull. Soc. Bot. France* 12: 81 (1865); *Linnaea* 34(5): 534 (Feb. 1866), nom. nov. pro *E. frigidum* Wedd., based on *Mandon* 225. Note: See types under *E. frigidum*. Schultz Bipontinus also listed an unnamed var. β based on *Mandon* 226, but this has no nomenclatural validity.

Aster sodiroi Hieron., *Bot. Jahrb. Syst.* 29(1): 20 (1900*). Type: [Ecuador] 'Crescit in pascuis alpinis passim (S.[odiro] n. 12/1).' Holotype: B†. [*Note: See Reference section with problem concerning date of publication]

**Aster limnophilus* (Sch.Bip.) Hemsl. & Pearson, *J. Linn. Soc., Bot.* 35: 86 (1901).

Aster mutisianus Cuatrec., *Trab. Mus. Nac. Cienc. Nat. Jard. Bot. Madrid, ser. Bot.* 29: 21 (1935). Type: '«Cordillera» Centralis Colombia in regione dicta «páramo» montis Tolima, 4.300 m. alt. 15-V-32 legi ([Cuatrecasas] n.º. 2916).' Holotype: MA.

Aster sodiroi Hieron. var. *mutisianus* (Cuatrec.) Cuatrec., *Trab. Mus. Nac. Cienc. Nat. Jard. Bot. Madrid, ser. Bot.* 33: 132 (1936).

Oritrophium limnophilum (Sch.Bip.) Cuatrec. ssp. *mutisianum* (Cuatrec.) Cuatrec., *Ciencia (Mexico)* 21(1): 29 (1961).

Oritrophium limnophilum (Sch.Bip.) Cuatrec. ssp. *nevadanum* Cuatrec., *Ciencia (Mexico)* 21(1): 29 (1961). Type: 'COLOMBIA, Magdalena: Sierra Nevada de Santa Marta, vertiente suroeste de los picos Reina y Ojeda, páramo junto a la Laguna Mamo, prado pedregoso y húmedo, 4250 m alt, planta en rosetas, brácteas involucrales arriba pardo-purpureas, lígulas blancas, 4-X-1959, J. Cuatrecasas & R. Romero Castañeda 24592'. Holotype: US (02325325); isotype: COL.

Oritrophium limnophilum (Sch.Bip.) Cuatrec. ssp. *punae* Cuatrec., *Ciencia (Mexico)*, 21(1): 30 (1961). Type: 'PERÚ, Huánuco: Mito, about 9000 feet alt., upland grassy slope; rays white, disk yellow; VII-23-VIII-14, 1922, Macbride & Featherstone 1788'. Holotype: US (01186002); isotype: ?F.

Bolivia (La Paz), Colombia, Ecuador, Peru, Venezuela.

Páramo, grassland, rocky areas, 'Bofedales plantas altoandinos' [altoandean peat bogs]. 2700-5000 m.

October-August.

Note: If the variation throughout the range of this taxon is to be recognized Cuatrecasas (1961, 1969, 1997) can be followed as to the circumscription and distribution of the four subspecies.

Oritrophium limnophilum (Sch.Bip.) Cuatrec. ssp. *mutisianum* (Cuatrec.) Cuatrec., *Ciencia (Mexico)* 21(1): 29 (1961) = ***Oritrophium limnophilum*** (Sch.Bip.) Cuatrec.

Oritrophium limnophilum (Sch.Bip.) Cuatrec. ssp. *nevadanum* Cuatrec., *Ciencia (Mexico)* 21(1): 29 (1961) = ***Oritrophium limnophilum*** (Sch.Bip.) Cuatrec.

Oritrophium limnophilum (Sch.Bip.) Cuatrec. ssp. *punae* Cuatrec., *Ciencia (Mexico)*, 21(1): 30 (1961) = ***Oritrophium limnophilum*** (Sch.Bip.) Cuatrec.

Oritrophium vahlii (Gaudich.) Cuatrec., *Webbia* 24: 89 (1969) = ***Symphyotrichum vahlii*** (Gaudich.) G. L. Nesom

Orsinia Bertol. ex DC., *Prodr.* 5: 104 (1836) = ***Clibadium*** L.

- Orthopappus* Gleason, Bull. New York Bot. Gard. 4(14): 237 (1906) = **Elephantopus** L.
Orthopappus angustifolius (Sw.) Gleason, Bull. New York Bot. Gard. 4(14): 238 (1906) = **Elephantopus angustifolius** Sw.
- Osmia* Sch.Bip., Jahresber. Pollichia 22-24: 251 (1866) = **Chromolaena** DC.
Osmia alternans (DC.) Sch.Bip., Jahresber. Pollichia 22-24: 252 (1866) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
Osmia caleoides Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 282 (1876), nom. nud. pro syn. = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
Osmia divergens (Less.) Sch.Bip., Jahresber. Pollichia 22/24: 252 (1866) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
Osmia graciliflorum (DC.) Sch.Bip., Jahresber. Pollichia 22/24: 252 (1866) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
Osmia gracillima Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 290 (1876), nom. nud. pro syn. = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
Osmia gracillima Sch.Bip. ex Malme, Ark. Bot. 24A(8): 23 (1932), nom. nud. pro syn. = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
Osmia ivifolia (L.) Sch.Bip., Jahresber. Pollichia 22-24: 252 (1866) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
Osmia laevigata (Lam.) Sch.Bip., Jahresber. Pollichia 22-24: 252 (1866) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
Osmia obscura (DC.) Sch.Bip., Jahresber. Pollichia 22-24: 252 (1866) = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
Osmia odorata (L.) Sch.Bip., Jahresber. Pollichia 22/24: 250 (1866) = **Chromolaena odorata** (L.) R. M. King & H. Rob.
Osmia polyantha Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 285 (1876), nom. nud. pro syn. = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
Osmia propinqua (DC.) Sch.Bip., Jahresber. Pollichia 22-24: 252 (1866) = **Chromolaena laevigata** (Lam.) R. M. King & H. Rob.
Osmia stenophylla Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 290 (1876), nom. nud. pro syn. = **Chromolaena ivifolia** (L.) R. M. King & H. Rob.
Osmia tomentosa Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 282 (1876), nom. nud. pro syn. = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
Osmia trifoliata Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 282 (1876), nom. nud. pro syn. = **Chromolaena squalida** (DC.) R. M. King & H. Rob.
- Oswaldia* Cass., Dict. Sci. Nat. 59: 322 (1829) = **Clibadium** L.
- Otochlamys* DC., Prodr. 6: 77 (1838) = **Cotula** L.
- Otopappus australis* S. F. Blake, Contr. U.S. Natl. Herb. 20: 538 (1924) = **Oblivia mikanioides** (Britton) Strother
Otopappus ferrugineus V. M. Badillo, Ernstia 1(3): 4 (1981) = **Oblivia mikanioides** (Britton) Strother
- Oxydon* Less., Linnaea 5(3): 357 (1830) = **Chaptalia** Vent.
Oxydon bicolor Less, Linnaea 5(3): 357 (1830) = **Chaptalia runcinata** Kunth
- Oxylepis* Benth., Pl. Hartweg. : 87 (1841) = **Hymenoxys** Cass.
- Oxyodon* DC., Prodr. 7: 43 (1838), orth. var. pro *Oxydon* Less. = **Chaptalia** Vent.
- Oyedaea** DC., Prodr. 5: 576 (1836).
Type: *Oyedaea verbesionoides* DC.

References

- Blake, S. F. (1921). Revision of the genus *Oyedaea*. *Contr. US Natl. Herb.* 20(10): 411–422.
- Pruski, J. F. (1996). Compositae of the Guayana Highland–XI. *Tuberculocarpus* gen. nov. and some other Ecliptinae (Heliantheae). *Novon* 6(4): 404–418.
- Pruski, J. F. (1999). Novelties in *Angelphytum* and *Oyedaea* (Compositae: Heliantheae: Ecliptinae) from South America. *Compositae Newslett.* 34: 1–8.
- Robinson, H. (1979). Notes on *Oyedaea* (Heliantheae: Asteraceae) in Central America. *Wrightia* 6: 43–48.
- ****Oyedaea boliviana*** Britton, *Bull. Torr. Bot. Club* 19(5): 149 (1892). Type: 'Yungas, 6,000 ft. [Rusby] 2143.' Holotype: NY (00230859); isotype: NY (00230859), US (01402604).
Helianthus mandonii Sch.Bip., *Bull. Soc. Bot. France* 12: 79 (1865); *Linnaea*, 34: 525 (Feb. 1866), nom. nud. (based on *Mandon* 37; together with 'var.' *Mandon* 36)
- **Oyedaea pearcei* Rusby, *Mem. Torrey Bot. Club* 3(3): 59 (1893). Types: [Bolivia:] 'Yungas, 1890 ([Bang] 546). Collected also by Pearce at Santa Cruz, fide Britton. Distributed as *Zexmenia*.' Isosyntypes (*Bang* 546): F (77482), US (00026726), Z (000003723).
Bolivia (La Paz).
Bosque Yungueño.
1859–2000 m.
June–July.
La Paz: Fuentes et al. 4882 (K).
- ****Oyedaea bullata*** J. Koster, *Blumea* 6(1): 269 (1948). Type: [Bolivia:] 'Hab. : Strauch im Gebüsch um Incaconal, sehr häufig, 2500 m alt., Juni 1911, [Herzog] n. 2244.' Holotype: L(94977181); isotypes: L(94977166), S. Note: The L isotype bears only a printed label, and no type label.
Bolivia (Cochabamba).
2500 m.
June.
- ****Oyedaea lanceolata*** (Rusby) S. F. Blake, *Contr. U. S. Nat. Herb.* 20: 416 (1921).
Calea lanceolata Rusby, *Bull. New York Bot. Gard.* 8(No. 28): 132 (1912). Types: ' "Twenty ft. high and two and one-half inches in diameter; Apolo, 4800 ft., July, 1902" ([R.S.Williams 1408].)/The same as Rusby's No. 2138.' Syntype (*Williams* 1408): NY (00468335); isosyntype: K, US (01098753).
Bolivia (La Paz).
1465 m.
July.
- Oyedaea neei*** Pruski, *Compositae Newslett.* 34: 5 (1999). Type: 'BOLIVIA. Santa Cruz: Prov. Florida, 4 km N of center of Samaipata, 18°08'S, 63°52'W, 2000–2100 m, 31 Dec 1992, M. Nee & I. Vargas C. 43442'. Holotype: US (03362069); isotypes: LPB, NY (00621989), USZ.
Bolivia (Santa Cruz).
2000–2100 m.
December–January.
Note: *Dimerostemma herzogii* (Hassler) M. D. Moraes is sympatric and apparently grows in the same area of Samaipata. Pruski (1999) was evidently aware of the appearance of both taxa having clearly seen the type of the *Oyedaea* and drawings of fragments of *Zexmenia herzogii* (the basionymy of *D. herzogii*).
- Oyedaea ovata* (Gardner) Benth. ex Baker in Mart., *Fl. Bras.* 6(3): 207 (1884) = ***Dimerostemma brasilianum*** Cass.
- **Oyedaea pearcei* Rusby, *Mem. Torrey Bot. Club* 3(3): 59 (1893) = ***Oyedaea boliviana*** Britton
- ****Oyedaea rusbyi*** S. F. Blake, *Contr. U. S. Nat. Herb.* 20: 416 (1921). Type: 'Type in the United States National Herbarium, no. 26728, collected at Reis, Bolivia, at an altitude of 455 meters, June, 1886, by H. H. Rusby (no. 2138). Also in the British Museum, the Gray Herbarium, and the Kew Herbarium.' Holotype: US (00026728); isotypes: BM, GH (10840), K, NY (00230863, 00230864, 00230865).

Bolivia (Pando).
455 m.
June.

P

Pachyrhynchus DC., Prodr. 6: 255 (1838) = **Lucilia** Cass.

Pachyrhynchys xeranthemoides DC., Prodr. 6: 255 (1838) = **Lucilia acutifolia** (Poir.) Cass.

Pacourina Aubl., Hist. Pl. Guiane 2: 800 (1775).

Meisteria Scop., Introd. : 124 (1777), nom. illegit.

Haynea Willd., Sp. Pl. 3: 1787 (1804). Type: *Haynea edulis* (Aubl.) Willd. = **Pacourina edulis** Aubl.

Pacourinopsis Cass., Bull. Soc. Philom., Paris 1817: 151 (1817). Type: *Pacourinopsis dentata* Cass., nom. superfl. pro *Pacourina cirsiifolia* Kunth = **Pacourina edulis** Aubl.

Type: **Pacourina edulis** Aubl.

Reference

Dillon, M. O. (1982). Additions to tribe Vernoneae (Compositae): I. In: J. F. Macbride & collab., Flora of Peru, Fieldiana, Bot. n.s. 11: 1-7.

Robinson, H. (1999). Two new subtribes, *Stokesiinae* and *Pacourininae*, of the *Vernoneae* (Asteraceae). Proc. Biol. Soc. Washington 112(1): 216 - 219.

Pacourina edulis Aubl. var. *spinosissima* Britton, Ann. New York Acad. Sci. 7: 132 (1893) = **Pacourina edulis** Aubl.

Pacourina edulis Aubl., Hist. Pl. Guiane 2: 800, t. 316 (1775). Type: 'J'ai trouvé cette plante avec des fleurs dans le mois de Juin, sur les bords d'un ruisseau auprès des cases qu'on établissoit à Courou. L'eau de ce ruisseau est saumâtre.' Holotype: ?P-JJR.

Haynea edulis (Aubl.) Willd., Sp. Pl. 3: 1787 (1804).

Calea sessiliflora Stokes, Bot. Mat. Med. 4: 172 (1812), nom. nov. pro **Pacourina edulis** Aubl.

Pacourina cirsiifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Spl. Pl. 4(ed. folio): 24 (1818). Type:

[Ecuador:] 'Crescit in humidis prope Guayaquil Quitensium. ♀ Floret Februario.' ['no. 3839. Guayaquil']

Pacourinopsis integrifolia Cass., Dict. Sci. Nat. 37: 213 (1825). Type: 'Nous avons fait cette description spécifique, et celle des caractères générique, sur un échantillon sec, incomplet et en mauvais état, recueilli à Cayenne par M. Martin, et qui se trouve dans l'herbier de M. Desfontaines, où il porte le nom de Pacourina.' Holotype: ?P-Desf or ?FI.

Pacourinopsis dentata Cass., Dict. Sci. Nat. 37: 213 (1825), nom. illegit. superfl. pro *Pacourina cirsiifolia* Kunth *Vernonia edulis* (Aubl.) Steud., Nom. Bot., ed. 2, 2: 753 (1841).

Pacourina edulis Aubl. var. *spinosissima* Britton, Ann. New York Acad. Sci. 7(1-5): 132 (1893). Type:

[Paraguay:] 'Asuncion ([Morong] 224). December. Same as *Balansa's* 862.' Syntype (*Morong* 224): NY (00230871). (?Iso-)Syntype (*Balansa* 862): K.

Argentina, Belize, Bolivia (Bení, Santa Cruz), Brazil, Colombia, Ecuador, Dominican Republic, Guatemala, Nicaragua, Paraguay, Peru, Surinam.

River or lake margins as an aquatic or semiaquatic, seasonally flooded grassland.

0-1000 m.

September-June.

Pacourinopsis Cass., Bull. Soc. Philom., Paris 1817: 151 (1817) = **Pacourina** Aubl.

Pacourinopsis dentata Cass., Dict. Sci. Nat. 37: 213 (1825), nom. illegit. superfl. = **Pacourina edulis** Aubl.

Pacourinopsis integrifolia Cass., Dict. Sci. Nat. 37: 213 (1825) = **Pacourina edulis** Aubl.

Paleista Raf., New. Fl. 2: 43 (1837)[1836] = **Eclipta** L.

Palenia Phil., Anales Univ. Chile 90: 7 (1895) = **Baccharis** L.

Pappobolus S. F. Blake, Hooker's Ic. Pl. 31(3): 1, tab. 3057 (1916).
Helianthus L. subg. *Viguieriopsis* Heiser, Brittonia 8(4): 284 (1957), nom. nud.
Helianthopsis H. Rob., Phytologia 44: 258 (1979). Type: *Helianthus microphyllus* Kunth = Pappobolus
microphyllus (Kunth) Panero

Type: Pappobolus macranthus S. F. Blake

Reference

Panero, J. L. (1992). Systematics of *Pappobolus* (Asteraceae-Heliantheae). Syst. Bot. Monogr. 36: 1-195.

**Pappobolus macranthus* S. F. Blake, Hooker's Ic. Pl. 31 [Ser. 5, 1]: 1, t. 3057 (1916). Type: 'SOUTH AMERICA: Bolivia; Muna, common in waste ground, 2135-2440 m., May 1863, Pearce, 121.' Holotype: K; isotype: GH (10874 - fragment of the holotype). Cited by Foster (1958), this species was wrongly recorded by Blake from Bolivia, and Panero (1992) cited this species only from Peru. Muña is in Huánuco province, Peru. It is almost certainly not present in Bolivia.

Paracalia Cuatrec., Brittonia 12(3): 183 (1960).

Pentanthus Hook. & Arn., Companion Bot. Mag. 1(No. 2): 32 (1835), nom. illegit. non Less (1832)(= **Nassauvia** Comm. ex Juss.). Type: *Pentanthus jungioides* Hook. & Arn. = *Paracalia jungioides* (Hook. & Arn.) Cuatrec.

Type: *Senecio pentamerus* Cuatrec. = **Paracalia pentamera** (Cuatrec.) Cuatrec.

Reference

Cuatrecasas, J. (1960). Studies on Andean Compositae - IV. Brittonia 12(3): 182-195.

Paracalia pentamera (Cuatrec.) Cuatrec., Brittonia 12(3): 183 (1960)

**Senecio pentamerus* Cuatrec., Fieldiana, Bot. 27(2): 57 (1951). Type: 'Bolivia, Dep. of La Paz, Prov. Larecaja: Copacabana (about 10 km. south of Mapiri), 850-950 m. alt., collect. Oct. Nov. 1939, B. A. Krukoff 11150'. Holotype: NY (00259336); isotype: K, MO (1240504), US (02250175).

Bolivia (La Paz).

850-950 m.

October-November.

Paranephelius Poepp., Nov. Gen. Sp. Pl. 3: 42, tab. 248 (1843).

Liabum Adans. sect. *Paranephelium* (Poepp.) Benth. & Hook., Gen. Pl. 2: 436 (1873).

Type: **Paranephelius uniflorus** Poepp.

References

Robinson, H. (1977). Studies in the Liabeae (Asteraceae). X. Additions to the genus *Paranephelius*. Phytologia 35(3): 233-240.

Robinson, H. (1983). A generic review of the tribe Liabeae (Asteraceae). Smithsonian Contrib. Bot. 54: 1-69.

Robinson, H. & R. D. Brettell. (1974). Studies in the Liabeae (Asteraceae). II. Preliminary survey of the genera. Phytologia 28(1): 43-63.

Paranephelius asperifolius (Muschl.) H. Rob. & Brettell, Phytologia 28(1): 59 (1974).

**Liabum asperifolium* Muschl., Bot. Jahrb. Syst. 50(2/3), Beibl. 111: 78 (1913). Types: 'Bolivia: Calderillo (FIEBRIG n. 3538. - Specimina florig. fructiferaque - 22. Mart. 1904) - Calderillo: in declivibus, 3000-3500 m s.m. (FIEBRIG n. 3163. - Specimina florigera - 23. Mart. 1904).' Syntypes: B†; isosyntypes: Fiebrig 3538, K, US (01473173).

Argentina, Bolivia (Tarija).

3000-3500 m.

March-April.

Paranephelius jelskii (Hieron.) H. Rob. & Brettell, Phytologia 28(1): 59 (1974).

**Liabum jelskii* Hieron., Bot. Jahrb. Syst. 36(5): 499 (1905). Type: 'Peruvia: crescit prope Cutervo (J.[elski] n. 716, m. Majo 1879).' Holotype: B†.

Bolivia (?), Peru. Note: It remains to be seen if, as Foster suggested, that the species is to be found in Bolivia. 3000–3500 m.

May.

Note: Dillon & Hensold (1993) oddly listed *Liabum jelskii* as a synonym of *Paranephelius ferreyrii* H. Rob. (1977). Since *Liabum jelskii* was validly published, to list it as a synonym of a later species is contrary to the Code.

Paranephelius ovatus Wedd., Chloris Andina 1: 214 (1855). Types: '*P. ovatifolius* Asa Gray, mscr., in Herb. Mus. par., et Bot. Amer. Exped., ined. ... Hab. PÉROU: Cordillères des départements de Cuzco! de Lima! et de Puno!, dans les endroits pierreux et humides, à 4000 mètres et au-dessus (*Dombey, Pavon, Gay, Wedd.*). – BOLIVIE: punas de la province de Cinti!, avec le précédent [i.e. *P. uniflorus*] (*Wedd.*).' Note: The Pavon isosyntype collection in MA (C6 on microfiche sheet 292 of the Ruiz & Pavón herbarium) is numbered 'F. P. C. I. No. 101'.

**Liabum ovatum* (Wedd.) Ball, J. Linn. Soc., Bot. 22(No. 141): 46 (1885).

**Liabum ovatum* (Wedd.) Ball var. *hirtum* Perkins, Bot. Jahrb. Syst. 49(2): 229 (1913). Type: 'Bolivien: Palca-La Paz, 4600 m ü. M. (K. PFLANZ n. 218. – Im Dezember 1907 blühend).' Holotype: B†

Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí, Santa Cruz), Peru.

Puna Peruana, alpine grassland, sometimes heavily grazed, damp areas, clearings in cloud forest.

2500–4600 m.

November–April.

Paranephelius uniflorus Poepp., Nov. Gen. Sp. Pl. 3: 42, tab. 248 (1843). Type: 'Crescit locis frigidissimis glareosis Andium peruvianorum, Sierra la Viuda (15,200 ped. elev.). Junio florentem legimus.'

**Liabum uniflorum* (Poepp.) Sch.Bip., Flora 36: 34 (1853).

Bolivia (Chuquisaca, Potosí), Peru.

Rocky slopes, Puna Peruana.

3000–4500 m.

February–June.

Parastrephia Nutt., Trans. Amer. Phil. Soc. ser. 2, 7: 449 (1841).

Dolichogyne sect. *Tola* Wedd., Chloris Andina 1: 182 (1856). Type: not cited.

Polycladus [as *Polyclados*] Phil., Fl. Atacam.: 34 (1860); Reise Atacama : 208 (1860). Type: *Polycladus cupressinus* Phil. = **Parastrephia quadrangularis** (Meyen) Cabrera

Type: *Parastrephia ericoides* Nutt. = *Baccharis phylliciformis* Meyen = *Parastrephia phylliciforme* (Meyen) Cabrera ≡ **Parastrephia lucida** (Meyen) Cabrera.

Note: Nesom (1993) in sinking *Parastrephia phylliciforme* into *P. lucida* and recognized the type as *Parastrephia ericoides* Nutt. = **Parastrephia lucida** (Meyen) Cabrera.

References

Bonifacino, J. M. (2009). Taxonomic revision of the *Chiliotrichum* group sensu stricto (Compositae: Astereae). Smithsonian Contrib. Bot. 92: i–vi, 1–119.

Cabrera, A. L. (1945). Sinopsis del género *Lepidophyllum* (Compositae). Bol. Soc. Argent. Bot. 1(1): 48–58.

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Nesom, G. L. (1993). Synopsis of *Parastrephia* (Asteraceae: Astereae). Phytologia 75(5): 347–357.

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Key to species (following Nesom, 1993)

1. Leaves 2.0–2.5 mm long, deltate-ovate and nearly flat, tightly appressed to stem, seemingly sunken in dense white stem tomentum; stem outline almost terete *P. teretiusscula*

- Leaves 2–6 mm long, margins revolute, usually distinctly linear but ovate when small, ascending or appressed to stem, if appressed stem distinctly angular in outline 2
2. (1) Leaves 4–6 (–10) mm long, not adnate to stem, ascending to spreading-recurving; central florets 13–28; marginal florets 7–16 *P. lucida*
 Leaves 2–5 mm long, straight and tightly appressed to stem, basal portion adnate; central florets 3–10; marginal florets 3–9 *P. quadrangularis*

Parastrephia ericoides Nutt., Trans. Maer. Phil. Soc., n.s. 7: 450 (1841) = **Parastrephia lucida** (Meyen) Cabrera
Parastrephia lepidophylla (Wedd.) Cabrera, Notas Mus. La Plata, Bot. 17(No. 83): 65 (1954) = **Parastrephia quadrangularis** (Meyen) Cabrera

Parastrephia lucida (Meyen) Cabrera, Notas Mus. La Plata, Bot. 17(No. 83): 57 (1954).

Baccharis lucida Meyen, Reise um die Erde 1: 460 (1834). Type: not cited. [Walper in Observat. Bot. : 253 (1843) cited 'Peruvia: in planitie circa Tacoram, alt. 14–17,000 ped. (v.s.)'. Holotype: B†.

Baccharis phylliciformis Meyen, Reise um die Erde 2: 31 (1835). Type: not cited. Note: the accompanying text, to which the description was a footnote, suggests that the material was collected 'Der Knochenberg, auf der östlichen Seite des Vulcans' which is between the 'Departement von Puno und den von Arequipa.' [Walper in Observat. Bot. : 253 (1843) cited only 'Peruvia: Arequipa. (v.s.)']. Holotype: B†.

Parastrephia ericoides Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 450 (1841). Type: 'Hab. In Peru, near Arequipa; (Mr. Curson.) In sandy soil. ... (My specimens are mere sprigs, and I am, therefore unacquainted with the habit of this curious plant.)'

Vernonia phylliciformis (Meyen) Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19 (Suppl. 1): 252 (1843).

Vernonia phylliciformis (Meyen) Walp. var. *resinosa* Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19 (Suppl. 1): 253 (1843), based on *Baccharis lucida* Meyen.

Dolichogyne rigida Wedd., Chloris Andina 1: 182 (1856). Types: 'Hab. PÉROU: Sur le plateau de Tacora!, où il croît en société avec le précédent [= *Dolichogyne lepidophylla*] (*Pentland, Wedd.*)'. Syntypes: P.

Dolichogyne rupestris Wedd., Chloris Andina 1: 183 (1856). Type: 'Hab. BOLIVIE: environs de Potosí, dans la Quebrada de las lagunas, au niveau des nieges perpétuelles (*d'Orbigny, n. 1382.*)'. Holotype: P.

Lepidophyllum rigidum (Wedd.) Benth. & Hook. f., Gen. Pl. 2(1): 258 (1873).

Polycladus abietinus Phil., Anales Univ. Chile 43: 492 (1873). [Note: In a separately paginated reprint/preprint in K this appeared on p. 16.] Type: [Chile:] 'Hallado por el señor don Guillermo Doell cerca de las salitreras de Antofagasta, en el desierto de Atacama.' Pizarro (1960, 154) cited SGO 62959.

Dolichogyne glabra Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 39 (1891). Type/s: 'Ad Lorohausi frequens.' Pizarro (1960: 139) cited 'Abundante en Loroahuasi.' – SGO 43811, 60576.

Lepidophyllum abietinum (Phil.) Reiche, Anales Univ. Chile 109: 26 (1901).

Lepidophyllum phylliciforme (Meyen) Hieron. ex R. E. Fr., Nova Acta Regiae Soc. Sci. Upsal., Ser. 4, 1(1): 77 (1905).

Lepidophyllum phylliciforme (Meyen) Hieron. ex R. E. Fr. var. *resinosum* (Walp.) S. F. Blake, J. Wash. Acad. Sci. 21(14): 326 (1931).

**Lepidophyllum lucidum* (Meyen) Cabrera, Bol. Soc. Argent. Bot. 1(1): 51 (1945).

Parastrephia phylliciformis (Meyen) Cabrera, Notas Mus. La Plata, Bot. 17(No. 83): 57 (1954).

Diplostephium tovari Cuatrec., Phytologia 31(4): 319 (1975). Type: 'Peru, Ayacucho prov. Lucanas: Pampa Galeras, entre Nazca y Lucanas, 4100 m alt, habitat algo rocoso con estepa de gramíneas, flores amarillas, 23-X-1969, Oscar Tovar 6274'. Holotype: US.

Argentina, Bolivia (Cochabamba, La Paz, Oruro, Potosí, Tarija), Chile, Peru.

Dry hillsides, Páramo, Altiplano, Puna, Tholares (Altiplano edaphilous scrub), Tholares altioplánicos de Lipez (Lipez edaphophilous scrub), Tolares eutróficos (Altiplano edaphophilous eutrophic scrub), Khewiñar Altiplánico occidental (Western Altiplano sclerophyllous seasonal evergreen woodland), Matorralies seriales orotrópicas altioplánico occidentales, Sajama high-andean bunch-grassland. (3200–) 3500–5000 m.

October–April.

Vernacular name: ROMERO THOLA (Navarro, 2002: 463).

Note: Three collections, *Mandon* 210 (La Paz), *Wood* 11253 (Potosí) and *Wood* et al. 20929 (Cochabamba) have much longer leaves (up to 10 mm long) than the range indicated by Nesom (1993); they agree in all other respects. Ecologically it would appear that Navarro (2002: 467) contended that *P. quadrangularis* and *P.*

lepidophylla, and *P. phylliciformis* (Navarro, 2002: 480) are separate species; perhaps more field observations are necessary.

Parastrephia phylliciformis (Meyen) Cabrera, Notas Mus. La Plata, Bot. 17(No. 83): 57 (1954) = **Parastrephia lucida** (Meyen) Cabrera

Parastrephia quadrangularis (Meyen) Cabrera, Notas Mus. La Plata, Bot. 17(No. 83): 57 (1954).

Baccharis quadrangularis Meyen, Reise um die Erde 1: 460 (1834). Type: not cited. [Walper in Observat. Bot. : 295 (1843) cited only 'Peruvia: Arequipa. (v.s.)']. Holotype: B†.

Dolichogyne lepidophylla Wedd., Chloris Andina 1: 182, tab. 30 A (1856). Types: 'Hab. PÉROU: département de Tacna, sur le plateau de la Cordillère de Tacora!, h. 4000 à 5000 mètres, où il constitue, avec l'espèce suivante et une ou deux autres Composées, le fond de la végétation (*Pentland, Wedd.*); département vd' Arequipa (*Meyen*). -BOLIVIE: Cordillères du département de La Paz! (*Pentland, Wedd.*); punas entre Oruro et Potosí! (*d'Orbigny*).' Syntypes: P. Note: Bonifacino has determined a sheet of *d'Orbigny* 1379 in K as an isosyntype although noting only that the *d'Orbigny* collection was *s.n.* (Bonifacino, 2009). There is also a *Pentland* collection in K (probably ex herb. Hookerianum, but unstamped) simply marked on the sheet as 'Bolivia/Mr. *Pentland*' which may correspond to another isosyntype.

Polycladus cupressinus Phil., Fl. Atacam.: 34 (1860); Reise Atacama 208, tab. 4, fig. B (1860). Type: 'In monte Alto de Puquios dicto 23°52' lat. m. et 12600 p. s. m. repperi.' Pizarro (1960: 154) cited 44743 & 62958.

Lepidophyllum meyenii A. Gray, Proc. Amer. Acad. Arts 5: 122 (1862), nom. nov. based on *Baccharis quadrangularis* Meyen).

**Lepidophyllum quadrangulare* (Meyen) Benth. & Hook. f., Gen. Pl. 2(1): 258 (1873).

Lepidophyllum cupressinum (Phil.) Kuntze, Revis. Gen. Pl. 3(2): 162 (1898).

**Lepidophyllum tola* Cabrera, Bol. Soc. Argent. Bot. 1(1): 56 (1945), nom. illegit. as nom. nov. pro *Dolichogyne lepidophylla* Wedd.

Parastrephia lepidophylla (Wedd.) Cabrera, Notas Mus. La Plata, Bot. 17(No. 83): 65 (1954).

Argentina, Bolivia (La Paz, Oruro, Potosí), Chile, Peru.

Dry hillsides, amongst rocks, Páramo, Altiplano, Tolillares (Altiplano xeromorphic thorn-scrub), Tolares oligotróficos (Altiplano oligotrophic edaphophilous scrub), Khewiñar Altiplánico occidental (Western Altiplano sclerophyllous seasonal evergreen woodland), Matorralies seriales orotrópicas altiplánico occidentales, Sajama high-andean bunch-grassland.

3440–5000 m.

Flowering throughout the year.

Vernacular name: K'OA THOLA (Navarro, 2002: 463).

Parastrephia teretiuscula (Kuntze) Cabrera, Notas Mus. La Plata, Bot. 17(No. 83): 57 (1954).

**Lepidophyllum teretiusculum* Kuntze, Revis. Gen. Pl. 3(3): 162 (1898). Type: 'Chile-Bolivia: Ascotan 3000–3900 m.' [CHILE-BOLIVIA. Ascotan, 3000-3900 m, 7 Mar 1892, *Kuntze s.n.*' – according to Wetter & Zanoni, 1985: 334]

Bolivia (Potosí), Chile.

Dry, stony hillsides.

3400–4000 m.

December–March.

Parthenium L., Sp. Pl. : 988 (1753).

Hysterophorus, Adans. Fam. 2: 128 (1763). Type: no species cited.

Villanova Ortega, Nov. Rar. Pl. Matrit. Dec. 4: 47, t. 6 (1797), nom. rej., non Lag. (1816). Type: *Villanova bipinnatifida* Ortega = *Parthenium bipinnatifidum* (Ortega) Rollins

Argyrochaeta Cav., Icon. 4: 54, t. 378 (1798). Type: *Argyrochaeta bipinnatifida* Cav. = *Parthenium bipinnatifidum* (Ortega) Rollins

Bolophyta Nutt., Trans. Amer. Philos. Soc. ser. 2, 7: 347 (1840). Type: *Bolophyta alpina* Nutt. = *Parthenium alpinum* (Nutt.) Torrey & A. Gray

Echetrosis Phil., Anales Univ. Chil. 43: 504 (1873). [Note: in a separately paginated reprint/preprint in K this appeared on p. 28.] Type: *Echetrosis pentasperma* Phil. = **Parthenium hysterophorus** L.

Type: **Parthenium hysterophorus** L.

References

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Robinson, H. (2006). *Parthenium*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(2): 190(6). Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 51–54.

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Key to species

1. Plants shrubs or small trees, 2–5 m tall; stems densely pubescent, almost felted; leaf margins irregularly crenate to ± lobed, whitish-grey tomentose beneath; pollen yellow *P. cineraceum*
Plants herbaceous, annual or perennial, 0.1–1 m tall; stems hirsute; leaves pinnatisect or bipinnatisect; pollen white 2
2. (1) Plants annual; stems erect; capitula in lax corymbiform cymes; upper leaves entire or bilobed with a linear terminal lobe; pedicels and secondary inflorescence branches divaricate, 3–10 mm long *P. hysterothorus*
Plants perennial; branches decumbent or ascending; capitula in dense glomerules; upper leaves pinnatisect and smaller than lower; pedicels and inflorescence branches not divaricate, 2–5 mm long *P. glomerulatum*

****Parthenium cineraceum*** Rollins, *Contr. Gray Herb.* 172: 32 (1950). Type: 'BOLIVIA: La Cuesta (Calzas), Santa Cruz, prov. Cordillera, 415 meters, Ja. 29, 1945, G. Peredo 98'. Holotype: LIL (123899); isotype: GH (10912 – fragment of holotype and photo).

Argentina, Bolivia (Chuquisaca, Santa Cruz), Paraguay.

Chaco boreal, bosque chaqueño, steep rocky slopes.

300–2000 m.

December–March.

****Parthenium glomeratum*** Rollins, *Contr. Gray Herb.* 172: 59 (1950). Type: 'BOLIVIA: Escayache bei Tarija, Tarija, Jan. 30, 1904, K. Fiebrig 3017'. Holotype: GH (10913); isotypes: ?F, K, LIL, MO.

Argentina, Bolivia (Tarija).

Puna and Prepuna.

2000–3500 m.

December–February.

Paratypes (Bolivian): 'Bolivian plateau, 1891, Bang 948 (GH, MO).'

Note: In Zuloaga & Morone (1999) *Parthenium glomeratum* was listed as a synonym of *P. hysterothorus*, a position not accepted in this account.

****Parthenium hysterothorus*** L., *Sp. Pl.* : 988 (1753). Type: 'Habitat in Jamaicae glareosis ♀'. Lectotype (selected by Stuessy in Woodson & Schery, 1975: 1094): Herb. Linn. No. 1115.1 (LINN).

Argyrochaeta bipinnatifida Cav., *Icon.* 4: 54, tab. 378 (1791). Type: 'Habitat prope Ixmiquilpan oppidum mexicanum, ubi eam reperit D. Ludovicus Née. Vidi vidam in Regio horto Matiritense florentem mense Julio anni 1797. ... Obs. Descriptiones huius plantae et sequentium numeris 417, 418, 432, 435, 437 legi in Regia Medicinae Academia die 12 Octobris. Eas postea die scilicet 16 Novembris publici iuris fecit Matriti D. Casimirus Ortega in opusculo cui titulus *Novarum aut rariorum plantarum hortii Regii botanici Matritensis descriptionum decades*. Syntypes: ?MA.

Parthenium pinnatifidum Stokes, *Bot. Mat. Med.* 4: 278 (1812), based on *Parthenium hysterothorus* L.

Argyrochaeta parviflora Cav., *Descr.* : 233 (1802). Type: 'Se cria en Cumaná: nació de semillas enviadas por el ciudadano *Bompland*; florecio desde Julio hasta Octubre en el Jardim Botanico.' Holotype: ?MA.

Parthenium lobatum Buckley, *Proc. Acad. Sci. Philad.* 13: 457 (1861)[1862] Type: [USA:] 'Western Texas. June.[S. B. Buckley]' Holotype: ?PH; duplicate material may well be in P-DU.

Echetrosis pentasperma Phil., *Anales Univ. Chile* 43: 504 (1873)[Note: In a separately paginated reprint/preprint in K this appeared on p. 28.] Type: 'Se halla en la provincia de Mendoza de la República Argentina.' Pizarro (1960: 140) cited no material in SGO against this name.

Argentina, Belize, Bolivia (Chuquisaca, Cochabamba, Santa Cruz), Cuba, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, USA, Venezuela, West Indies. Widely adventive in the Old World, including Africa (Kenya), the Mascarenes, China, New Caledonia, etc.

Disturbed areas, roadsides, cultivated areas.

0–2000 m.

October–June, but potentially flowering throughout the year.

Vernacular name: ALTAMISA (Ariza Espinar, 2000: 68).

Bolivian citations by Rollins: 'Cochabamba, *Parodi* 10223 (GH); same locality, *Steinbach* 3988 (GH); Santa Cruz, *Peredo* s.n. (LIL); Buenavista, Santa Cruz, *Steinbach* 6344 (GH).

Parthenium lobatum Buckley, *Proc. Acad. Sci. Philad.* 13: 457 (1861)[1862] = **Parthenium hysterophorus** L.

Parthenium matricaria Gesn. ex Rupr., *Fl. Ingr.* 1: 583 (1860), nom. illegit. = **Tanacetum parthenium** (L.) Sch.Bip.

Parthenium pinnatifidum Stokes, *Bot. Mat. Med.* 4: 278 (1812), nom. illegit., based on *Parthenium hysterophorus* L. = **Parthenium hysterophorus** L.

Pascalina Orteg., *Hort. Matr. Dec.* 39, t. 4 (1797).

Pascalina baccata (L.) Spreng., *Syst. Veg.*, ed. 16, 3: 602 (1826) = **Tilesia baccata** (L.) Pruski

Pectidium Less., *Linnaea* 6(4): 706 (1831) = **Pectis** L.

Pectidopsis DC., *Prodr.* 5: 98 (1836) = **Pectis** L.

Pectis L., *Syst. Nat.*, ed. 10: 1189, 1221, 1376 (1759).

Seala Adans., *Fam.* 2: 131 (1763). Lectotype (selected by Keil, 1975: 1225): *Pectis carthusianorum* Less.

Lorentea Lag., *Gen. Sp. Pl. Nov.* : 28 (1816), nom. illegit., non *Lorentea* Ortega (1797). Type: *Lorentea prostrata* Lag. = *Pectis prostrata* Cav.

Cryptopetalon Cass., *Bull. Sci. Soc. Philom. Paris* 1817: 12 (1817). Note: no species originally included with the genus, Cassini (1819) later describing the sole species. Type: *Cryptopetalum ciliare* Cass. = **Pectis sessiliflora** (Less.) Sch.Bip. ex Rusby

Chthonia Cass., *Dict. Sci. Nat.* 9: 173 (1817). Type: *Chthonia glaucescens* Cass. = *Pectis glaucescens* (Cass.) D. J. Keil

Lorentea Less., *Linnaea* 5(1): 135 (1830), nom. illegit., non Ortega (1797), nec Lagasca (1816). Type: *Inula saturejoides* Mill. = *Lorentea saturejoides* (Mill.) DC. = *Pectis saturejoides* (Mill.) Sch.Bip.

Pectidium Less., *Linnaea* 6(4): 706 (1831). Type: *Pectidium punctatum* (Jacq.) Less. = *Pectis punctata* Jacq. = **Pectis linifolia** L.

Helioreos Raf., *Atlantic J.* 1: 145 (1832). Type: *Helioreos angustifolia* (Torr.) Raf. = *Pectis angustifolia* Torr.

Pectidopsis DC., *Prodr.* 5: 98 (1836). Type: *Pectidopsis angustifolia* (Torr.) DC. = *Pectis angustifolia* Torr.

Tetracanthus A.Rich. in Sagra, *Hist. Phys. Cuba, Bot.* 11: 60 (1850). Type: *Tetracanthus linearifolius* A. Rich. = **Pectis linifolia** L.

Cheilodiscus Triana, *Ann. Sci. Nat. Bot.*, sér. 4, 9: 36 (1858). Type: *Cheilodiscus littoralis* Triana = *Pectis multiflosculosa* (DC.) Sch.Bip.

Type: **Pectis linifolia** L. [See note by Jarvis, 2007: 729 on this selection by Keil in *Taxon* 34(2): 283, 1985].

Note: McVaugh (1984: 668) noted Britton & Brown's 1913 mechanical selection of *P. ciliaris* L.

References

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Key to species

- | | | |
|----|---|---|
| 1. | Pappus of scabrid bristles/hairs | 2 |
| | Pappus of stout awns or scales | <i>P. linifolia</i> var. <i>linifolia</i> |
| 2. | Disc florets > 25 | <i>P. odorata</i> |
| | Disc florets 12–25 | 3 |
| 3. | Inflorescence of solitary terminal or axillary capitula; plants prostrate | <i>P. sessiliflora</i> |
| | Inflorescence racemose; plants erect | <i>P. substriata</i> |

Pectis granieri Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 237) = **Pectis substriata** Rusby

***Pectis linifolia** L., Syst. Nat., ed. 10, 2: 1221 (1759); Sp. Pl. (ed. 2) 2: 1250 (1763). Type: 'Habitat in America.' Lectotype (selected by Keil in Rhodora 80(No. 822): 139, 1978): *Browne*, Herb. Linn. No. 1011.2 (LINN). *Verbesina linifolia* L., Syst. Nat., ed. 10, 2: 1226 (1759), nom. superfl. (based on type of *Pectis linifolia*).

Pectis punctata Jacq., Enum. Syst. Pl. : 28 (1760). Type: 'Plum. ic. 86. f. 1.' Note: Keil (1978: 139) cited

'Lectotype: Select. Stirp. Am. Hist. t. 128. 1763.' with the footnote 'Authentic type specimens have not been located. Stafleu (1967) indicated that few of Jacquin's West Indian material are known to exist, and that Jacquin's 1760 publication represents a prodromus for his larger illustrated work. The illustration of *Pectis punctata* from the latter publication is selected here as the lectotype.' This is unacceptable, since the only original material mentioned by Jacquin was the illustration in Plumier's work.

Tetracanthus linearifolius A. Rich. in Sagra, Hist. Phys. Cuba, Bot. [Faner. 3(2),] 11: 60 (1850). Type: 'Crescit in insula Cuba, juxta Santiago de Cuba ubi detexit et mecum benigne communicavit clar. J. Linden (coll. n. 1714).' Holotype: P.

Pectis linifolia L. var. *marginalis* Fernald, Proc. Amer. Acad. Arts 33: 85 (1897). Types: 'In shaded ravines and on mountain bluffs, Southern Arizona to the Sonora coast. Arizona (*Palmer*, 1867, no. 129), Tuscan (*Smart*, no. 382), Santa Catalina (*Lemmon*, no. 3031), Malpais Mts. [31 Aug. 1881] (*Pringle* [s.n.]); Sonora, Guaymas (*Palmer*, 1887, no. 224)'. Lectotype (selected by Keil, 1978: 139): *Pringle* s.n., GH (10919); isolectotypes: MICH, MO, US (77467). Syntype (*Lemmon* 3031): GH (10918). Syntype (*Palmer* 129): GH (10920). Syntype (*Palmer* 224): GH (10962); isosyntype: US (48209, 1418877).

Pectis linifolia L. var. *hirtella* S. F. Blake, J. Wash. Acad. Sci. 25: 322 (1935). Type: 'Mexico: On hill, Tanganhuato, Dist. Coyuca, Guerrero, 18 Sept. 1934, G. B. Hinton et al. 6606'. Holotype: US (1,589,311); isotypes: F (1071146), GH (10961), MO.

Bahamas, Bolivia (?), Brazil (cf. Bautista, 1987), Colombia, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Jamaica, Mexico, Peru, USA, Venezuela.

Deciduous forest, open areas, rocky scrub, cliff crevices.

0–1000 m.

Pectis linifolia L. var. *hirtella* S. F. Blake, J. Wash. Acad. Sci. 25: 322 (1935) = **Pectis linifolia** L.

Pectis linifolia L. var. *marginalis* Fernald, Proc. Amer. Acad. Arts 33: 85 (1897) = **Pectis linifolia** L.

***Pectis odorata** Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 200 (1879); Symb. Pl. Argent. : 200 (1879).

Type: 'Nom. vernac. Pectidis in campis: Comino del Campo. — C. S.: in fruticetis ad fl. Juramento.'

Holotype: *Lorentz & Hieronymus* 266, II.1873; isotypes: CORD, S.

Argentina, Bolivia (Bení, Santa Cruz), Paraguay.

Bosque chaqueño, Chaco.

February.

Vernacular names: COMINO DEL CAMPO (J); LIMONILLO (LR); YERBA DEL VENADO (LR); CHINCHILLA (SGO); MANZANILLA DEL CAMPO (S Y F); CERDILLA (CTES) (Petenatti & Ariza Espinar, 1997: 17).

Pectis pinnata Lam., J. Hist. Nat. 2: 150, pl. 31 (1792) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Pectis punctata Jacq., Enum. Syst. Pl. : 28 (1760) = **Pectis linifolia** L.

***Pectis sessiliflora** (Less.) Sch.Bip., in Seem., Bot. Voy. Herald : 309 (1856).

Cryptopetalum ciliare Cass., Dict. Sci. Nat. 12: 123 (1818). Type: 'Cette plante a été rapportée du Pérou par Joseph de Jussieu, dans l'Herbier duquel nous l'avons observée.' Holotype: P-JU.

Lorentea sessiliflora Less., Linnaea 6(4): 720 (1831). Type: '(*Pectis prostrata* W. hb. N. 16133 fol. 1.) ... Patria ignota. (v. sp. 1. a Bellardi comm.)'. Holotype: B-W.

Lorentea cryptopetalum DC., Prodr. 5: 101 (1836), nom. illegit. pro *Cryptopetalum ciliare* Cass.

**Pectis sessiliflora* (Less.) Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 3(3): 62 (1893), comb. superfl.

Argentina, Bolivia (Chuquisaca, Santa Cruz), Peru.

'Vegetación pisoteada de arenales chaqueños', compacted soil on paths, stony soils, often in dry areas. 0–3300 m.

February–April.

***Pectis substriata** Rusby, Bull. New York Bot. Gard. 4(14): 390 (1907). Type: [Bolivia:] '([Bang] No. 2117.) ...

"On dry hills, the flowers yellow. Local name 'Quichamale,' and much used as a blood-purifier." Coripata, Yungas, March 28, 1894.' Holotype: NY; isotypes: K × 2, LD, NY, PH, S, UC, US × 3 (01404335, 02333940, 02333965), Z (000003733). Note: Keil (1984) determined the two duplicates at NY as lectotype (NY – 00230952) and isolectotype (NY – 00230953). However, it would appear that the latter are the shoots pruned from the former. It is not clear where Keil published this lectotypification, if at all.

Pectis granieri Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 237).

Bolivia (La Paz). Note: Recently in the *Lista de Espécies Flora do Brasil* (Nakajima & Roque, 2010 –

<http://floradobrasil.jbrj.gov.br/2010/FB027312>) this species was recorded for Mato Grosso and Mato Grosso do Sul.

Vernacular name: QUICHAMALE (Rusby, 1907).

**Pectis swartziana* Less., Linnaea 6(4): 711 (1831). Type: '(*P. ciliaris* Sw. obs. p. 307 ex parte *)' ... (v.sp. in hrb.

Thbrg. a Swartzio missum.)' Holotype: ?S. Note: Anderberg et al. (1996: 126) noted a Swartz s.n. collection as a type. Note: I am unsure what material Foster (1958) (possibly Herzog 1332 – Pampa de Santa Cruz – L)

based his record for this species on as it appears to be from the West Indies.

Pentacalia Cass., Dict. Sci. Nat. 48: 461 (1827).

Senecio L. sect. *Streptothamnus* Greenm., Bot. Jahrb. Syst. 32: 19 (1902). Type: *Senecio streptothamnus* Greenm. ex Standl. = *Pentacalia streptothamna* (Greenm. ex Standl.) H. Rob. & Cuatrec.

Type: [*Cacala arborea* Kunth] *Pentacalia arborea* (Kunth) H. Rob. & Cuatrec.

References

Cabrera, A. L. (1954). Senecios Sudamericanos nuevos o críticos. Darwiniana 10(4): 547–605 & Lámina I–VII. [q.v. Los "Senecio" volubles de Perú y Bolivia, pp. 579–604 & Lámina I–VII]

Cabrera, A. L. (1985). El género *Senecio* (Compositae) en Bolivia. Darwiniana 26(1–4): 79–217. [q.v. sect. *Streptothamni* Greenm.]

Robinson, H. & J. Cuatrecasas (1993). New species of *Pentacalia* (Senecioneae: Asteraceae) from Ecuador, Peru, and Bolivia. Novon 3(3): 284–301.

Vision, T. J. & M. O. Dillon (1996). Sinopsis de *Senecio* L. (Senecioneae, Asteraceae) para el Perú. Arnaldoa 4(1): 23–46.

Key to species

1. Capitula radiate; margins florets with well-developed ray limbs 2
- Capitula discoid or sub-discoid; marginal florets tubular or absent; involucre 4–6 mm tall 14
2. (1) Involucres 7–10 mm tall 3
- Involucres 3–6 mm tall; leaves never with revolute margins 6
3. (2) Leaves ovate or elliptic, with repand-dentate or entire margins, more or less conspicuously revolute; phyllaries 8–14 4
- Leaves oblong-lanceolate, base attenuate or rounded, entire; phyllaries 8 *Senecio buchtienii*

| | | | |
|----------|---|---------------------------|----|
| 4. (3) | Leaves 9–11 cm long by 3–4 cm wide, tomentose beneath; inflorescences paniculate; phyllaries 14 | <i>P. cardenasii</i> | 5 |
| | Leaves 2–8 cm long by 1.5–4 cm wide, glabrous above and beneath | | |
| 5. (4) | Leaves ovate or ovate-oblong, usually with a cordate base, margins crenate-dentate; phyllaries 8 (–13) | <i>P. dictyophlebius</i> | |
| | Leaves ovate-elliptic, base attenuate or rounded, margins entire; phyllaries 13 | <i>P. tablensis</i> | |
| 6. (2) | Leaf margins serrate; phyllaries 13 | | 7 |
| | Leaf margins entire | | 9 |
| 7. (6) | Petioles 2–2.5 cm long | <i>Senecio croicensis</i> | |
| | Petioles 1–10 mm long | | 8 |
| 8. (7) | Leaf bases rounded; pedicels 15–25 mm long; inflorescence of lax panicles | <i>P. yungasensis</i> | |
| | Leaf bases cuneate; pedicels 5–15 mm long; inflorescence of dense panicles | <i>P. chulumanicus</i> | |
| 9. (6) | Ray limbs very short or absent, not exceeding disc florets; leaves lanceolate | <i>P. jelskii</i> | |
| | Ray limbs well-developed, exceeding disc florets | | 10 |
| 10. (9) | Involucre 6 mm tall | | 11 |
| | Involucre 3.5–4 mm tall | | 12 |
| 11. (10) | Stems more or less floccose; involucre 6 mm diam. | <i>P. floccosa</i> | |
| | Stems not floccose; involucre 4 mm diam. | <i>P. epiphytica</i> | |
| 12. (10) | Leaves elliptic-lanceolate, 6–11 cm long by 2.5–4 cm wide; involucre 3.5–4 mm tall | <i>P. miguelii</i> | |
| | Leaves ovate or elliptic; involucre 3 mm tall | | 13 |
| 13. (12) | Phyllaries 8–9; leaves elliptic or ovate, 8–9 cm long by 4–6 cm wide | <i>P. psidiifolia</i> | |
| | Phyllaries 11–13; leaves ovate, 5–9 cm long by 2.5–4.5 cm wide | <i>P. brittoniana</i> | |
| 14. (1) | Leaves densely tomentose beneath | | 15 |
| | Leaves somewhat lanuginose or glabrous beneath | | 17 |
| 15. (14) | Leaf margins entire | <i>P. marinii</i> | |
| | Leaf margins dentate | | 16 |
| 16. (15) | Involucre glabrescent; leaves white-tomentose beneath | <i>P. herzogii</i> | |
| | Involucre and underside of leaves yellowish-brown tomentose | <i>P. oronocensis</i> | |
| 17. (14) | Leaf margins short-denticulate | | 18 |
| | Leaf margins entire | | 19 |
| 18. (17) | Leaves lanceolate, 2–3 cm wide, reticulate venation conspicuous/prominent beneath | <i>P. beckii</i> | |
| | Leaves elliptic, 3.5–5 cm wide, venation inconspicuous beneath | <i>P. sailapatensis</i> | |
| 19. (17) | Leaves lanceolate; involucre 5 mm tall | <i>P. jelskii</i> | |
| | Leaves ovate | | 20 |
| 20. (19) | Involucre 4 mm tall; leaves 3.5–6 cm wide | <i>P. comarapensis</i> | |
| | Involucre 5–6 mm tall; leaves 1.5–3 cm wide | <i>P. subglomerosa</i> | |

Pentacalia beckii (Cabrera) Cuatrec., *Phytologia* 69(5): 314 (1990).

Senecio beckii Cabrera, *Hickenia* 2(4): 15 (1984). Type: 'Bolivia. Depto. La Paz, Prov. Nor Yungas, La Paz 65 km hacia Coroico. 2700 m s.m. Bosque temporalmente nebuloso en zona de nubes, leg. St. G. Beck No 1822, 28-VII-1979'. Holotype: SI.

Bolivia (La Paz).

Cloud forest.

2000–2700 m.

July–October.

Pentacalia brittoniana (Hieron.) Cuatrec., *Phytologia* 49(3): 244 (1981).

**Senecio sprucei* Britton, *Bull. Torrey Bot. Club* 19(9): 265 (1892), non Klatt (1888). [Types: 'Yungas, 4,000 ft. ([Rusby] 1695). The same as *Spruce's* No. 4811.'] Syntype (*Rusby* 1695): NY (00259413/00259419). Note: The NY material of *Rusby* 1695 is marked with two bar codes for some reason, possibly because of Cabrera's lectotypification of Hieronymus's name. Syntype (*Spruce* 4811): NY (00259125).

**Senecio brittonianus* Hieron., *Bot. Jahrb. Syst.* 29(1): 72 (1900), as nom. nov. pro *S. sprucei* Britton. 'Lectotype' (selected by Cabrera, 1985: 100): *Rusby* 1695, NY (see specimens cited above).

Bolivia (La Paz).

Bosque yungueño.

1200–1400 m.

May–September.

Pentacalia buchtienii (Greenm.) Cuatrec., *Phytologia* 49(3): 244 (1981) = **Denrothorbium buchtienii** (Greenm.) C. Jeffrey

Pentacalia cardenasii (Cuatrec.) Cuatrec., *Phytologia* 49(3): 253 (1981).

**Senecio cardenasii* Cuatrec., *Fieldiana, Bot.* 27(2): 48 (1951). Type: 'Bolivia, near Chulumani way to Yungas of Tablas, Cochabamba, 2700 m. alt. on wet bushy slopes. Herb 2 met. flowers yellow. Collect. M. Cardenas 3988'. Syntypes: 'F, US.' Note: US (01903414) was determined as an 'isotype' by Cuatrecasas on the det slip on this sheet; Cabrera (1985: 89), however, noted the material in US was the holotype, effectively lectotypifying the name.

Bolivia (Cochabamba).

Wet scrubby slopes.

c. 2700 m.

Pentacalia chulumanica (Cabrera) Cuatrec., *Phytologia* 69(5): 314 (1990).

Senecio chulumanicus Cabrera, *Hickenia* 2(4): 17 (1984). Type: 'BOLIVIA. Depto. La Paz, Prov. Sud Yungas, Chulumani ca. 5 km hacia Irupana, entrando por la propiedad del Sr. Portugal. 1850 m s.m. Leg. St. G. Beck No 4875, 3-X-1981'. Holotype: SI; isotype: LPB. Note: Freire & Iharlegui (2000: 336) noted that on the collecting label the date was clearly 30-X-1981.

Bolivia (La Paz).

c. 1850 m.

September–October.

Pentacalia comarapensis (Cabrera) Cuatrec., *Phytologia* 49(3): 245 (1981).

**Senecio comarapensis* Cabrera, *Darwiniana* 10(4): 599 (1954). Type: 'BOLIVIA: Dep. Santa Cruz, Comarapa, Yungas de San Mateo, 2900 m s.m., leg. J. Steinbach, 8519, 25-X-1938'. Syntypes: LIL, S, MO. Lectotype (selected by Cabrera, 1985: 106, as 'holotype'): LIL (91764); isolectotypes: MO, S.

Bolivia (Santa Cruz).

1600–2900 m.

October–November.

Pentacalia dictyophlebia (Greenm.) Cuatrec., *Phytologia* 49(3): 245 (1981).

**Senecio dictyophlebius* Greenm., *Ann. Missouri Bot. Gard.* 25(4): 801 (1938). Type: 'BOLIVIA: vicinity of Sorata, alt. 3400 m., 31 Dec., 1858, G. Mandon, no. 146'. Holotype: K; isotypes: BM, BR, G, NY (00259162), S, W.

Bolivia (La Paz).

c. 3400 m.

December–January.

Pentacalia epiphytica (Kuntze) Cuatrec., *Phytologia* 49(3): 246 (1981).

**Senecio epiphyticus* Kuntze, *Revis. Gen. Pl.* 3(3): 173 (1898). Type: 'Bolivia: 3000 m Tunarigebirge, Cinchona-Region, hoch in den Baumkronen nur wachsend.' ['Bolivia. Tunarigebirge, Cinchona-Region, 3000 m, May 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 337]. Holotype: NY (00259165); isotype: US.

**Senecio steinbachianus* Cuatrec., *Fieldiana, Bot.* 27(2): 55 (1951). Type: 'Bolivia, Prov. Chapare, Dept. Cochabamba: Quebrada de Corani, 200 met. lat. "Wurzelt und rankt an Staemen". Coll. 21-VI-1929 Jose Steinbach 9876'. Holotype: ?F; isotypes: K, LIL, LP, S, ?UC.

Argentina, Bolivia (Cochabamba).

1700–2000 m.

May.

Cabrera (1975: 258) also recorded this species from Peru, but later (1985: 96) only recorded it for Argentina and Bolivia.

Pentacalia floscosa (as *floccosa*!) (Britton) Cuatrec., *Phytologia* 49(3): 246 (1981).

**Senecio floscosus* Britton, *Bull. Torrey Bot. Club* 19(9): 264 (1892). Types: 'Near La Paz, 10,000 ft. ([Rusby] 1680); Unduavi, 8,000 ft. ([Rusby] 1720).' Lectotype (selected by Cabrera, 1985: 96): *Rusby* 1680, NY.

Cabrera's lectotypification was effectively first state as neither of the two sheets in NY was mentioned

specifically. Since second stage lectotypification is necessary NY (00259170) is selected here as lectotype; isolectotypes: NY (00259171 – ex College of Pharmacy Herbarium, 00259172 – ex Columbia College Herbarium). Note: As originally validly published the specific epithet was clearly '*floscosus*', something indicated as a probable typographic error in Index Kewensis, and 'corrected' by Cuatrecasas, and adopted by Cabrera (under *Senecio*)

Bolivia (Cochabamba, La Paz), Peru. Note: Although recorded for Peru by Cabrera (1985: 94–95) Brako & Zarruchi (1993) did not include the taxon for the Peruvian Compositae flora
2800–3000 m.

Pentacalia herzogii (Cabrera) Cuatrec., *Phytologia* 49(3): 246 (1981).

Senecio herzogii Beauverd ex Herzog, *Pflanzenw. Bolivischen Anden* : 188 (1923), nom. nud.

**Senecio herzogii* Cabrera, *Blumea* 7(1): 202 (1952). Type: [Bolivia] 'Hab.: Kletternd im Bergwald bei Choquetanga Grande, 3300 m alt., Okt. 1911, [Herzog] n. 2145 (Typus).' Holotype: L.

Bolivia (Santa Cruz).

Cloud forest.

2400–3300 m.

September–October.

Note: One collection seen, *Wood* 8669, largely agrees with this species except that there are some leaves which are very distinctly truncate at the base and, without exception, the marginal florets possess only a rudimentary corolla reduced to a ray attached to the top of the achene lacking any form of tube, or more than the single 'lobe'.

Pentacalia inquisiviensis H. Rob. & Cuatrec., *Novon* 3(3): 300 (1993). Type: 'Bolivia. La Paz: Prov. Inquisivi, on slopes W of Río Glorieta, and along river between mouths of Río Aballahuanta and Río Cayani 7 km S of Choquetanga, 16°54'S 67°17'W, 3,150 – 3,550 m, 19 June 1991, *Lewis* 38950'. Holotype: US (3269403); isotypes: MO (4360411, 4360412).

Bolivia (La Paz).

3100–3550 m.

June.

Pentacalia jelskii (Hieron.) Cuatrec., *Phytologia* 49(3): 247 (1981).

Senecio jelskii Hieron., *Bot. Jahrb. Syst.* 36(5): 509 (1905). Type: 'Peruvia: crescit prope Tambillo (*J.[elski]* n. 769, anno 1878).' Holotype: B†; isotype: US (01619212). Note: Cabrera (1985: 94) indicated that there was a 'clastotipo' in both MO and F (15623).

**Senecio prunioides* Rusby, *Bull. New York Bot. Gard.* 4(14): 396 (1907). Type: [Bolivia:] ' "Climbing 10 to 15 feet upon trees, in forest-mould and clay, the flowers of a dirty yellow, Coroico, Sept. 1894." ([*Bang*] No. 2437).' Holotype: NY(259368); isotype: K, MO, US (00032786). Note: Cabrera (1985: 94) indicated that the holotype is in MO.

Bolivia (La Paz, Santa Cruz), Peru.

Cloud forest.

1500–2500 m.

August–September.

Pentacalia krukoffii (Cuatrec.) Cuatrec., *Phytologia* 49(3): 255 (1981) = ***Dendrophorbium krukoffii*** (Cuatrec.) C. Jeffrey

Pentacalia lewisii H. Rob. & Cuatrec., *Novon* 3(3): 301 (1993). Type: 'Bolivia. La Paz: Prov. Inquisivi, "Pavionani," on slope above Pavionani fork of Río Chimu below headwater divide with Río Janko Kalani, area 7 km N of Choquetanga, 16°48'S 67°18'W, 3,700 – 3,750 m, 9 Apr. 1991, *Lewis* 38520'. Holotype: US (3269400); isotype: MO (4362069).

Bolivia (La Paz).

3700–3750 m.

April.

Pentacalia marinii (Cabrera) Cuatrec., *Phytologia* 49(3): 248 (1981). Note: although not citing an exact basionym page, the page range included the whole of Cabrera's protologue (pp. 590–593) to *Senecio marinii*. This is perfectly acceptable under the present Code.

?**Gynoxys discolor* Rusby, *Bull. New York Bot. Gard.* 4(14): 398 (1907). Type: [Bolivia:] '([Bang] No. 2280.)'

Holotype: NY (00178798); isotypes: GH (8583), K, MO, NY (00178799), US (00325973).

Senecio marinii Cabrera, *Darwiniana* 10: 590 (1954). Type: 'PERÚ. Dep. Cuzco, Prov. Convención, Amaybamba, 1800 m s.m., leg. F. Marín 1789, X-1949'. Holotype: LP. Note: in his observations Cabrera said that he would 'probably' have to refer *Gynoxys discolor* Rusby to this species, but noted that the florets in one isotype were too poorly developed to allow proper comparison.

Bolivia (?), Peru.

1500–2000 m.

October.

Pentacalia medullosa (Sch.Bip. ex Greenm.) Cuatrec., *Phytologia* 49(3): 256 (1981) = ***Dendrophorbium medullosum*** (Sch.Bip. ex Greenm.) C. Jeffrey

Pentacalia miguelii (Cuatrec.) Cuatrec., *Phytologia* 49(3): 248 (1981).

**Senecio miguelii* Cuatrec., *Fieldiana, Bot.* 27(2): 54 (1951). Type: 'Bolivia, collected Miguel Bang 2039'.

Syntypes: 'F, US'. [2 duplicates in US (00033032 & 01418788) marked as 'isotype']; isotypes: C, K, LD, MO, NY (250299 & 259300). Lectotype (effectively selected by Cabrera, 1985: 97, as holotype): Bang 2039, F.

Bolivia (?La Paz).

Pentacalia oronocensis (DC.) Cuatrec., *Phytologia* 49(3): 248 (1981).

**Senecio oronocensis* DC., *Prodr.* 6: 423 (1838). Type: [Bolivia: - see note] '■ in Amer. australis montibus Oronocensibus legit cl. Haenke. ... (v.s. in h. Haenke à cl. de Sternberg miss.)'. Holotype: PR. Note: Cabrera (1954: 595) discussed the probable country of origin of Haenke's material and suggested that it was likely to have been Bolivia (Dept. Oruro) as Haenke did not collect in Venezuela. Cabrera (1985: 103) indicated that the holotype was in P, which is highly unlikely.

**Senecio baccharidiflorus* Rusby, *Bull. New York Bot. Gard.* 4(14): 397 (1907). Type: [Bolivia:] ' "A climber with white flowers, growing in rich forest-mould." Unduavi, September, 1894. ([Bang] No. 2494.)'. Holotype: NY (00259114); isotypes: K, NY (00259115).

Senecio cuzcoensis Cabrera, *Notas Mus. La Plata, Bot.* 9(No. 45): 196 (1941). Type: 'PERÚ. - Departamento de Cuzco, Provincia de Pancastambo: Pillahuata, 2800 m. s. m., voluble en bosques ralos, leg. C. Vargas, nº 1908, 18-VI-1940'. Holotype: 'Herb. Cabrera' - LP (64716).

Senecio ramonii Cuatrec., *Fieldiana, Bot.* 27(2): 53 (1951). Type: 'Peru: Carpish, entre Huanuco y Tingo María, 2800-2900 m. alt. Flores blancas. Arbusto 1-1.5 met. Collect. Aug. 1947 Ramón Ferreyra 2310'. Holotype: US (1903353).

Bolivia (La Paz), Peru.

Ceja vegetation, Yungas, cloud forest.

2000–3500 m.

Probably flowering throughout the year.

Pentacalia psidiifolia (Rusby) Cuatrec., *Phytologia* 49(3): 249 (1981).

**Senecio psidiifolius* Rusby, *Mem. Torrey Bot. Club* 6(1): 66 (1896). Type: [Bolivia:] 'Mapiri, July–Aug., 1892 ([Bang] 1532.)'. Holotype: NY (00259371); isotypes: C, G, K, LP, MO, NY (00259370), US × 2 (00050657 & 01400158), Z (000003971).

Bolivia (La Paz).

500–1400 m.

July–September.

Pentacalia sailapatensis (Cuatrec.) Cuatrec., *Phytologia* 49(3): 249 (1981).

**Senecio sailapatensis* Cuatrec., *Fieldiana, Bot.* 27(2): 52 (1951). Type: 'Bolivia, Dept. Cochabamba, Prov.

Ayopaya: Sailapata 2700 m. alt. Vine flowers white, collect. X-1935 in wet forest by M. Cárdenas 3273'.

Holotype: US (01859369).

Bolivia (Cochabamba).

Cloud forest.

c. 2700 m.
October.

Pentacalia subglomerosa (Greenm.) Cuatrec., *Phytologia* 49(3): 250 (1981).

**Senecio subglomerosus* Greenm., *Ann. Missouri Bot. Gard.* 10(1): 93 (1923). Type: 'Bolivia: Coroico, Yungas, September, 1894, *Bang* 2459'. Holotype: NY (00259423 – see following note); isotypes: GH, K, MO, NY (00259421, 00259422), US × 2 (00032802 & 01417603). Note: Although all three specimens in NY (00259421, 00259422, 00259423) are from Columbia University Herbarium and have been determined by Greenman, it is the last of the three that is taken as the holotype. It is to the last sheet that the 'Type' label has been applied, this specimen bearing the best flowering material, and the sheet illustrated in the protologue.

Bolivia (La Paz).

Forest margins.

2450–3110 m.

September–January.

Pentacalia tablensis (Cabrera) Cuatrec., *Phytologia* 49(3): 250 (1981).

**Senecio tablensis* Cabrera, *Blumea* 7(1): 203 (1950). Type: 'Hab.: Liane and der Waldgrenze über Tablas, 3400 m alt., Mai 1911, [*Herzog*] n. 2204.' Holotype: L(950251462); isotype: LP (899000).

Bolivia (Cochabamba, La Paz).

Ceja, grassland.

3400–3500 m.

May–July.

Pentacalia yungasensis (Britton) Cuatrec., *Phytologia* 69(5): 314 (1990) = **Dendrophorbium yungasense** (Britton) C. Jeffrey

Penthea (D. Don) Spach, *Hist. Veg. Phan.* 10: 9 (1841) = **Barnadesia** Mutis

Perdicium L., *Pl. Rar Afric.* : 22 (1760).

Perdicium cacalioides Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 121 (1818) = **Trixis cacalioides** (Kunth) D. Don

Perdicium divaricatum Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 122 (1818) = **Trixis divaricata** (Kunth) Spreng.

Perdicium flexuosum Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp.* 4: 121 (1818) (ed. folio) = **Trixis divaricata** (Kunth) Spreng.

Perezia Lag. subgen. *Platycheilus* (Cass.) Less., *Syn. Gen. Comp.* : 413 (1832) = **Holocheilus** Cass.

Perezia Lag. sect. *Platycheilus* (Cass.) Less., *Linnaea* 5(1): 22 (1830) = **Holocheilus** Cass.

Perezia Lag. sect. *Stenophyllum* Less., *Syn. Gen. Comp.* : 412 (1832) = **Perezia** Lag.

Perezia Lag., *Amen. Nat. Españ.* 1, 1: 31 (1811).

Clarionea Lag. ex DC., *Ann. Mus. Natl. Hist. Nat. Paris* 19: 65, pl. 3, tab. 12. F. 2 (1812). Type: *Perdicium magellanicum* L.f. = *Perezia magellanicum* (L.f.) Lag.

Homoianthus Bonpl. ex DC., *Ann. Mus. Natl. Hist. Nat.* 19: 65 (1812), p.p. Type: *Homoianthus bonplandi* Cass. nom. illeg. = *Chaetanthera pungens* Humb. & Bonpl. = **Perezia pungens** (Humb. & Bonpl.) Less.

Homanthis Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. quarto): 10 (1818), nom. superfl.

Heteranthus Cass., *Dict. Sci. Nat.* 21: 110 (1821), nom. illegit. et superfl. pro *Homoianthus* Bonpl. ex DC.

Clarionea Cass., *Opusc. Phytol.* 2: 165 (1826), nom. illegit., non *Clarionea* Lag. ex DC.

Drozia Cass., *Opusc. Phytol.* 2: 170 (1826). Type: *Drozia dicephala* Cass. = **Perezia pungens** (Humb. & Bonpl.) Less.

Homeanthus Spreng., *Syst. Veg.*, ed. 16, 3: 503 (1826), orth. var.

Clarionia D. Don, *Trans. Linn. Soc. London* 16(2): 204 (1830), orth. var. *Clarionea* Lag. ex DC.

Dumerilia Less., *Linnaea* 5(1): 13 (1830), nom. illegit., non Lag. ex DC.

Perezia Lag. sect. *Stenophyllum* Less., *Syn. Gen. Comp.* : 412 (1832). Type: *Perezia recurvata* (Vahl) Less.

Isanthus DC., *Prodr.* 7: 63 (1838), nom. nud. pro syn. sub *Homoianthus* Bonpl. ex DC.

Scolymanthus DC., Prodr. 7: 63 (1838), nom. nud. pro syn. sub. *Homoianthus* Bonpl. ex DC.
Clarionema Phil., Linnaea 28: 717 (1858). Type: *Clarionema humilis* Phil. = *Perezia pedicularidifolia* Less.
Calorezia Panero, Phytologia 89(2): 199 (2007). Type: *Calorezia nutans* (Less.) Panero = *Perezia nutans* Less.
Type: *Perdicium magellanicum* L.f. = *Perezia magellanica* (L.f.) Lag.

References

Panero, J. L. (2007). *Calorezia*, a new genus of tribe Nassauvieae (Asteraceae, Mutisioideae). Phytologia 89(2): 198-201.

Tovar Serpa, O. (1955). Revisión de las especies Peruanas del género *Perezia*. Publ. Mus. Hist. Nat. "Javier Prado", Ser. B., Bot. 8: 1-35 + lam. I-XV.

Vuilleumier, B. S. (1969). The systematics and evolution of *Perezia* sect. *Perezia* (Compositae). Contr. Gray Herb. 199: 1-163.

Note: Cabrera (1978: 655), without adequate explanation, provided a synonymy for the species *P. virens* (D. Don) Hook. & Arn. which included *P. coerulescens* (and several of its synonyms). The present list accepts the position of Vuilleumier, especially since her numerical taxonomic results provided discrete separation of *P. coerulescens* and *P. poeppigii* Less. (into which *P. virens* was sunk into synonymy).

Note: Navarro (2002: 260) also listed *P. virens* as part of the association *Wernerio strigosissimae-Stipetum hans-meyeri*, in the vegetation type 'Pajonal climácico alatoandino del Tunari' described from Dept. Cochabamba, Prov. Quillacollo, Cordillera del Tunari.

Key to species (based on Vuilleumier, 1969)

- | | | |
|----------|---|---------------------------|
| 1. | Plants with leafy flowering stems; >2 capitula per inflorescence | 2 |
| | Plants with few, reduced stem leaves; capitula 1 or 2 | 8 |
| 2. (1) | Basal leaves spiny, margins ciliate or with small dentate segments; capitula few or in a dense inflorescence, not showy; corollas blue, white, cream, yellow, rarely pink | <i>P. multiflora</i> |
| | Basal leaves with large, obtuse, soft, doubly dentate teeth; inflorescence lax, showy; corollas magenta | 3 |
| 3. (2) | Basal leaves with sharp teeth, lyrate in outline | <i>P. purpurata</i> |
| | Basal leaves with undulate margins or blunt teeth | 4 |
| 4. (3) | Flowering stems decumbent; capitula elongate; outer phyllaries entire | <i>P. sublyrata</i> |
| | Flowering stems erect/ascending; capitula campanulate or short-turbinate | 5 |
| 5. (4) | Achenes with dense glandular setulae; leaves with dense stipitate-glandular hairs | <i>P. pungens</i> |
| | Achenes with sparse strigose setulae or glabrous; leaves with only a few scattered hairs | 6 |
| 6. (5) | Outer phyllaries foliaceous; corollas yellow or violet | <i>P. carduncelloides</i> |
| | Outer phyllaries stiff, spiny or entire; corollas blue | 7 |
| 7. (6) | Plants monocephalous; phyllary margins smooth; stem-leaves reduced in size | <i>P. mandonii</i> |
| | Plants 2- to many-headed; phyllaries usually spiny margined; stem-leaves not scale-like | <i>P. ciliaris</i> |
| 8. (1) | Achenes glabrous, with short sparse setulae, or with glandular setulae; receptacle glabrous or with scattered long hairs | 9 |
| | Achenes with dense silky twin-hairs; receptacle with tufts of hairs | 13 |
| 9. (8) | Leaves linear-lanceolate, margins entire or with small clasping teeth | <i>P. mandonii</i> |
| | Leaves lanceolate to ovate or obovate, margins dentate, undulate or spiny | 10 |
| 10. (9) | Basal leaves with 3-4 deep, rounded segments; plants shorter than 3 cm tall | <i>P. pygmaea</i> |
| | Basal leaves undulate or flat, or with numerous lobes or teeth; plants over 3 cm tall | 11 |
| 11. (10) | Phyllaries lanceolate, bright green in centre; flowering stems exceeding basal rosette | <i>P. mandonii</i> |
| | Phyllaries ovate, dark green or reddish in centre; flowering stems as long as or slightly longer than basal leaves | 12 |
| 12. (11) | Outer phyllaries stiff, markedly scarious, deep red in centre and white along edges | <i>P. purpurata</i> |
| | Outer phyllaries soft, slightly scarious, entriely green or brown | <i>P. coerulescens</i> |
| 13. (8) | Basal leaves and outer phyllaries evenly and densely ciliate | <i>P. ciliosa</i> |
| | Basal leaves dentate or lobate | <i>P. purpurata</i> |

Perezia abbiattii Cabrera Darwiniana 9(1): 52 (1949) = ***Perezia ciliosa*** (Phil.) Reiche
Perezia acanthoides Hook. & Arn., Companion Bot. Mag. 1(No. 2): 33 (1835) = ***Perezia multiflora*** (Humb. & Bonpl.) Less.
Perezia aracensis* J. Koster, Blumea 5(3): 678 (1945) = *Perezia pungens*** (Humb. & Bonpl.) Less.
Perezia atacamensis (Phil.) Reiche, Anales Univ. Chile 116: 425 (1905) = ***Perzia purpurata*** Wedd.
Perezia bidentata Meyen, Reise um die Erde 1: 470 (1834) = ***Perezia multiflora*** (Humb. & Bonpl.) Less.
Perezia burkartii Cabrera, Darwiniana 9(1): 55 (1949) = ***Perezia coerulescens*** Wedd.

Perezia carduncelloides Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 198 (1874); Pl. Lorent. : 150 (1874). Types: 'Tucuman, frequens in pratis alpinis supra Cienaga. Catamarca, in alpinis Vayas altas alt. 9-11000'. Syntypes: Lorentz 148, 623, GOET.
Argentina, Bolivia (Tarija), ?Peru.
Alpine pastures.
2500–3500 m.
February–March.
Tarija: Fiebrig 3157.

Perezia ciliaris D. Don ex Hook. & Arn., Companion Bot. Mag. 1(No. 2): 34 (1835). Type: 'Clarionia ciliaris, Don, MSS. ... ; we believe it to be one of Cuming's plants, and therefore suspect it is a mere state of *P. carthamoides*.' Holotype: K.
Clarionea ciliaris (D. Don ex Hook. & Arn.) DC., Prodr. 7: 61 (1838).
Homoeanthus nivalis Phil., Anales Univ. Chile 87: 308 (1894). Type: 'Ad limitem nivis perpetuae l. d. Chayanta inter Oruro et Chuquisaca invenit cl *Amatus Pissis*, meumque communicavit.' ['En el límite de la nieve eterna, en Chaganta, entre Oruro y Chuquisaca, lo encontró Amado Pissis, y me lo comunicó. 60532. – Pizarro, 1960: 147.]
**Perezia foliosa* Rusby, Mem. Torrey Bot. Club 6(1): 71 (1896). Type: [Bolivia:] 'Turedon, 1891 ([Bang] 1131).' Holotype: NY (00231001); isotypes: GH (11039), NY (00231002 – ex College of Pharmacy Herbarium), US (00067020). Note: It was only to the 'isotype' that Simpson Vuilleumier applied the type label, perhaps unaware of the other duplicate. No lectotypification was indicated in her paper.
**Perezia scapellifolia* J. Koster, Blumea 5(3): 680 (1945). Type: [Bolivia:] 'Hab.: auf den höchsten Bergwiesen bei Comarapa, ca. 2800 m alt., April 1911, Bl. hellblau, [Herzog] n. 1915.' Holotype: L(94437119).
Perezia scapellifolia J. Koster var. *parvifolia* J. Koster, Blumea 5(3): 680 (1945). Type: [Bolivia:] 'Hab.: in Grashängen des Cerro Sipascoye, 3900 m alt., April 1911, [Herzog] n. 1915 bis.' Holotype: L(94437118).
Perezia coriacea Tovar, Publ. Mus. Hist. Nat. "Javier Prado", Ser. B, Bot. 8: 21 (1955). Type: [Peru:] 'HUÁNACO: Prov. Huánaco, Mitotambo, arriba de Mito, [3000–3200 m], Junio 24, 1953, Ferreyra 9431'. Holotype: USM (15711); isotype: GH (11038).
Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz), Ecuador, Peru.
Alpine pastures above tree-line.
2000–4200 m.
November–June.
Note: Dillon & Hensold (1993) placed *P. ciliaris* (including *P. coriacea*) within the synonymy of *P. pungens*. However, Vuilleumier (1969: 95) whilst admitting that the two might be 'merely ecotypes' she maintained them as separate species, reflected in the key above. Doubtless molecular analyses and further collections throughout the range will clarify the situation, as well as the position of *P. carduncelloides*. Wood *et al.* 23326 is c. 90 cm tall.

Perezia ciliosa (Phil.) Reiche, Anales Univ. Chile 116: 426 (1905).
Clarionea ciliosa Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 35 (1891). Type: [Chile:] 'Ad Copacoya 3500 m. s. m. lecta.' Holotype: SGO; isotype: LP. Note: Pizarro (1960: 136) cited two specimens in SGO – 44833 & 60603 – which may represent a holotype and isotype, divided holotype material, or syntypes.
Perezia ciliosa (Phil.) Reiche var. *dentata* Cabrera, Revista Invest. Agric. 11(4): 409 (1957). Type: 'Argentina. Jujuy, Dep. Humahuaca, Mina Aguilar, 4650 m s.m., leg. Cabrera 9216, 13-I-1948.' Holotype: LP. Note: However, Freire & Iharlegui (2000: 330) suggested that material might also possibly be in BA, BAA or BACP.

Perezia abbiattii Cabrera, Darwiniana 9(1): 52 (1949). Type: 'ARGENTINA. – Salta: Dep. Poma, Abra del Gallo, en el camino de San Antonio de los Cobres a Santa Rosa de Pastos Grandes, 4650 m s.m., bajo matas de *Festuca orthophylla*, leg. A. L. Cabrera, 9059, 10-II-1946'. Holotype: LP (57957).

Argentina, Bolivia (Cochabamba, Oruro), Peru.

Alpine pastures upwards to permanent snow-line.

3500–4900 m.

February–April.

Perezia ciliosa (Phil.) Reiche var. *dentata* Cabrera, Revista Invest. Agric. 11(4): 409 (1957) = ***Perezia ciliosa*** (Phil.) Reiche

Perezia cirsiifolia* Wedd., Chloris Andina 1: 41 (1855) = *Perezia coerulescens*** Wedd.

****Perezia coerulescens*** Wedd., Chloris Andina 1: 39 (1855). Types: 'Hab. PÉROU: Cerro de Pasco!; Andes du département de Cuzco! (*Gay*); pelouses un peu marécageuses du haut plateau de la Cordillère de Tacora, aux environs de Chulunquaiani!, h. 4000 mètres (*Wedd.*). – BOLIVIE: partie supérieure du ravin (quebrada) de Chuquiaguillo, Cordillère de La Paz, dans les pelouses humides de la Lancha!, h. 4800 mètres (*Wedd.*).'
Syntypes: P.

Perezia nivalis Wedd., Chloris Andina 1: 39 (1855). Type: 'Hab. PÉROU: province de Carabaya, dans les lieux pierreux et humides de la Cordillère, près de la limite inférieure des nieges perpétuelles! (*Wedd.*).'
Holotype: P.

**Perezia integrifolia* Wedd., Chloris Andina 1: 40 (1855). Type: 'Hab. BOLIVIE: département de Cochabamba, au sommet de la Cordillère de Morochata!, près du niveau des neiges (*d'Orbigny*, n° 488).'
Holotype: P.

**Perezia cirsiifolia* Wedd., Chloris Andina 1: 41 (1855). Type: 'Hab. BOLIVIE: au pied des rochers granitiques, dans la partie la plus élevée du col de la grande Cordillère d'Illampù!, sur la route de Sorata à Tipuani, h. 5100 mètres (*Wedd.*).'
Holotype: P.

**Perezia violacea* Wedd., Chloris Andina 1: 42 (1855). Type: 'Hab. BOLIVIE: fentes des rochers, au niveau des neiges, dans la Quebrada de las lagunas de Potosi! (*d'Orbigny*, n° 1417).'
Holotype: P; isotype: GH (11060).

**Perezia nitidifolia* J. Koster, Blumea 5(3): 677 (1945). Type: [Bolivia:] 'Hab.: auf moorig-sandigen Wiesen des Plateaus bei Palca, 3600 m alt., Mai 1911, Bl. hellblau, [*Herzog*] n. 2177.' Holotype: L(94437130); isotype: S.

Perezia burkartii Cabrera, Darwiniana 9(1): 55 (1949). Type: 'ARGENTINA. – Jujuy: Dep. Valle Grande, Santa Ana, cerros a 3500 m s.m., leg. A. Burkart et N. S. Troncoso, 1-III-1940'. Holotype: SI (11705); isotype: LP (76704).

Perezia coerulescens Wedd. var. *amplibracteata* Tovar, Publ. Mus. Hist. Nat. "Javier Prado", Ser. B, Bot. 8: 16 (1955). Type: [Peru:] 'HUANCAVELICA, Prov. Hunacavelica, Distrito Conaica, entre Huaytanayoc y Tansiri, cerca a Manta. O. Tovar 1129'. Holotype: USM (15714).

Argentina, Bolivia (Cochabamba, La Paz, Oruro, Potosí, Tarija), Ecuador, Peru.

Amongst rocks, alpine pastures towards snow-line.

3000–5200 m.

December–July.

Chuquisaca: Wood 9858 (K).

Cochabamba: Steinbach 9827 (K), Wood 10468 (K).

La Paz: Wood 11257 (K), Wood 11269 (K), Wood 20659 (K), Wood et al. 23169 (K).

Potosí: Wood 14631 (K), Wood 14636 (K), Wood 18851 (K).

Perezia coerulescens Wedd. var. *amplibracteata* Tovar, Publ. Mus. Hist. Nat. "Javier Prado", Ser. B, Bot. 8: 16 (1955) = ***Perezia coerulescens*** Wedd.

Perezia conaicensis Tovar, Publ. Mus. Hist. Nat. "Javier Prado", Ser. B, Bot. 8: 31 (1955) = ***Perezia pungens*** (Humb. & Bonpl.) Less.

Perezia coriacea Tovar, Publ. Mus. Hist. Nat. "Javier Prado", Ser. B, Bot. 8: 21 (1955) = ***Perezia ciliaris*** D. Don ex Kook. & Arn.

Perezia elongata* Kuntze, Revis. Gen. Pl. 3(3): 166 (1898) = *Perezia pungens*** (Humb. & Bonpl.) Less.

Perezia foliosa* Rusby, Mem. Torrey Bot. Club 6(1): 71 (1896) = *Perezia ciliaris*** D. Don ex Hook. & Arn.

Perezia fosbergii Tovar, Publ. Mus. Hist. Nat. "Javier Prado", Ser. B, Bot. 8: 21 (1955) = ***Perezia pungens*** (Humb. & Bonpl.) Less.

Perezia glomerata* Rusby, Mem. Torrey Bot. Club 4(3): 214 (1895) = *Perezia multiflora*** (Humb. & Bonpl.) Less.

Perezia herzogii Beauverd ex/in Herzog, Pflanzenw. Bolivischen Anden : 210 (1923), nom. nud. = *Perezia* ?

Perezia hunzikeri Cabrera, Bol. Soc. Argent. Bot. 3(3): 161 (1950) = **Perezia purpurata** Wedd.

Perezia integrifolia* Wedd., Chloris Andina 1: 40 (1855) = **Perezia coerulescens Wedd.

Perezia keshua Cabrera, Darwiniana 9(1): 59 (1949) = **Perezia purpurata** Wedd.

Perezia laurifolia* Kuntze, Revis. Gen. Pl. 3(3): 166 (1898) = **Perezia mandonii Rusby

***Perezia mandonii** (as *mandoni*) Rusby, Mem. Torrey Bot. Club 3(3): 66 (1893). Types: [Bolivia:] 'Capi, March, 1890, and Vic. Cochabamba, 1891 ([Bang] 777). = *Mandon* 24, fide Britton.' Syntypes: K. Isosyntypes (*Bang* 777 from Capi): GH (11046), NY (00231011 – marked as 'Type' by Simpson Villeumier, 00231010), US (00201245); isosyntytype (*Bang* 777 from Cochabamba): NY 00231012); isosyntytype (*Mandon* 24): S.

**Perezia laurifolia* Kuntze, Revis. Gen. Pl. 3(3): 166 (1898). Type: 'Bolivia: 4000 m Pass zwischen Cochabamba und Rio Kuntas.' ['BOLIVIA. Pass zwischen Cochabamba und Rio Juntas, 4000 m, 13–21 Apr 1892, *Kuntze* s.n.' – according to Wetter & Zanoni, 1985: 334]. Holotype: NY (00231007).

Argentina, Bolivia (Cochabamba, La Paz, Tarija).

Alpine pastures.

2500–4500 m.

January–May.

Cochabamba: *Wood* 12852 (K).

***Perezia multiflora** (Humb. & Bonpl.) Less., Linnaea 5(1): 19 (1830).

Chaetanthera multiflora Humb. & Bonpl., Pl. Aequinoct. 2: 168, pl. 135 (1809). Type: 'Habitat in montis Antisanæ frigidis.' Holotype: P-Bonpl.

Homanthis multiflorus (Humb. & Bonpl.) Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 11 (1818).

Perezia bidentata Meyen, Reise um die Erde 1: 470 (1834). Type: not cited. [Walper in *Observat. Bot.* : 290 (1843) cited, under *Homoianthus multiflorus* 'Peruvia: in planitie circa Tacoram, altitudine 14–17,000 pedum. (v.s.)'] Holotype: B†.

Homoianthus multiflorus (Humb. & Bonpl.) DC., Prodr. 7: 64 (1838).

Perezia multiflora (Humb. & Bonpl.) Less. var. β *achalensis* Kuntze, Revis. Gen. Pl. 3(3): 167 (1898). Types: 'Argentina: Sierra Achala (*Hieronymus*, *Galander*).' Syntypes: NY. ,*Hieronymus* s.n., 8/I 87' – NY (00231013); ,*Galander* s.n., 9.I.84' – NY (00231014); [*Hieronymus* s.n. 7-8 Jan 1871 – GH (11050)] Lectotype (effectively selected by Simpson-Villeumier, 1969: 76); ,*Hieronymus* s.n. 8/I 87', NY (00231013).

Clarionea polycephala Cass., Opus. Phytol. 2: 167 (1826), nom. illegit. as nom. nov. pro *Chaetanthera multiflora* Humb. & Bonpl.

Perezia acanthoides Hook. & Arn., Companion Bot. Mag. 1(No. 2): 33 (1835). Type: '*Clarionia acanthoides*. Don, MSS.–Mendoza, Dr. Gillies.–"Caulis sesquipedalis, teres, albicans, ramosus. Involucri foliola duplice ordine, subaequalia, ovato-lanceolata, spinuloso-mucronata, margine scariosa. Corollae caeruleae. Pappus sordide fulvus." Don, in litt.–This we have not seen'

**Perezia glomerata* Rusby, Mem. Torrey Bot. Club 4(3): 214 (1895). Types: [Bolivia:] '[*Bang*] 736 and 736a, published as "*Perezia multiflora* (H. and B.) Less.", PEREZIA GLOMERATA sp. n. ... = *Mandon's* 26, *Spruce's* 5551, *Lechler's* 1726 and 1847, *Matthew's* 633, *Pentland's* from Titicaca.' Note: Some of the iso/syntypes are in NY. *Bang* 736 – NY (00231003, 00231005); *Bang* 736a – NY (00231006). Simpson-Villeumier applied the type label to *Bang* 736 (NY – 00231005) which is taken as the lectotype even though she only mentioned 'Bang 736' as the type (Simpson-Villeumier, 1969: 76). Isosyntytype: *Mandon* 26: GH – cited by Simpson-Villeumier (1969: 77).

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí, Tarija), Chile, Colombia, Ecuador, Peru.

Puna, alpine pastures and slopes.

1000–4500 m.

December–July.

Chuquisaca: *Wood & Carretero* 16176 (K).

Cochabamba: *Eyerdam* 25067 (K), *Steinbach* 9631 (K).

La Paz: *Bang* 736 (K), *Mandon* 26 (K), *Ortuño* 200 (K).

Potosí: *Wood* 7891 (K).

Tarija: *Badcock* 622 (K).

Perezia multiflora (Humb. & Bonpl.) Less. var. *achalensis* Kuntze, Revis. Gen. Pl. 3(3): 167 (1898) = **Perezia multiflora** (Humb. & Bonpl.) Less.

Perezia nitidifolia* J. Koster, Blumea 5(3): 677 (1945) = **Perezia coerulescens Wedd.

Perezia nivalis Wedd., Chloris Andina 1: 39 (1855) = **Perezia coerulescens** Wedd.

Perezia obtusisquama* J. Koster, *Blumea* 5(3): 680 (1945) = *Perezia pungens*** (Humb. & Bonpl.) Less.

Perezia pinnatifida (Humb. & Bonpl.) Wedd., *Chloris Andina* 1: 40 (1855).

Chaetanthera pinnatifida Humb. & Bonpl., *Pl. Aequinoct.* 2: 170, pl. 136 (1809). Type: [Ecuador:] 'Habitat in regionibus montis Cotopaxi frigidis.' Lectotype (selected by Vuilleumier, 1969:): pl. 136. Original material should be looked for in P.

Homanthis pinnatifidus (Humb. & Bonpl.) Kunth in Humb., Bonpl. & Kunth, *Nov. Gen. Sp. Pl.* 4 (ed. folio): 243 (1818).

Homoeanthus pinnatifidus (Humb. & Bonpl.) Spreng., *Syst. Veg.*, ed. 16, 3: 503 (1826).

Homoianthus pinnatifidus (Humb. & Bonpl.) D. Don, *Trans. Linn. Soc. London* 16(2): 209 (1830).

Clarionea pinnatifida (Humb. & Bonpl.) DC., *Prodr.* 7: 62 (1838).

?Argentina, Bolivia (La Paz), ?Colombia, ?Ecuador, Peru.

Alpine pastures.

3000–5000 m.

March–May.

****Perezia pungens*** (Humb. & Bonpl.) Less., *Linnaea* 5(1): 20 (1830).

Chaetanthera pungens Humb. & Bonpl., *Pl. Aequinoct.* 2: 146, pl. 127 (1809). Type: [Ecuador:] 'Habitat in regni Quitensis montibus Rucu-Pinchincha et Antisana.' Holotype: P-Bonpl.

Homanthis pungens (Humb. & Bonpl.) Kunth in Humb., Bonpl. & Kunth, *Nov. Gen. Sp. Pl.* 4 (ed. folio): 4: 11 (1818).

Drozia dicephala Cass., *Opusc. Phytol.* 2: 171 (1826). Type: not cited.

Clarionia pungens (Humb. & Bonpl.) D. Don, *Phil. Mag.* 11: 388 (1832).

Homoianthus scaber Benth., *Pl. Hartweg.* : 136 (1844). Type: 'In montibus Chuquiribamba.' [*Hartweg*].

Clarionea macrocephala Sch.Bip., *Berberid. Amer. Austr.* : 57 (1857), nom. nud.

Leucheria fasciata Klatt, *Bot. Jahrb. Syst.* 8: 51 (1886). Type: 'Ecuador; in solo uliginoso montis Pichincha, alt. 4000 m ([LEHMANN] n. 386). – Jan. 1881.' Holotype: B.

Perezia steubelii Hieron., *Bot. Jahrb. Syst.* 21(4): 372 (1896). Type: 'Peruvia: crescit supra Centamal (?) inter Pacasmayo et Moyobamba, alt. s. m. 3650 m, ubi floret mense Aprili–Junio ([*Stübel*] coll. peruv. n. 34).'

**Perezia pungens* (Humb. & Bonpl.) Less. var. (?) *cernua* Rusby, *Mem. Torrey Bot. Club* 6(1): 70 (1896). Types: [Bolivia:] 'Near snow-line, Mt. Tunari, 1891 ([*Bang*] 1049). The larger form of it from Espirito Santo, 1891 ([*Bang*] 1218).' [*Bang* 1049 × 2 – NY] [*Bang* 1218 – GH]; isosyntype (*Bang* 1218): US (00074129).

**Perezia elongata* Kuntze, *Revis. Gen. Pl.* 3(3): 166 (1898). Type/s: : 'Bolivia: 3600 m auf der Tour zwischen cochabamba und Rio Juntas Ostabhang der Anden.' ['BOLIVIA. Auf der Tour zwischen Cochabamba und Rio Juntas Ostabhang der Anden, 3000 m, 13–21 Apr 1892, *Kuntze* s.n. (2 sheets).'] – according to Wetter & Zanoni, 1985: 334; note especially the altitude.] Holotype: NY (00230999); Isotypes: NY (00231000), US (00702056).

Perezia weberbaueri Hieron. ex Domke, *Notizbl. Bot. Gart. Mus. Berlin-Dahlem* 13(117): 249 (1936). Type: 'Peru: Prov. Sandia, oberhalb Cuyocuyo. „Matten mit vereinzelt Sträuchern.“ 3800 m (blühend am 3. Mai 1902– A. *Weberbauer* n. 933; Typus!). Holotype: B†.

**Perezia aracensis* J. Koster, *Blumea* 5(3): 678 (1945). Type: [Bolivia:] 'Hab.: an einem Wassergraben bei Araca, 4400 m alt., Dez. 1910, leg. C. *Bock* n. 2480/b.' Holotype: L(94437183).

**Perezia obtusisquama* J. Koster, *Blumea* 5(3): 680 (1945). Type: [Bolivia:] 'Hab.: auf Alpenwiesen über Tablas, 3400 m alt., Mai 1911, Bl. blau, [*Herzog*] n. 2163.' Holotype: L(94437134); isotype: S.

Perezia fosbergii Tovar, *Publ. Mus. Hist. Nat. "Javier Prado"*, Ser. B, Bot. 8: 22 (1955). Type: [Peru:] 'CAJAMARCA, Prov. Celendín, Las Lajas, N. O. faldas de Cerro Alto, S. E. de Cortagama (Chimuch), 35 km. N. N. O. de Celendín, 3500 m.s.m., Julio 3, 1947, *Fosberg* 28123'. Holotype: USM (15712); isotype: ?F.

Perezia conaicensis Tovar, *Publ. Mus. Nat. "Javier Prado"*, ser. B, Bot. 8: 31 (1955). Type: [Peru:] 'HUANCAVELICA, Prov. Huancavelica, Dist. Conaica, Laria a 8 km. S. O. de Conaica, 3900–4000 metros de altitud, Marzo 30, 1952, O. *Tovar* 903'. Holotype: USM (15713); isotype: GH (11036).

Bolivia (Cochabamba, La Paz, Oruro), Colombia, Ecuador, Peru.

Alpine pastures, volcanic peaks amongst tall grass, amongst rocks.

2500–4600 m.

February–July.

Perezia pungens* (Humb. & Bonpl.) Less. var. *cernua* Rusby, Mem. Torrey Bot. Club 6(1): 70 (1896) = *Perezia pungens*** (Humb. & Bonpl.) Less.

****Perezia purpurata*** Wedd., Chloris Andina 1: 43 (1855). Type: 'Hab. BOLIVIE: environs de Potosí, au voisinage des lagunas (d'Orbigny, n° 1420).' Holotype: P; isotype: GH (11055).

Clarionea atacamensis Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 35 (1891). Types: [Chile:] 'In summis altitudinibus deserti Atacama variis locis invenitur, sic ad Copacoya, Vegas del Diablo, Antofagasta; ab incolis *marancel* vocatur, qui infusionem plantae contra morbum *puna* vel *orocho* dictum adhibent.' Syntypes: SGO; isosyntype: [which one is not stated] LP. [Pizarro (1960: 136) cited 'Se encuentra en el desierto de Atacama, en diversos lugares, siempre a grandes alturas: cerro de Azufre (San Román), Copacoya (Fed. Philippi) entre Vegas del Diablo y Antofagasta de la Sierra (Fed. Philippi), Codecido (Gustavo Flühmann); la gente la llama "marancel" y la usa como remedio contra el mal de la puna.' 44835, 44834, 60847, 60848 – SGO.]

Perezia hunzikeri Cabrera, Bol. Soc. Argent. Bot. 3(3): 161 (1950). Type: 'ARGENTINA. – La Rioja: Dep. General Sarmiento, El Zanjón, 4000 m. s.m., leg. A. Krapovickas et J. Hunziker, 5823, 6-II-1949'. Holotype: BAB; isotype: LP (78325).

Perezia keshua Cabrera, Darwiniana 9(1): 59 (1949). Type: 'ARGENTINA. – Jujuy: Dep. Susques, quebrada próxima a Susques, 3700 m s.m., leg. A. L. Cabrera, 8759, 14-II-1945'. Holotype: LP (54762); isotypes: K × 2.

Note: Cabrera (1978) differed in his opinion to that of Vuilleumier (1969) as to the limits of this species suggesting that *P. atacamensis* represented the larger size range, also possessing broader capitula, and maintained them as separated taxa; Vuilleumier's treatment is followed here, especially since there is a significant overlap of characters in Cabrera's key (1978: 652–653) in the relevant couplet.

Argentina, Bolivia (Potosí), Chile.

Alpine pastures, Puna.

(1500–) 4000–5000 m.

January–April.

Potosí: Wood 14617 (K).

****Perezia pygmaea*** Wedd., Chloris Andina 1: 40 (1855). Type: 'Hab. BOLIVIE: pelouses rases et un peu marécageuses de la Lancha!, dans la partie supérieure du ravin de Chuquiaguillo, aux environs de La Paz (Wedd.).'

Argentina, Bolivia (La Paz), Chile, Peru.

Alpine pastures in damp soil near snow-line.

4000–5000 m.

March–June.

La Paz: Wood 14604 (K).

Perezia scalpellifolia* J. Koster, Blumea 5(3): 680 (1945) = *Perezia ciliaris*** D. Don ex Hook. & Arn.

Perezia scalpellifolia J. Koster var. *parvifolia* J. Koster, Blumea 5(3): 680 (1945) = ***Perezia ciliaris*** D. Don ex Hook. & Arn.

Perezia steubelii Hieron., Bot. Jahrb. Syst. 21(4): 372 (1896) = ***Perezia pungens*** (Humb. & Bonpl.) Less.

Perezia sublyrata Domke, Notizbl. Bot. Gart. Mus. Berlin-Dahlem 13(117): 248 (1936). Type: 'Peru: „S. Rosa. 14500 ft.; blue flower, April–May" (Miss D. B. Stafford n. 345. Andere Angaben fehlen.' Holotype: K; isotype: BM.

Perezia sublyrata Domke var. *glabrescens* Tovar, Publ. Mus. Hist. Nat. "Javier Prado", Ser. B, Bot. 8: 11 (1955).

Type: [Peru:] 'CUZCO, Prov. Paucartambo, cerca al río Quencomayo, abjo de Colquepata, alt. 3200–3300 m., F. Pennell 13789'. Holotype: GH (11057); isotypes: ?F, ?NY.

Argentina, Bolivia (La Paz), Peru.

Alpine pastures.

3000–5000 m.

December–May.

Perezia sublyrata Domke var. *glabrescens* Tovar, Publ. Mus. Hist. Nat. "Javier Prado", Ser. B, Bot. 8: 11 (1955) =

Perezia sublyrata Domke

Perezia violacea* Wedd., Chloris Andina 1: 42 (1855) = *Perezia coerulescens*** Wedd.

Perezia weberbaueri Hieron. ex Domke, Notizbl. Bot. Gart. Mus. Berlin-Dahlem 13(117): 249 (1936) = **Perezia pungens** (Humb. & Bonpl.) Less.

Pereziopsis Coult., Bot. Gaz. 20: 52, t. 6 (1895) = **Onoseris** Willd.

Phaethusa Gaertn., Fruct. Sem. Pl. 2: 425, pl. 169 (1791) = **Verbesina** L.

Phalacroloma Cass., Dict. Sci. Nat. 39: 404 (1826) = **Erigeron** L.

Philoglossa DC., Prodr. 5: 567 (1836).

Jaumeopsis Hieron., Bot. Jahrb. Syst. 29(1): 53 (1900), nom. nud.

Type: *Philoglossa peruviana* DC.

References

Bristol, M. L. (1964). *Philoglossa* – a cultivar of the Sibundoy of Colombia. Bot. Mus. Leafl. 20(10): 325–333.

Robinson, H. (1973). Synopsis of the genus *Philoglossa* (Liabeae, Asteraceae). Phytologia 26(5): 381–388.

Sandwith, N. Y. (1956). Contributions to the flora of Tropical America. LXI: Notes on *Philoglossa*. Kew Bull. 11(2): 289–293.

Philoglossa mimuloides (Hieron.) H. Rob. & Cuatrec., Phytologia 26(5): 384 (1973).

Jaumea mimuloides Hieron., Bot. Jahrb. Syst. 29(1): 52 (1900*). Type: [Ecuador] ‘Crescit secus rivulos et locis palustribus (S.[odiro] n. 25/1).’ Holotype: B†. [*Note: See Reference section concerning problem with date of publication]

Jaumeopsis mimuloides Hieron., Bot. Jahrb. Syst. 28(5): 619 (1901*), nom. nud.

Jaumeopsis mimuloides Hieron. f. *subintegrifolia* Hieron., Bot. Jahrb. Syst. 28(5): 619 (1901*), nom. inval. Note: the following material was cited against the name – ‘Bolivia: Songo (MIGUEL BANG n. 896; Nov. 1890). A duplicate is in K. See also Robinson & Cuatrecasas’ combination below.

Philoglossa peruviana DC. var. *sapida* Bristol, Bot. Mus. Leafl. Harvard Univ. 20: 326 (1964). Type: ‘Bristol 1253/3 km. SW. Sibundoy, Valle de Sibundoy, Putumayo, Colombia. Alt. 2200 m. (Herb. Gray).’ Note: Bristol also mentioned that ‘an isotype of that [i.e. Hieronymus’ variety], Bang 896, from Bolivia, has been examined and is included within the concept *Philoglossa peruviana* DC. var. *sapida* Bristol.’ – this is counted as a paratype and there are two duplicates in K. See also *P. mimuloides* f. *subintegrifolia* below.

Philoglossa mimuloides (Hieron.) H. Rob. & Cuatrec. var. *sapida* (Bristol) H. Rob. & Cuatrec., Phytologia 26(5): 385 (1973).

Philoglossa mimuloides (Hieron.) H. Rob. & Cuatrec. f. *subintegrifolia* Hieron. ex H. Rob. & Cuatrec., Phytologia 26(5): 385 (1973). Type: ‘Bolivia: Songo, Bang 896.’ Holotype: US (01417345); isotypes: K × 2, ?US.

Bolivia (La Paz), Colombia, Ecuador, Peru.

In cultivated areas, often cultivated, amongst damp boulders or ditches, cloud forest.

(350–) 1000–3500 m.

November–July.

Vernacular names: CONEJO, HUACAMÚYU DE MONTE, TSBAJUSHÁS (Bristol, 1964).

Philoglossa mimuloides (Hieron.) H. Rob. & Cuatrec. var. *sapida* (Bristol) H. Rob. & Cuatrec., Phytologia 26(5): 385 (1973) = **Philoglossa mimuloides** (Hieron.) H. Rob. & Cuatrec.

Philoglossa mimuloides (Hieron.) H. Rob. & Cuatrec. f. *subintegrifolia* Hieron. ex H. Rob. & Cuatrec., Phytologia 26(5): 385 (1973) = **Philoglossa mimuloides** (Hieron.) H. Rob. & Cuatrec.

Philoglossa peruviana DC. var. *sapida* Bristol, Bot. Mus. Leafl. 20: 326 (1964) = **Philoglossa mimuloides** (Hieron.) H. Rob. & Cuatrec.

Phyllimena Bl. ex DC., Prodr. 5: 636 (1836), nom. nud. pro syn. = **Enydra** Lour.

Picosia D. Don, Trans. Linn. Soc. London 16(2): 183 (1830).

Psilopogon Phil., *Linnaea* 33(1): 126 (1864). Type: *Psilopogon albiflorus* Phil. = ***Picrosia longifolia*** D. Don

Type: ***Picrosia longifolia*** D. Don

References

Ariza Espinar, L. & E. Urtubey. (1998). *Picrosia*. In: Tribu XIII. Lactuceae (excepto *Hypochaeris* y *Hieracium*). 280. Asteraceae, parte 12. Flora Fanerogámica Argentina. Fasc. 61. Programa PROFLOTA (CONICET), Córdoba.

Schulz, A. G. (1944). Una nueva especies del género de Compuestas *Picrosia*. *Darwiniana* 6(3): 494–498.

Picrosia australis Decne. in d'Orbigny, *Voy. Amer. Merid.* 7(1), t. 10 (1839) = ***Picrosia longifolia*** D. Don

****Picrosia longifolia*** D. Don, *Trans. Linn. Soc. London* 16(2): 184 (1830). Type: 'Tragopogon sp. nova. Herb. R. et P./ In Peruviae alpibus. Ruiz et Pavon. ■ Holotype: original in Aylmer Bourke Lambert's herbarium, now probably in BM – see Miller (1970: 538–540); isotype: MA. Note: the material in MA (B6 on microfiche sheet 295 of the Ruiz & Pavón herbarium) is labelled 'Tragopogon virginicum?/Habitat in Limae Lurim, Arnedo et Surco cultis locis./Floret a Novbri ad Januar __n.' This sheet also has a long prose Latin description beneath this label, suggesting one earlier name of [*Tragopogon*] *glabratum* for the taxon.

Tragopogon fritillarioides Less., *Linnaea* 6(1): 101 (1831), nom. illegit. citing *Picrosia longifolia* D. Don in synonymy.

Prenanthes? subdentata Hook. & Arn., *Hooker's Bot. Misc.* 2: 221 (1831). Type: [Peru:] 'Hab. Lurin, near Lima.[A. Cruckshanks]' Holotype: K.

Picrosia runcinata Gill. ex Hook. & Arn., *Companion Bot. Mag.* 1(No. 2): 32 (1835), nom. nud. pro syn., based on ***Picrosia longifolia*** D. Don

Picrosia australis Decne. in d'Orbigny, *Voy. Amer. Merid.* 7(1), t. 10 (1839). Note: This plate is bound with others in volume 7, pt. 1, on cryptogams. This plate was published in 1839. It was also cited by Cabrera (1978) as vol. 8, Atlas: tab. 10. Type: not cited.

Psilopogon albiflorus Phil., *Linnaea* 33(1): 126 (1864). Type: 'Prope Vichuquen in parte litorali prov. Cochagua frequentem invenit orn. *Landbeck*.' [Pizarro (1960: 154) noted this binomial against 'Anales Univ. Chile 23: 377 (1863)' citing '*Landbeck* lo encontró con frecuencia cerca de Vichuquén en la provincia de Colchagua. 65226.' SGO]

Picrosia longifolia D. Don β *angustissima* Kuntze, *Revis. Gen. Pl.* 3(3): 167 (1898). Type: 'Argentina: Ceres in Prov. Santa Fé.' Holotype: NY (00231238). Note: Wetter & Zanone (1985: 335) cited: 'ARGENTINA. Prov. Santa Fé, Ceres, Oct 1892, Kuntze s.n.'

Argentina, Bolivia (Cochabamba), ?Brazil, Chile, Ecuador, Paraguay, Peru, Uruguay.
Humid Chaco, woodlands.

350–2050 m.

October–March.

Vernacular names: ACHICORIA SILVESTRE (Ariza Espinar & Urtubey, 1998; Freire et al., 2006).

Note: Rather oddly, Brako & Zarruchi (1993) cited *Sonchus asper* (L.) Hill as a synonym of *Picrosia longifolia*, citing only Boulos (1960: 412) as a reference. This is most certainly a gross error, or a mistake, in assigning the synonymy.

Picrosia longifolia D. Don β *angustissima* Kuntze, *Revis. Gen. Pl.* 3(3): 167 (1898) = ***Picrosia longifolia*** D. Don

Picrosia runcinata Gill. ex Hook. & Arn., *Companion Bot. Mag.* 1(No. 2): 32 (1835), nom. nud. pro syn., based on ***Picrosia longifolia*** D. Don = ***Picrosia longifolia*** D. Don

Pilosella Hill, *Brit. Herb.* 441 (1756).

Pilosella adenocephala Sch.Bip., *Linnaea* 33(6): 759 (1865) = ***Hieracium adenocephalum*** (Sch.Bip.) Arv.-Touv.

Pilosella boliviensis (Wedd.) Sch.Bip., *Flora* 45: 436 (1862) = ***Hieracium boliviense*** (Wedd.) Sch.Bip.

Pilosella fulvipes (Wedd.) Sch.Bip., *Flora* 45: 436 (1862) = ***Hieracium fulvipes*** Wedd., *Chloris Andina* 1: 224 (1857)

Pilosella mandonii Sch.Bip., *Linnaea* 33(6): 760 (1865) = ***Hieracium mandonii*** (Sch.Bip.) Arv.-Touv.

Pilosella mandonii Sch.Bip. var. β *soratae* Sch.Bip., *Linnaea* 33(6): 760 (1865) = ***Hieracium mandonii*** (Sch.Bip.) Arv.-Touv.

Pilosella trichodonta Sch.Bip., *Linnaea* 33(6): 760 (1865) = **Hieracium trichodontum** (Sch.Bip.) Arv.Touv.
Pilosella trichodonta Sch.Bip. f. *major* Sch.Bip., *Linnaea* 33(6): 761 (1865) = **Hieracium trichodontum** (Sch.Bip.)
Arv.Touv.
Pilosella trichodonta Sch.Bip. f. *minor* Sch.Bip., *Linnaea* 33(6): 761 (1865) = **Hieracium trichodontum** (Sch.Bip.)
Arv.Touv.

Pingraea Cass., *Dict. Sci. Nat.* 41: 57 (1826) = **Baccharis** L.
Pingraea angustifolia Cass., *Dict. Sci. Nat.*, ed. 2, 41: 58 (1826) = **Baccharis glutinosa** Pers.
Pingraea articulata (Lam.) F. H. Hellwig, *Candollea* 48: 217 (1993) = **Baccharis articulata** (Lam.) Pers.
Pingraea crispa (Spreng.) F. H. Hellwig, *Candollea* 48: 217 (1993) = **Baccharis genistelloides** (Lam.) Pers. ssp.
crispa (Spreng.) Joch. Müller
Pingraea flexuosa (Baker) F. H. Hellwig, *Candollea* 48: 217 (1993) = **Baccharis quitensis** Kunth
Pingraea latifolia (Ruiz & Pav.) F. H. Hellwig, *Candollea* 48: 217 (1993) = **Baccharis latifolia** (Ruiz & Pav.)
Pers.
Pingraea marginalis (DC.) F. H. Hellwig, *Candollea* 48: 218 (1993) = **Baccharis salicifolia** (Ruiz & Pav.) Pers.
Pingraea punctulata (DC.) F. H. Hellwig, *Candollea* 48: 218 (1993) = **Baccharis punctulata** DC.
Pingraea sagittalis (Less.) F. H. Hellwig, *Candollea* 48: 218 (1993) = **Baccharis sagittalis** (Less.) DC.
Pingraea salicifolia (Ruiz & Pav.) F. H. Hellwig, *Candollea* 48: 218 (1993) = **Baccharis salicifolia** (Ruiz & Pav.)
Pers.
Pingraea viscosa (Ruiz & Pav.) F. H. Hellwig, *Candollea* 48: 218 (1993) = **Baccharis glutinosa** Pers.

Piofontia Cuatrec., *Caldasia* 2(No. 6): 5 (1943) = **Diplostephium** Kunth

Piptocarpha Hook. & Arn., *Companion Bot. Mag.* 1(No. 4): 110 (1835), non *Piptocarpha* R.Br. [VERNONIEAE]
= **Dasyphyllum** Kunth

Piptocarpha R. Br., *Trans. Linn. Soc. London* 12: 121 (1817)[1818].

Carphobolus Schott in Spreng., *Syst. Veg.* 4, *Cur. Post.* : 409 (1827). Lectotype (selected by Jones, 1980):
Carphobolus sessiliflorus Schott = *Piptocarpha lucida* (Spreng.) Benn. ex Baker/Smith & Coile (2007) gave the
following: *Carphobolus* Schott ex Sch.Bip., *Jahresber. Pollichia* 20-21: 408-430 (1863)[30 March 1864].
Lectotype (selected by Strother, 2001: 191): *Carphobolus lucidus* (Spreng.) Sch.Bip. = *Piptocarpha lucida*
(Spreng.) Benn. ex Baker
Vernonia Schreb. sect. *Vanillosma* Less., *Linnaea* 6(4): 630 (1831). Type: not cited. Lectotype (selected by
Robinson, 1999: 51): *Vernonia axillaris* Less. = *Piptocarpha axillaris* (Less.) Baker
Vanillosma (sub *Vannillosma* [sic!]) (Less.) Spach, *Hist. Nat. Vég.* 10: 39 (1841).
Monanthemum Griseb., *Fl. Brot. W. Ind. Isl.* : 354 (1861), nom. illegit., non Steele (1843). (= *Morisia* Gay)
[CRUCIFERAE].
Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip., *Jahresber. Pollichia* 20/21: 412 (1863)[30 March 1864].
Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] A. *Microlepidieae* Sch.Bip., *Jahresber. Pollichia*
20/21: 412 (1863)[30 March 1864]. Type: *Carphobolus lucidus* (Spreng.) Sch.Bip. = *Piptocarpha lucida*
(Spreng.) Benn. ex Baker
Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] B. *Macrolepideae* Sch.Bip., *Jahresber. Pollichia*
20/21: 414 (1863)[30 March 1864]. Type: not stated. Lectotype (selected by Smith & Coile, 2007: 35):
Vernonia leprosa Less. = *Piptocarpha leprosa* (Less.) Baker
Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] B. *Macrolepideae* Sch.Bip. [unranked] α *Pyrifoliae*
Sch.Bip., *Jahresber. Pollichia* 20/21: 414 (1863)[30 March 1864]. Type: not stated. Lectotype (selected by
Smith & Coile, 2007: 36): *Vernonia pyrifolia* DC. = *Piptocarpha pyrifolia* (DC.) Baker
Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] B. *Macrolepideae* Sch.Bip. [unranked] β
Oblongifoliae Sch.Bip., *Jahresber. Pollichia* 20/21: 416 (1863)[30 March 1864]. Type: not stated. Lectotype
(selected by 2007: 36): *Vernonia oblonga* Gardner = *Piptocarpha oblonga* (Gardner) Baker
Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] B. *Macrolepideae* Sch.Bip. [unranked] α *Axillares*
Sch.Bip., *Jahresber. Pollichia* 20/21: 416 (1863)[30 March 1864]. Type: not stated. Lectotype (selected by
Smith & Coile, 2007: 37): *Vernonia axillaris* Less. = *Piptocarpha axillaris* (Less.) Baker

Carphobolus Schott subgen. *Eucarphobolus* Sch.Bip. [unranked] B. *Macrolepideae* Sch.Bip. [unranked but cited as ser. by Smith & Coile!] *Acutanguli* Sch.Bip., Jahresber. Pollichia 20/21: 418 (1863)[30 March 1864]. Lectotype (selected by Smith & Coile, 2007: 37): *Vernonia macropoda* DC. = *Piptocarpha macropoda* (DC.) Baker

Carphobolus Schott subgen. *Hypericoides* Sch.Bip., Jahresber. Pollichia 20/21: 418 (1863)[30 March 1864]. Type: *Carphobolus leprosus* (Less.) Sch.Bip. = *Piptocarpha leprosa* (Less.) Baker

Carphobolus Schott subgen. *Biumbelluliferi* Sch.Bip., Jahresber. Pollichia 20/21: 420 (1863)[30 March 1864]. Type: not stated. Lectotype (selected by Smith & Coile, 2007: 420): *Vernonia lundiana* Less. = *Piptocarpha lundiana* (Less.) Baker

Carphobolus Schott subgen. *Biumbelluliferi* Sch.Bip. [unranked] A. *Cylindrocephalus* Sch.Bip., Jahresber. Pollichia 20/21: 421 (1863)[30 March 1864]. Type: not stated. Lectotype (selected by Smith & Coile, 2007: 36): *Vernonia lundiana* Less. = *Piptocarpha lundiana* (Less.) Baker

Carphobolus Schott subgen. *Biumbelluliferi* Sch.Bip. [unranked] B. *Oocephalus* Sch.Bip., Jahresber. Pollichia 20/21: 422 (1863)[30 March 1864]. Type: not stated. Lectotype (selected by Smith & Coile, 2007: 33): *Vernonia poeppigiana* DC. = ***Piptocarpha poeppigiana*** (DC.) Baker

Carphobolus Schott subgen. *Biumbelluliferi* Sch.Bip. [unranked] C. *Codonocephalus* Sch.Bip., Jahresber. Pollichia 20/21: 423 (1863)[30 March 1864]. Type: *Carphobolus blanchetianus* (DC.) Sch.Bip. = *Piptocarpha lundiana* (Less.) Baker. Note: Smith & Coile (2007: 36) unnecessarily lectotypified this taxon; only one species was included.

Carphobolus Schott subgen. *Trigonachaena* Sch.Bip., Jahresber. Pollichia 20/21: 424 (1863)[30 March 1864]. Type: *Vernonia rotundifolia* Less. = ***Piptocarpha rotundifolia*** (Less.) Baker Note: The subgenus was unnecessarily lectotypified by Smith & Coile (2007: 32) as it contained only one species.

Carphobolus Schott subgen. *Leiothamnus* Sch.Bip., Jahresber. Pollichia 20/21: 425 (1863)[30 March 1864]. Type: *Carphobolus riedelii* Sch.Bip. = *Piptocarpha riedelii* (Sch.Bip.) Baker Note: Smith & Coile (2007: 35) unnecessarily lectotypified this subgenus as it contained only one species.

Carphobolus Schott subgen. *Umbelluliferi* Sch.Bip., Jahresber. Pollichia 20/21: 425 (1863)[30 March 1864]. Type: not stated. Lectotype (selected by Smith & Coile, 2007: 32): *Carphobolus latifolius* Sch.Bip. = ***Piptocarpha opaca*** (Benth.) Baker. Note: This selection is at odds with Schultz Bipontinus' division of the genus.

Carphobolus Schott subgen. *Umbelluliferi* Sch.Bip. [unranked] A. *Apodocephali* Sch.Bip., Jahresber. Pollichia 20/21: 426 (1863)[30 March 1864]. Lectotype (selected by Smith & Coile, 2007: 32): *Carphobolus latifolius* Sch.Bip. = ***Piptocarpha opaca*** (Benth.) Baker. Note: This was also selected as the lectotype of the subgenus.

Carphobolus Schott subgen. *Umbelluliferi* Sch.Bip. [unranked] B. *Umbelluliferi legitimi* Sch.Bip., Jahresber. Pollichia 20/21: 427 (1863)[30 March 1864]. Lectotype (selected by Smith & Coile, 2007: 32): *Carphobolus lechleri* Sch.Bip. = ***Piptocarpha lechleri*** (Sch.Bip.) Baker.

Lectotype (selected by Strother, 2001: 191): *Piptocarpha brasiliana* Cass.

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Lessing, C. F. (1831). De synanthereis Herbarii Regni Berolinensis dissertatio quatro. Vernoneiarum mantissa. Linnaea 6(4): 624–721.

Robinson, H. (1979). New species of Vernoneiae (Asteraceae). III. Additions to *Piptocarpha*. Phytologia 44(4): 300–306.

Robinson, H. (2002). Three new species of *Piptocarpha* (Asteraceae: Vernoneiae) from Ecuador and Peru. Novon 12(4): 393–398.

Smith, G. L. & N. C. Coile. (2007). *Piptocarpha* (Compositae: Vernoneiae). Fl. Neotrop. Monogr. 99: 1–94.

Schultz Bipontinus, C. H. (1863)[30 March 1864]. *Lychnophora* Martius! und einige benachbarte Gattungen. Jahresber. Pollichia 20-21: [321] 325–439. [*Carphobolus* Schott! – 408–431].

Strother, J. (2001). Nomenclatural status of *Carphobolus* (Compositae: Vernoneiae). TAXON 50(1): 191–192.

Key to species

1. Inner phyllaries 4–6(–7) mm long; capitula with 6 florets; involucre ovoid, cylindrical or narrowly campanulate, but not constricted at maturity 2
- Inner phyllaries 8–9 mm long; capitula with 3–35 florets; involucre cylindrical or turbinate 3

2. (1) Inflorescence of corymbose clusters of 20–60 capitula; phyllaries glabrate to tomentulose at apices *P. poeppigiana*
 Inflorescences of pseudo-umbellate clusters of 5–15 capitula; phyllaries tomentose at apices *P. matogrossensis*
- 3.(1) Small trees; leaves rotund; florets 9–12; flowering and fruiting from June – November *P. rotundifolia*
 Scandent shrubs; leaves broadly lanceolate, elliptic or ovate; florets (10–) 15–22 (–35); flowering and fruiting from December to April 4
4. (3) Branchlets cinereous-tomentose or lepidote; inflorescences of 9–20 capitula; involucre broadly campanulate *P. lechleri*
 Branchlets cinnamon-tomentose; inflorescences of (2–) 4–10 capitula; involucre broadly turbinate *P. asterotricha*

Piptocarpha asterotrichia (Poepp.) Baker in Mart., Fl. Bras. 6(2): 127 (1873).

Vernonia asterotrichia Poepp., Nov. Gen. Sp. Pl. 3: 41, tab. 247 (1843). Type: 'Crescit in marginibus sylvarum Peruviae orientalis ad Missionem Tocache. Junio florebat.' Note: Smith & Coile (2007: 47) cited: 'Peru. Loreto: Maynas, Tocache, Jun 1830, Poeppig 1887'. Holotype: W; isotypes: GH (fragment), NY (), P.

Carphobolus asterotrichia (Poepp.) Sch.Bip., Jahresber. Pollichia 20-21: 426 (1863)[30 March 1864].

Piptocarpha insignis Gleason, Bull. Torrey Bot. Club 59(6): 371 (1932). Type: 'Killip & Smith 26083, collected in dense forest at San Nicolas, Pichis Trail, Dept. Junín, Peru, alt. about 1100 m., and deposited in the herbarium of The New York Botanical Garden.' Holotype: NY (00232456); isotype: US (1460085).

Bolivia (La Paz, Santa Cruz), Colombia, Peru.

Forest, cloud forest.

0–2000 m.

June–October.

Piptocarpha chontalensis Baker in Mart., Fl. Bras. 6(2): 132 (1873) = **Piptocarpha poeppigiana** (DC.) Baker

Piptocarpha costaricensis Klatt, Bull. Soc. Roy. Bot. Belgique 31(2): 184 (1892) = **Piptocarpha poeppigiana** (DC.) Baker

Piptocarpha insignis Gleason, Bull. Torrey Bot. Club 59(6): 371 (1932) = **Piptocarpha asterotrichia** (Poepp.) Baker

Piptocarpha laxa* Rusby, Bull. New York Bot. Gard. 8(No. 28): 123 (1912) = **Piptocarpha poeppigiana (DC.) Baker

***Piptocarpha lechleri** (Sch.Bip.) Baker in Mart., Fl. Bras. 6(2): 127 (1873).

Carphobolus lechleri Sch.Bip., Jahresber. Pollichia 20-21: 428 (1863)[30 March 1864]. Type: 'Vernonia Lechleri Sz-Bip. in Lechl! pl. peruv. ed. Hohenacker n. 2479 et in Lechl! Berberid. p. 57 ... Peruvia, inter virgulta pr. St. Gavan, Aug. 1854 leg. Lechler! n. 2479. Holotype: B†; isotypes: G, K. Lectotype (selected by Smith & Coile, 2007: 45): K.

Piptocarpha vismiifolia Gleason, Bull. Torrey Bot. Club 59(6): 372 (1932). Type: 'Killip & Smith 23848, collected in dense forest east of Quimiri Bridge, near La Merced, Dept. Junín, Peru, alt. 800–1300 m., bearing immature flowers in June, and deposited in the herbarium of The New York Botanical Gardens; ...' Holotype: NY (00232475); isotypes: F (616053), K, US (1358440).

Piptocarpha longifolia Gleason, Bull. Torrey Bot. Club 59(6): 372 (1932). Type: 'Killip & Smith 25459, collected in dense forest at Yapas, Pichis Trail, Dept. Junín, Peru, alt. 1350–1600 m., and deposited in the herbarium of The New York Botanical Garden.' Holotype: NY (00232464); isotype: US (1359665).

Bolivia (La Paz), ?Ecuador, Peru.

Montane rain forests.

0–2000 m.

June–November.

Piptocarpha longifolia Gleason, Bull. Torrey Bot. Club 59(6): 372 (1932) = **Piptocarpha lechleri** (Sch.Bip.) Baker

Piptocarpha matogrossensis H. Rob., Phytologia 44(4): 300 (1979). Type: BRAZIL: Mato Grosso: Vicinity of Barro do Garças, ca. 45 km N. on road to Xavantina. Cerrado. Small tree ca. 4 m × 10 cm. [sic!] Pappus gray-brown. Occasional. Elev. 300–300 m. [sic!] Oct. 15, 1964. Irwin & Soderstrom 6926.' Holotype: US (2818420).

Bolivia (Santa Cruz), Brazil.
Cerrado, gallery forest margins.
250–400 m.
August–November.

Piptocarpha paraensis Cabrera, Arq. Jard. Bot. Rio de Janeiro 15: 73 (1957) = ***Piptocarpha poeppigiana*** (DC.) Baker

Piptocarpha poeppigiana (DC.) Baker in Mart., Fl. Bras. 6(2): (187).

Vernonia tereticaulis DC., Prodr. 5: 20 (1836). Type: ‘in Americâ calidiore? (Née!), ad Guayaquil (Haenk!) ... (v.s. in herb. Haenk.)’. Note: there is only one collection, apparently that of Née, ex herb. Thibaud. The other syntype would have been seen by de Candolle in material from PR.

Vernonia poeppigiana DC., Prodr. 5: 20 (1836). Type: ‘in Peruviâ legit cl. Poeppig. Pl. ign. no. 23 et 1425. ... (v.s. comm. à cl. Poeppig.)’. Holotype: G-DC. Note: The label with the specimen has ‘No. 23 Plant. ign./1425’.

Carphobolus poeppigianus (DC.) Sch.Bip., Jahresber. Pollichia 20-21: 422 (1863)[30 March 1864].

Carphobolus tereticaulis (DC.) Sch.Bip., Jahresber. Pollichia 20-21: 422 (1863)[30 March 1864].

Piptocarpha tereticaulis (DC.) Baker in Mart., Fl. Bras. 6(2): 132 (1873).

Piptocarpha chontalensis Baker in Mart., Fl. Bras. 6(2): 132 (1873). Types: ‘Nicaragua in ditione Chontales: Ralph Tate 162, 163, Seemann 110.’ Lectotype (selected by Jones, 1980: 48): Tate 163, K; isolectotype: BM.

Cacalia poeppigiana (DC.) Kuntze, Revis. Gen. Pl. 1: 971 (1891).

Piptocarpha costaricensis Klatt, Bull. Soc. Roy. Bot. Belgique 31(2): 184 (1892). Types: [Costa Rica:] ‘Hab.: Lisière d’un bois à Terreba, 260 m., février 1891 (Pitt. no 3704); forêts de Buenos-Aires, janv. 1892 ([Pittier] no 4927).’ Lectotype (selected by Jones 1980: 48): Pittier 4927 – GH (11255); isolectotypes: BR, GH (Pittier s.n., Jan 1892 – 11256), M.

**Piptocarpha laxa* Rusby, Bull. New York Bot. Gard. 8(No. 28): 123 (1912). Type: [Bolivia:] ‘“Charopampa, 1600 ft. alt., Sept. 22, 1901” ([R.S. Williams] no. 703).’ Holotype: NY (00232463); isotypes: BM, K, US (01134569).

Piptocarpha paraensis Cabrera, Arch. Jard. Bot. Rio de Janeiro 15: 73 (1957). Type: ‘Habitat: Brasil. – Pará: Rio Tapajoz, Pimentel, leg. A. Ducke, 21-VIII-1923’. Holotype: LP; isotype: RB (18449).

Belize, Bolivia (Bení, Cochabamba, La Paz, Santa Cruz), Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Guyana, Honduras, Mexico, Panama, Peru, Venezuela.

Forests, forest margins, riversides.

0–1000 m.

July–January.

Note: Smith & Coile (2007: 49) kept *Piptocarpha foliosa* Cuatrec. as a separate species, unlike Robinson (1999) who relegated it to synonymy of *P. poeppigiana*.

Piptocarpha rotundifolia (Less.) Baker in Mart., Fl. Bras. 6(2): 125 (1873).

Vernonia rotundifolia Less., Linnaea 4(2): 254 (1829). Types: ‘E Brasilia trop. misit Sellow Spec. ∞.’ Syntypes: B†.

Carphebolus rotundifolius (Less.) Sch.Bip., Jahresber. Pollichia 20-21: 422 (1863)[30 March 1864].

Vanillosma [sic!] *firmum* Mart. ex Sch.Bip., Jahresber. Pollichia 20-21: 424 (1863)[30 March 1864], nom. nud. pro syn.

Bolivia (Bení, Santa Cruz), Brazil.

Dry forest, rocky soils, sandstone outcrops, cerrado, cerrado on red clay.

(0–)600–1200 m.

September–April.

Piptocarpha tereticaulis (DC.) Baker in Mart., Fl. Bras. 6(2): 131 (1873) = ***Piptocarpha poeppigiana*** (DC.) Baker
Piptocarpha vismiifolia Gleason, Bull. Torrey Bot. Club 59(6): 372 (1932) = ***Piptocarpha lechleri*** (Sch.Bip.) Baker

Piqueria sect. *Artemisioides* DC., Prodr. 5: 105 (1836) = ***Ophryosporus*** Meyen

Piqueria attenuata (DC.) Gardner, London J. Bot. 6: 430 (1847) = ***Gymnocoronis spilanthoides*** (D. Don ex Hook. & Arn.) DC.

Piqueria subcordata (DC.) Gardner, London J. Bot. 6: 430 (1847) = ***Gymnocoronis spilanthoides*** (D. Don ex Hook. & Arn.) DC.

Plagiocheilus Arn. ex DC., Prodr. 6: 142 (1838).

Note: *Polygyne* Phil., *Linnaea* 33(2): 170 (1864-65) has been placed in synonymy following Index Kewensis. However, the description of *P. inconspicua* would appear conspecific with *Eclipta prostrata*.

Type: not stated (*P. soliviformis* DC. or *P. tanacetoides* DC.).

Reference

Robinson, H. & R. B. Brettell (1973). Tribal revisions in the Asteraceae. X. The relationship of *Plagiocheilus*. *Phytologia* 26(3): 159–162.

***Plagiocheilus ciliaris** Wedd., *Chloris Andina* 1: 227 (1857). Type: 'Hab. BOLIVIE!: Cordillères du département de la Paz (*Mandon* [83]).' Holotype: P; isotypes: K, RB. Note: The label on the RB specimen was originally numbered 79, but this was crossed out and re-numbered as 83.

Bolivia (Cochabamba, La Paz).

Moist bare ground at bases of cliffs.

3300 m.

April–May.

Plagiocheilus erectus* Rusby, *Mem. Torrey Bot. Club* 4(3): 212 (1895) = **Chrysanthellum indicum DC. ssp. **afroamericanum** B. L. Turner

Plagiocheilus herzogii Beauverd ex Herzog, *Pflanzenw. Bolivischen Anden* : 229 (1923), nom. nud. = ?

***Plagiocheilus soliviformis** DC., Prodr. 6: 142 (1838). Type: 'in Republicâ Bolivianâ legit cl. *Pentland*. ... (v.s. comm. à cl. inv.)' Holotype: G-DC. Note: There are five labels, two with 'Républiq de Bolivia./ M Pentland 1829' written on them, all with sprigs of material, the labels pinned to the sheet.

Bolivia (?La Paz), Peru.

Disturbed areas.

2500–4000 m.

Platycheilus Cass., *Dict. Sci. Nat.* 34: 212 (1825), nom. illegit. superfl. based on *Holocheilus* Cass. = **Holocheilus** Cass.

Platypteris Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 156 (1818) = **Verbesina** L.

Platystephium Gardner, *London J. Bot.* 7: 80 (1848) = **Egletes** Cass.

Platystephium graveolens Gardner, *London J. Bot.* 7: 81 (1848) = **Egletes viscosa** (L.) Less.

Plazia Ruiz & Pav., *Fl. Peruv. Prodr.* : 104 (1794).

Aglaodendron Remy, *Ann. Sci. Nat., ser. 3*, 12: 175 (1849). Type: *Aglaodendron cheiranthifolium* Remy = *Plazia cheiranthifolia* (Remy) Wedd.

Harthamnus H. Rob., *Phytologia* 45(6): 451 (1980). Type: *Harthamnus boliviensis* H. Rob. = **Plazia daphnoides** Wedd.

Type: *Plazia conferta* Ruiz & Pav.

References

Cabrera, A. L. (1951). Notas sobre compuestas de la América Austral. I. Los géneros afines a "*Plazia*". *Darwiniana* 9(3–4): 363–373.

Robinson, H. (1980). *Harthamnus*, a new genus of Mutisieae from Bolivia. *Phytologia* 45(6): 451–455.

Plazia acaciifolia* J. Koster, *Blumea* 5(3): 665 (1945) = **Hyalis lancifolia Baker

Plazia argentea* (D. Don) Kuntze, *Revis. Gen. Pl.* 3(3): 167 (1898) = **Hyalis argentea D. Don ex Hook. & Arn.

Plazia daphnoides Wedd., *Chloris Andina* 1: 13 (1855). Types: 'Hab. PÉROU (α): Cordillère de Tacora!, entre Tacna et La Paz, h. 4000 mètres (Wedd.). – BOLIVIE (β): sur les rochers, vers la partie supérieure de la Quebrada honda!, près de Potosi (d'Orbigny, no 1386). Syntypes: P. Note: Ferreyra (1995: 83) lectotypified this name noting "Peru, "Cordillera de Tacora, entre Tacna et La Paz," Weddell s.n. (lectotype P, not seen; isolectotype ex P, F971331).' and that β was marked on the d'Orbigny collection. However, additional comments were provided noting 'The lectotype was collected by Weddell in the Cordillera Tacora near Tacora, a region now part of northern Chile, and there can be little doubt that Weddell derived his description he had collected in the area that was Peru until the 1870s.'

Plazia daphnoides Wedd. var. *α villosa* Wedd., *Chloris Andina* 1: 13 (1855). Type: see above.

**Plazia daphnoides* Wedd. var. *β glabrescens* Wedd., *Chloris Andina* 1: 13 (1855). Type: see above (d'Orbigny 1386). Note: This variety may warrant recognition.

Harthamnus boliviensis H. Rob., *Phytologia* 45(6): 451 (1980). Type: 'BOLIVIA: Cochabamba: S. E. of Cochabamba, vic. of Rodeo. Rocky slope, slightly grazed. 3500 meters. Fls. white. March 5, 1979. Jeffrey A. Hart 1739'. Holotype: US (02854177); isotype: A.

Argentina, Bolivia (Chuquisaca, Cochabamba, Potosí), Chile, Peru.

Rocky slopes, rocky alpine grassland, Boliviano-Tucumano montane scrub, ancient clearings and deforested areas on eroded soils in *Podocarpus parlatoresi* forest.

2500–4400 m.

January–May.

Plazia daphnoides* Wedd. var. *β glabrescens* Wedd., *Chloris Andina* 1: 13 (1855) = **Plazia daphnoides Wedd.

Plazia daphnoides Wedd. var. *α villosa* Wedd. = **Plazia daphnoides** Wedd.

Plazia spartioides* (Wedd.) Kuntze, *Revis. Gen. Pl.* 3(3): 167 (1898) = **Aphylloclados spartioides Wedd.

Pleioogyne K. Koch, *Bot. Zeit.* 1: 40 (1843), nom. illegit. superfl. (as gen. nov. including *Strongylosperma* Less.), non *Pleioogyne* Miers (1851) [MENISPERMACEAE] = **Cotula** L.

Pleioogyne [unranked] I. *Strongylosperma* (Less.) K. Koch, *Bot. Zeit.* 1: 40 (1843), comb. illegit., based on *Strongylosperma* Less. = **Cotula** L.

Pleioogyne [unranked] II. *Pleioogynodes* K. Koch, *Bot. Zeit.* 1: 40 (1843), nom. illegit. = **Cotula** L.

Pleioogyne [unranked] III. *Eupleioogyne* K. Koch, *Bot. Zeit.* 1: 40 (1843), nom. illegit. = **Cotula** L.

Pleioogyne australis (Sieber ex Spreng.) K. Koch, *Bot. Zeit.* 1: 40 (1843), comb. illegit. = **Cotula australis** (Sieber ex Spreng.) Hook. f.

Pluchea Cass., *Bull. Sci. Soc. Philom. Paris* 1817: 31 (1817).

Gynema Raf., *Fl. Ludov.*: 63 (1817). Type: not stated.

Gymnostylis Raf., *Amer. Monthly Mag. Crit. Rev.* 2: 268 (1818), nom. nud.

Stylimnus Raf., *J. Phys. Chim. Hist. Nat. Arts* 89: 100 (1819). Type: not stated.

Tecmarsis DC., *Prodr.* 5: 93 (1836). Type: *Tecmarsis bojeri* DC. = *Pluchea bojeri* (DC.) Humbert

Berthelotia DC., *Prodr.* 5: 375 (1836). Type: *Berthelotia lanceolata* DC. = *Pluchea lanceolata* (DC.) C. B. Clarke

Eyrea F. Muell., *Linnaea* 25: 403 (1852). Type: *Eyrea rubelliflora* F. Muell. = *Pluchea rubelliflora* (F. Muell.) B. L. Rob.

Spiripodium F. Muell., *Fragm.* 1: 33 (1858–59). Type: *Spiripodium baccharoides* F. Muell. = *Pluchea baccharoides* (F. Muell.) F. Muell. ex Benth.

Eremohylema A. Nelson, *Univ. Wyoming Publ. Bot.* 1: 54 (1924). Type: *Polypappus sericeus* Nutt. = *Eremohylema sericea* (Nutt.) A. Nelson = *Pluchea sericea* (Nutt.) Coville

Type: *Conyza marilandica* Michx. = *Pluchea marilandica* (Michx.) Cass. = *Pluchea camphorata* (L.) DC.

References

Cabrera, A. L. (1949). El nombre correcto de la Lucera. *Bol. Soc. Argent. Bot.* 3: 35–36.

Gillis, W. T. (1977). *Pluchea* revisited. *Taxon* 26(5/6): 587–591.

Godfrey, R. K. (1952). *Pluchea*, section *Stylimnus*, in North America. *J. Elisha Mitchell Sci. Soc.* 68(2): 238–271 & plates 20–23.

Khan, R. & C. E. Jarvis. (1989). The correct name for the plant known as *Pluchea symphytifolia* (Miller) Gillis. *Taxon* 38(4): 659–662.

King-Jones (2001). *Englera* 23: 1–136. Revision of *Pluchea* Cass. (Compositae, Plucheeae) in the Old World.

Nesom, G. L. (1989). New species, new sections, and a taxonomic overview of American *Pluchea* (Compositae: Inuleae). *Phytologia* 67(2): 158–167.

Nesom, G. L. (2006). *Pluchea*. In: Flora of North America Editorial Committee, Flora of North America north of Mexico. Vol. 19 Magnoliophyta: Asteridae, part 6: Asteraceae, part 1. Asterales, part 1 (Aster order). pp. 478–484.

Robinson, H. & J. Cuatrecasas. (1973). The generic limits of *Pluchea* and *Tessaria* (Inuleae, Asteraceae). *Phytologia* 27(4): 277–285.

Note: Nesom (2006) provided additional comment, following *P. sericea*, concerning the delimitations of *Pluchea*, with the view that *Tessaria* may well have to be modified to include at least two species, *T. integrifolia* and *T. absinthoides*. This contrasts with Robinson & Cuatrecasas (1973) and Anderberg & Eldenäs (2006) who recognized *Tessaria* as monotypic, containing only *T. integrifolia*.

Key to species

- | | | |
|--------|--|------------------------|
| 1. | Perennial herbs to 1m tall; | 2 |
| | Shrubs, usually over 1 m tall; | 3 |
| 2. (1) | Male florets 3–5; capitula campanulate, 4–5 mm tall × 3–4 mm diam.; phyllaries 3–4-seriate; achenes with short papillae | <i>P. microcephala</i> |
| | Male florets numerous; capitula hemispherical, 5–6 mm tall × 8–12 mm diam.; phyllaries 2–3-seriate; achenes glabrous | <i>P. sagittalis</i> |
| 3. (1) | Plants glabrous, resinous | <i>P. dodoneifolia</i> |
| | Plants puberulous, tomentose or woolly | 4 |
| 4. (3) | Leaves tomentose beneath, leaf margins entire or with few teeth | <i>P. carolinensis</i> |
| | Leaves grey-tomentose on both surfaces, leaf margins few-serrulate throughout or coarsely serrate in upper half | 5 |
| 5. (4) | Leaves oblanceolate, 50–80 × 5–12 mm, margins coarsely serrate in upper half; achene glabrous | <i>P. absinthoides</i> |
| | Leaves linear-elliptic, 20–40 × 4–5 mm, margins few serrulate throughout; achenes sparsely setuliferous and glandular-punctate | <i>P. fiebrigii</i> |

Pluchea absinthoides (Hook. & Arn.) H. Rob. & Cuatrec., *Phytologia* 27(4): 284 (1973).

Baccharis absinthoides Hook. & Arn., *Bot. Beechey Voy.* : 57 (1832). Type: 'Hab. α . Concepcion. β . Valparaiso. (Mr. Bridges.) ... Mr. Bridges states it to be from 6–8 feet high.' Holotype: [Note: The unranked and unnamed α and β are counted as syntypes of this name.] GL (according to Dillon & Sagástegui, 1991: 58).

Tessaria absinthoides (Hook. & Arn.) DC., *Prodr.* 5: 457 (1836).

Argentina, Bolivia (?), Chile, Paraguay, Uruguay.

Humid soils, sandy soils.

0–3000 m.

January.

Vernacular names: PAJARO BOBO, CHILCA (Ariza Espinar, 2008: 70); BOBO CHICO, BREA, CHIRKA RO (Freire, 1998).

Note: '*Gyneteria incana* Spreng. pp.' is also sometimes cited as a synonym, sourced from Sprengel's *Neue Entdeck.* 2: 135 (1821). Type: 'Frutex e Chile, a *Balbisio donatus*, foliis alternis ...'

Pluchea carolinensis (Jacq.) D. Don in Sweet, *Hort. Brit.*, ed. 3: 350 (1839).

Conyza carolinensis Jacq., *Collect.* 2: 271 (1789). Type: 'Arbuscula quinquepedalis crescit sponte in Carolina, apud nos in caldariis, sempervirens, florens Majo & Junio, ...' Holotype: ?

Mesoamerican. Bolivia (Cochabamba, La Paz), Colombia, Venezuela.

Note: This is the correct name for much material named as *P. symphytifolia* by Gillis (cf. Khan & Jarvis, 1989).

Pluchea decussata Klatt, *Bot. Jahrb. Syst.* 8: 39 (1887) = ***Baccharis decussata*** (Klatt) Hieron.

- Pluchea dodoneifolia** (Hook. & Arn.) H. Rob. & Cuatrec., *Phytologia* 27(4): 284 (1973).
Eupatorium dodoneifolium Hook. & Arn., *Companion Bot. Mag.* 2(No. 14): 44 (1836). Type: 'Plentiful in the plains of St. Jago and Mendoza, Tweedie. (n. 1208).' Holotype: K.
Conyza straminea Chodat, *Bull. Herb. Boissier*, ser. 2, 2(4): 383 (1902). Type: 'Plaine argileuse au N. du Cerro-Lambare, Nov., [Hassler] 748.' Holotype: G.
Tessaria straminea (Chodat) Hassl., *Repert. Spec. Nov. Regni Veg.* 16(1/4): 25 (1919).
Tessaria viscosa Lillo, *Prim. Reun. Nac. Soc. Argent. Ci. Nat.*: 213 (1919).
Tessaria plucheoides Hassl., *Repert. Spec. Nov. Regni Veg.* 16(1/4): 26 (1919). Type: [Paraguay:] 'Gran Chaco: In campis humidis Loma Clavel, flor. mens. Dec. Hassler no. 2685.' Note: Described as a hybrid between '*T. absinthiodem* DC. et *T. stramineam* nob.' Holotype: G.
Tessaria dodoneifolia (Hook. & Arn.) Cabrera, *Lilloa* 4: 184 (1939).
Tessaria dodoneifolia (Hook. & Arn.) Cabrera ssp. *plucheoides* (Hassl.) S. E. Freire, *Candollea* 52(1): 214 (1997).
 Argentina, Bolivia (?), Paraguay, Uruguay.
 Saline soils, clayey gullies.
 500–1000 m.
 November–July (–August).
 Vernacular names: CHILCA DULCE, SUNCHO (Ariza Espinar, 2008: 73); CHIRKA HE'É, CHIRKA MELOSA, SUNCHO (Freire, 1998).
- **Pluchea fastigiata* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 184 (March–April 1879), *Symb. Fl. Argent.* : 184 (1879) = ***Tessaria integrifolia*** Ruiz & Pav.
- Pluchea fiebrigii** H. Rob. & Cuatrec., *Phytologia* 27(4): 284 (1973). Type: 'BOLIVIA: Chuquisaca: Camataqui. 2500 m, 10.2.1904. K. Fiebrig 3071 in part'. Holotype: US.
 Bolivia (Chuquisaca).
 Puna?
 2500 m.
 January–February.
- **Pluchea glabra* Griseb. *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 183 (March–April 1879); *Symb. Fl. Argent.* : 183 (1879) = ***Baccharis latifolia*** (Ruiz & Pav.) Pers.
- Pluchea microcephala** Godfrey, *J. Elisha Mitchell Soc.* 68(2): 270 (1952). Type: 'ARGENTINA: al N. O. a 6 km. Pirane, Pirane, Formosa, Dec. 5, 1945, *T. Morel* 518 (CM: 1299928).' Holotype: F (1299928); isotype: LIL. Argentina, Bolivia (Santa Cruz), Peru.
 Disturbed areas, marshy ground.
 0–500 m.
 December–May.
- Pluchea montana* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 184 (1879); *Symb. Fl. Argent.* : 184 (1879) = ***Baccharis pentlandii*** ssp. ***sculpta*** (Griseb.) Joch. Müller
- **Pluchea odorata* (L.) Cass. var. *ferruginea* Rusby, *Mem. Torrey Bot. Club* 4(3): 211 (1895) = ***Tessaria integrifolia*** Ruiz & Pav.
- Pluchea quitoc* DC., *Prodr.* 5: 450 (1836) = ***Pluchea sagittalis*** (Lam.) Cabrera
- Pluchea sagittalis** (Lam.) Cabrera, *Bol. Soc. Argent. Bot.* 3: 36 (1949).
Conyza sagittalis Lam., *Encycl.* 2: 94 (1786). Type: 'M. Commerson a aussi trouvé cette espèce au Monte-Video. (v.s.)'. Holotype: ?P. Note: There is nothing listed against this name in the P-LA herbarium.
Gnaphalium suaveolens Vell., *Fl. Flum. Icones* 8: tab. 100 (1831). Type: not stated.
Pluchea quitoc DC., *Prodr.* 5: 450 (1836), nom. illegit. citing *G. suaveolens* Vell. pro syn. [Material cited: 'in Brasiliae campis arenoso-paludosis (Lund!), circa Bahiam (Blanch.! Salzm.), Rio-Janeiro (Gaud.!), in littore dicto Banda orientale (Bacle!), in prov. Rio-Grande, Mato-Grosso. Dicitur vern. Quitoc (Lund), Quitoque (Blanch.!), Quitoco (h. Mus. Bras.) ... (v.s.)' Material in G-DC.]
 **Pluchea suaveolens* (Vell.) Kuntze, *Revis. Gen. Pl.* 3(3): 168 (1898).
 Argentina, Bolivia (Bení, La Paz, Santa Cruz, Tarija), Brazil, Paraguay, Uruguay, USA, West Indies.
 Sometimes cultivated as a medicinal plant in Bení (San Ignacio).
 Seasonally flooded grassland, marshes, clayey soils, sandy soils, cultivated areas, roadsides.

0–2200 m.

November–May.

Vernacular names: JAKARE KA'A, KITÓ, YERBA DEL LUCERO (Freire, 1998); ARNICA, KITÓ, LUCERA, LUSERA, NASHERÉK ITAA, QUITOCO, UASHITÓ LOK/O/LAK, UOVÉ, YAKARE CAÁ, YERBA DEL LUCERO, YERBA LUSERA (Freire et al., 2006); LUCERA.

Note: Freire (1995: 46) rather oddly included *Epaltes brasiliensis* DC. within the synonymy of this species. *Epaltes brasiliensis* possesses epappose achenes, usually with somewhat lax inflorescences, in complete contrast to the pappose achenes of *Pluchea sagittalis*, which also has conspicuously dense inflorescences.

Pluchea suaveolens* (Vell.) Kuntze, Revis. Gen. Pl. 3(3): 168 (1898) = **Pluchea sagittalis (Lam.) Cabrera
Pluchea symphytifolia (Mill.) Gillis, Taxon 26(5/6): 591 (1977) = **Neurolaena lobata** (L.) R.Br. ex Cass.

Plummera A. Gray, Proc. Amer. Acad. Arts 17: 215 (1882) = **Hymenoxys** Cass.

Podocoma Cass., Bull. Sci. Soc. Philom. Paris 1817: 137 (1817).

Podopappus Hook. & Arn., Companion Bot. Mag. 2(No. 14): 50 (1836). Type: not stated. Lectotype (selected by Nesom & Zanolwiak, 1994: 109): *Podopappus hirsutus* Hook. & Arn. = *Podocoma hirsuta* (Hook. & Arn.) Baker

Type (vide Pfeiffer, Nomenc. Bot. 2(2): 770. 1874): *Podocoma hieracifolia* (Poir.) Cass.

Reference

Nesom, G. L. & D. Zanolwiak. (1994). Taxonomic overview of *Podocoma* (Asteraceae: Asteraceae), with the incorporation of two species from *Conzuya*. Phytologia 76(2): 106–114.

Sancho, G., Hind, D. J. N. & J. F. Pruski. (2010). Systematics of *Podocoma* (Asteraceae: Asteraceae): a generic reassessment. Bot. J. Linn. Soc. 163(4): 486–513.

Note: The inclusion of *P. notobellidiastrum* (and *P. rivularis* (Gardner) G. L. Nesom) within the genus is somewhat problematic as both species have somewhat different achenes (lacking the distinctive beak of other species), possessing few series of pappus setae and occupying somewhat different habitats. It remains to be seen as to which genus they truly belong (q.v. Sancho et al. 2010). Sancho et al. (2010) were also of the opinion that *P. hirsuta* (Hook. & Arn.) Baker is present in Bolivia (based on *Bang* 2878, s. loc.), although this determination still needs to be confirmed – the species is both keyed and listed below.

Key to species

1. Achene apex with a short, barely distinct neck; pappus 1-seriate; achenes c. 3 mm long
**P. notobellidiastrum*
- Achene apex tapered to a slender rostrum > 1.8 mm long; pappus 2–3-seriate; achenes 5–7 mm long 2
2. Stems leafy; leaves with conspicuous midvein; capitula usually few to numerous (3–30); ray limbs usually erect in fresh material
P. hirsuta
- Leaves concentrated in lower 1/3 or 1/2; leaves with conspicuous midvein and 2 lateral or suprabasal veins; capitula few (2–8); rays limbs spreading in fresh material 3
3. Leaf indumentum pilose, sparse; *P. blanchetiana*
- Leaf indumentum pubescent, dense; *P. hieracifolia*

* *Podocoma notobellidiastrum* clearly does not belong to *Podocoma* but is included here until its generic position has been ascertained.

Podocoma blanchetiana Baker in Mart., Fl. Bras. 6(3): 15 (1882). Type: [Brazil:] 'Habitat in prov. Bahia ad Igreja Velho: *Blanchet* n. 3365!' Lectotype (designated by Sancho et al., 2010: 498): BR 698188; isolectotypes: BM, BR, K, MO, NY (00232548), P. Note: The K specimen has a handwritten note by Baker indicating 'Haplopappus blanchetianus Schulz Bip. in herb. Belg. *Podocoma blanchetiana* Baker'. Contrary to the note in the caption of the distribution map in Sancho et al. (2010, 501, fig. 7) that this is an 'imprecise locality', the Igreja Velha is a well known local landmark near to the present town of Jacobina in the Chapada Diamantina (q.v. Hind, 2000).

Haplopappus blanchetianus Sch.Bip. ex Baker in Mart., Fl. Bras. 6(3): 15 (1882), nom. nud. pro syn.

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay. Note: The Bolivian locality is based on *Fuentes* 353 (MO).

Podocoma blanchetiana Baker var. *intermedia* Hassl., Repert. Spec. Nov. Regni Veg. 16(1-4): 27 (1919) =

Podocoma hieracifolia (Poir.) Cass.

Podocoma erigerifolia Steud., Nom. Bot., (ed. 2), 1: 584 (1840), nom. nud. pro syn. sphalm. *P. primulifolia* Cass. =

Podocoma hieracifolia (Poir.) Cass.

Podocoma foliosa Malme, Kongl. Svenska Vetenskapsakad. Handl. 12(2): 64 (1933) = **Podocoma hieracifolia** (Poir.) Cass.

***Podocoma hieracifolia** (Poir.) Cass., Dict. Sci. Nat. 42: 60 (1826).

Erigeron hieracifolia Poir. in Lam., Encycl. 8: 491 (1808). Type: 'Cette plante a été recueillie, à Buenos-Ayres, par Commerson. (v. s. in herb. Desfont.)' Holotype: FI. (Herb. Desfontaines is now in FI).

Podocoma primulifolia [as *primulaefolia*] Cass., Dict. Sci. Nat. 42: 61 (1826). Type: [Uruguay:] 'Cette plante, recueillie par Commerson, près de Montevideo, se trouve dans l'herbier de M. de Jussieu, où elle est étiquetée *Erigeron ? primulaefolium*, et où nous avons étudié ses caractères generiques, ...' Holotype: P-JU.

Erigeron primulifolia Juss. ex Cass., Dict. Sci. Nat. 42: 61 (1826), nom. nud. pro syn.

Podopappus pubescens Hook. & Arn., Companion Bot. Mag. 2(No. 14): 50 (1836). Type: [Argentina:] 'Buenos Ayres, Tweedie.' Holotype: K.

Podocoma erigerifolia Steud., Nom. Bot., (ed. 2), 1: 584 (1840), nom. nud. pro syn. sphalm. *P. primulifolia* Cass.

Podocoma blanchetiana Baker var. *intermedia* Hassl., Repert. Spec. Nov. Regni Veg. 16(1-4): 27 (1919). Types: 'Paraguay: Hassler 6969, 7831 l.c. sub *Stenachaenium megapotamicum* Chod. f. minor.' Sancho et al. (2010: 502) noted that the syntype (Hassler 7831) in G was 'Paraguay, Río Apa, 11/1902', with isosyntypes in NY (00232550) and S.

Podocoma foliosa Malme, Kongl. Svenska Vetenskapsakad. Handl. 12(2): 64 (1933). Type: [Paraguay:]

'Jaguariahyba ²⁶/₁₂ [19]15 ([*Dusén*] s. n.). Hab. in campo.' Holotype: S.

Argentina, Bolivia (La Paz), Paraguay, Peru, Uruguay.

Grassland, rocky slopes.

0-1750 (-5100) m.

October-July.

Note: Sancho (pers. comm.) was of the opinion that *Podocoma hieracifolia* is too broad a concept and is best divided into *P. blanchetiana*, *hieracifolia* and *bellidifolia*, resulting in this taxon being excluded from Bolivia. Interestingly, with a narrowing of species concepts *P. blanchetiana* is then considered present in Bolivia, q.v. It remains to be seen if *P. hieracifolia* is also present. I have also noted under *Oritrophium* that Weddell's two species of *Erigeron*, *hieracioides* and *ferrugineum*, were considered synonymous under Cuatrecasas's *Oritrophium hieracioides*. This appears to have been overlooked by Sancho et al. (2010) although one of her co-authors was well aware of the problem. The following synonymy might have to be reconsidered:

**Erigeron hieracioides* Wedd., Chloris Andina 1: 194 (1857). Types: 'Hab. PÉROU: Cordillères de Carabaya! et du département de Cuzco!, dans la région alpestre (Gay, Wedd.)' Syntypes: P.

**Erigeron ferrugineus* Wedd., Chloris Andina 1: 195 (1857). Type: 'Hab. BOLIVIE: parmi les rochers, sur la crête de la Cordillère de Sorata!, h. 5100 mètres (Wedd.)' Holotype: P.

Celmisia hieracioides (Wedd.) Solbrig, Contr. Gray Herb. 188: 85 (1960).

Oritrophium hieracioides (Wedd.) Cuatrec., Ciencia (Mexico) 21(1): 26 (1961).

Oritrophium ferrugineum (Wedd.) Cuatrec., Ciencia (Mexico) 21(1): 26 (1961).

Podocoma hirsuta (Hook. & Arn.) Baker in Mart., Fl. Bras. 6(3): 15 (1882).

Podopappus hirsutus Hook. & Arn., Companion Bot. Mag. 2(14): 50 (1836). Type/s?: 'Rio Grande, and Guardia Argentino in North Patagonia; Tweedie.' Lectotype (selected by Sancho et al., 2010: 505): 'Brazil, 'moist ground, Rio Grande, Tweedie s.n.': K. Sancho et al. also added 'Argentina, Guardia Argentino in North Patagonia, Tweedie s.n. (syntype not seen).'

Podocoma regnellii Baker in Mart., Fl. Bras. 6(3): 16 (1882). Type: [Brazil:] 'Habitat in prov. Minas Geraës pascuis ad Angolas Velhas prope Caldas: Regnell III. n. 732!' Holotype: C; isotypes: S, US.

Podocoma hirsuta (Hook. & Arn.) Baker var. *macrophylla* Arechav., Anales Mus. Nac. Montevideo 6(2): 205 (1907). Type: not cited.

Argentina, Bolivia (?), Brazil, Paraguay, Uruguay.

Disturbed ground, forest margins, xerophytic forest, sandy soils.

Flowering throughout the year.

Note: Sancho (pers. comm.) based this taxon's presence in Bolivia upon an unlocalized *Bang* collection, *Bang* 2878.

Podocoma hirsuta (Hook. & Arn.) Baker var. *macrophylla* Arechav., *Anales Mus. Nac. Montevideo* 6(2): 205 (1907) = **Podocoma hirsuta** (Hook. & Arn.) Baker

Podocoma notobellidiastrum (Griseb.) G. L. Nesom, *Phytologia* 76(2): 112 (1994).

Conyza notobellidiastrum Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 177 (March-April 1879); *Symb. Fl.*

Argent. : 177 (1879). Types: 'T.: pr. la Cruz. O.: Tarija, pr. S. Luis. (Paraguay: Bal[ansa] 804. a.)' Syntypes: *Balansa* 804, *Lorentz & Hieronymus* 98, 646, GOET. Nesom (1994: 112) wrongly attributed 'PARAGUAY.

Forets vierges pres de l'Aroyo Guazu, a l'est de la Cordillere de Villa-Rica, 21 Sep 1874, *Balansa* 804' as the holotype, with duplicates in G. This ignores the *Lorentz & Hieronymus* collections that are from Bolivia.

Conyza notobellidiastrum Griseb. var. *oblongifolia* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 178 (March-April 1879), *Symb. Fl. Argent.* : 178 (1879). Type: [Argentina] '[ujuy]'. Holotype: *Lorentz & Hieronymus* 1024, GOET.

Erigeron paucifolius Less. ex Baker in *Mart., Fl. Bras.* 6(3): 34 (1882), nom. nud. pro syn.

Eigeron notobellidiastrum (Griseb.) S. F. Blake, *Contr. Gray Herb.* 52: 31 (1917).

Baccharidastrum notobellidiastrum (Griseb.) Herter, *Rev. Sudamer. Bot.* 6: 104 (1939).

Argentina, Bolivia (Santa Cruz, Tarija), Brazil, Paraguay, Uruguay.

Damp woodland.

0–2500 m.

November–June.

Podocoma primulifolia Cass., *Dict. Sci. Nat.* 42: 61 (1826) = **Podocoma hieracifolia** (Poir.) Cass.

Podopappus pubescens Hook. & Arn., *Companion Bot. Mag.* 2(No. 14): 50 (1836) = **Podocoma hieracifolia** (Poir.) Cass.

Podocoma regnellii Baker in *Mart., Fl. Bras.* 6(3): 16 (1882) = **Podocoma hirsuta** (Hook. & Arn.) Baker

Podopappus Hook. & Arn., *Companion Bot. Mag.* 2(No. 14): 50 (1836) = **Podocoma** Cass.

Podopappus hirsutus Hook. & Arn., *Companion Bot. Mag.* 2(14): 50 (1836) = **Podocoma hirsuta** (Hook. & Arn.) Baker

Polyachyrus Lag., *Amen. Nat. Españ.* 1, 1: 37 (1811).

Type: *Polyachyrus poeppigii* (Kunze ex Less.) Less.

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Ricardi, M. & E. Weltdt. (1974). Revisión del genero *Polyachyrus* (*Compositae*). *Gayana, Bot.* 26: 1–41.

Polyachyrus auritus D. Don, *Phil. Mag.*, n.s. 11: 390 (1832) = **Polyachyrus poeppigii** Less. ex Poepp. & Endl.

Polyachyrus calderensis Phil., *Anales Univ. Chile* 69: 271 (1886) = **Polyachyrus poeppigii** Less. ex Poepp. & Endl.

Polyachyrus decurrens Lag. ex DC., *Prodr.* 7: 53 (1838), nom. nud. pro syn. = **Polyachyrus poeppigii** Less. ex Poepp. & Endl.

Polyachyrus litoralis Phil., *Linnaea* 28: 714 (1856) = **Polyachyrus poeppigii** Less. ex Poepp. & Endl.

Polyachyrus macrotis Phil., *Linnaea* 28: 713 (1856) = **Polyachyrus poeppigii** Less. ex Poepp. & Endl.

Polyachyrus multifidus D. Don, *Phil. Mag.*, n.s. 11: 390 (1832) = **Polyachyrus poeppigii** Less. ex Poepp. & Endl. ssp. **multifidus** (D. Don) Ricardi & Weltdt

Polyachyrus oblongiflorus* J. Koster, *Blumea* 5(3): 675 (1945) = **Polyachyrus poeppigii Less. ex Poepp. & Endl. ssp. **multifidus** (D. Don) Ricardi & Weltdt

Polyachyrus poeppigii Less. ex Poepp. & Endl., Nov. Gen. Sp. Pl. 1: 14 (1835). Type: 'Crescit in rupibus et declivibus montium maritimorum utriusque Chile v. c. prope Talcahuano et ad scaturigines prope Concon. Septembri floret.' Note: This appears to be the first valid publication of the name.

Cephaloseris poeppigii Kunze ex Less., *Linnaea* 5(1): 5 (1830), nom. inval. (genus not validly published at that date)

'*Polyachyrus poeppigii* (Kunze ex Less.) Less.', *Linnaea* 5(1): 5 (1830). Note: No such combination was made at this point!

Polyachyrus auritus D. Don, *Phil. Mag.*, n.s. 11: 390 (1832). Type: not stated.

Polyachyrus decurrens Lag. ex DC., *Prodr.* 7: 53 (1838), nom. nud. pro syn.

Polyachyrus macrotis Phil., *Linnaea* 28: 713 (1856). Type: [Chile:] 'In regionibus litroalibus prov. Valparaiso ad S. Antonio legit orn. *Germain.*' [Pizarro, 1960: 153: 'En la zona costanera de la provincia de Valparaíso, en San Antonio, lo colectó Germain. 43840, 64800.'] Note: Rocardi & Weldt (1974: 19) noted only the type in SGO, not which of the two specimens.

Polyachyrus litoralis Phil., *Linnaea* 28: 714 (1856). Type: [Chile:] 'Habitat in regionibus litoralibus prov. Santiago et Valparaiso.' [Pizarro, 1960: 153: 'Se halla en las zonas costaneras de las provincias de Santiago y Valparaíso. 64784 (?).'] Holotype: SGO.

Polyachyrus calderensis Phil., *Anales Univ. Chile* 69: 271 (1886) [p. 13 in preprint/separate]. Type: [Chile:] 'De Caldera.' Note: Pizarro (1960: 153) indicated the holotype was SGO 64792.

Polyachyrus tenuifolius Phil., *Anales Univ. Chile* 69: 271 (1886) [p. 13 in preprint/separate]. Type: 'Del valle del Huasco, traído en 1885 por don Federico Philippi.' Note: Pizarro (1960: 153) indicated the holotype as SGO 64799.

Polyachyrus poeppigii Less. ex Poepp. & Endl. var. *litoralis* (Phil.) Reiche, *Anales Univ. Chile* 115: 564 (1904).

Polyachyrus virgatus Johnston, *Contr. Gray Herb.* 85: 132 (1929). Type: 'CHILE: ... gravelly benches and rocky hillsides near Aguada Grande, Dept. Chañaral, Dec. 16, 1925, *Johnston* 5795'. Holotype: GH (11371).

ssp. **multifidus** (D. Don) Ricardi & Weldt, *Gayana, Bot.* 26: 19 (1974).

Polyachyrus multifidus D. Don, *Phil. Mag.*, n.s. 11: 390 (1832). Type: not stated.

Polyachyrus sanromani Phil., *Anales Univ. Chile* 69: 270 (1865) [p. 12 in the preprint/separate]. Type: 'He recibido un ejemplar del largo de 30 cm. del señor Francisco San Román, recogido en el desierto de Atacama.' Holotype: SGO Note: Pizarro, 1960: 153 indicated the type was SGO 64801.

Polyachyrus selinoides Reiche, *Anales Univ. Chile* 115: 566 (1904). Type: [Chile:] 'Provincia de Atacama (Caldera, Copiapó, Chañarillo).' ?Syntypes: ?SGO.

**Polyachyrus oblongiflorus* J. Koster, *Blumea* 5(3): 675 (1945). Type: 'Hab.: Chili, im Geröll der Felswüste des Küstengebirges bei Antofagasta, 250 m alt., Sept. 1911, [*Herzog*] n. 2320.' Holotype: L.

?Bolivia (?), Chile. Note: It remains to be seen if this species has subsequently been recorded for Bolivia, or whether Foster's record is solely based on Koster's protologue as the genus is apparently Chilean and Peruvian.

'*Polyachyrus poeppigii* (Kunze ex Less.) Less.', *Linnaea* 5(1): 5 (1830) [Note: No such combination was made at this point!] = **Polyachyrus poeppigii** Less. ex Poepp. & Endl.

Polyachyrus poeppigii Less. ex Poepp. & Endl. var. *litoralis* (Phil.) Reiche, *Anales Univ. Chile* 115: 564 (1904) = **Polyachyrus poeppigii** Less. ex Poepp. & Endl.

Polyachyrus sanromani Phil., *Anales Univ. Chile* 69: 270 (1865) [p. 12 in the preprint/separate] = **Polyachyrus poeppigii** Less. ex Poepp. & Endl. ssp. **multifidus** (D. Don) Ricardi & Weldt

Polyachyrus selinoides Reiche, *Anales Univ. Chile* 115: 566 (1904) = **Polyachyrus poeppigii** Less. ex Poepp. & Endl. ssp. **multifidus** (D. Don) Ricardi & Weldt

Polyachyrus tenuifolius Phil., *Anales Univ. Chile* 69: 271 (1886) [p. 13 in preprint/separate] = **Polyachyrus poeppigii** Less. ex Poepp. & Endl.

Polyachyrus virgatus Johnston, *Contr. Gray Herb.* 85: 132 (1929) = **Polyachyrus poeppigii** Less. ex Poepp. & Endl.

Polyactidium DC., *Prodr.* 5: 281 (1836) = **Erigeron** L.

Polyactis Less., *Syn. Gen. Compositae* : 188 (1832) = **Erigeron** L.

Polyanthina R. M. King & H. Rob., *Phytologia* 20: 213 (1970).

Baccharis L. sect. *Eupatoriola* O. Hoffm. & Kuntze, *Revis. Gen. Pl.* 3(3): 133 (1898). Type: *Baccharis oppositifolia* Kuntze = **Polyanthina nemorosa** (Klatt) R. M. King & H. Rob.

Type: *Eupatorium nemorosum* Klatt = **Polyanthina nemorosa** (Klatt) R. M. King & H. Rob.

Polyanthina nemorosa (Klatt) R. M. King & H. Rob., *Phytologia* 20: 213 (1970).

Eupatorium nemorosum Klatt, *Bot. Jahrb. Syst.* 8: 35 (1886). Type: 'Columbia; Cauca, ad margines silvarum pr. Cali, alt. 2000 m ([LEHMANN] n. 3777). - Mart. 1884.' Holotype: B; isotype: K.

**Eupatorium rusbyi* Britton, *Bull. Torrey Bot. Club* 18: 334 (1891). Type: 'Mapiri, 2,500 ft. ([Rusby] 2723).' Holotype: NY (00169190); isotype: GH (fragment of holotype and sketch).

**Baccharis oppositifolia* Kuntze, *Revis. Gen. Pl.* 3(3): 133 (1898). Type: 'Bolivia: Santa Rosa.' ['BOLIVIA. Santa Rosa, 2000 m, Apr 1892, Kuntze s.n. (2 sheets)' - according to Wetter & Zanoni, 1985: 327] Holotype/Syntypes: NY (00162288, 00162289). Isotype: US (00701774).

**Eupatorium pteropodium* Hieron., *Bot. Jahrb. Syst.* 29(1): 15 (1900*). Types: 'Crescit in regione tropica et subtropica prope El Puente de Chimbo (S.[odiro] n. 6/30). Ceterum prope Tambillo in Peruvia (CONSTANTINUS DE JELSKI n. 737 et 738, 24. Aug. 1878) et in Bolivia (col. RUSBY) collecta est.' [*Note: See Reference section concerning problem with date of publication] Syntypes: B†.

Eupatorium melarhabdotrichum Gilli, *Feddes Repert.* 94(5): 308 (1983). Type: [Ecuador:] 'Wald bei El Corazon, 1400 m, 28. 6. 1975, fl., fr. [Gilli] 227'. Holotype: W.

Bolivia (La Paz), Colombia, Costa Rica, Ecuador, Panama, Peru, Venezuela.

Disturbed ground, forest margins.

(0-) 400-2200 (-3000) m.

April-August.

Polycladus [as *Polyclados*] Phil., *Fl. Atacam.*: 34 (1860); *Reise Atacama*: 208 (1860) = **Parastrephia** Nutt.

Polycaldus abietinus Phil., *Anales Univ. Chile* 43: 492 (1873) = **Parastrephia lucida** (Meyen) Cabrera

Polycladus cupressinus Phil., *Fl. Atacam.*: 34 (1860); *Reise Atacama*: 208, tab. 4, fig. B (1860) = **Parastrephia quadrangularis** (Meyen) Cabrera

Polygyne Phil., *Linnaea* 33(2): 170 (1864) = **Eclipta** L.

Polygyne inconspicua Phil., *Linnaea* 33(2): 171 (1864) = **Eclipta prostrata** (L.) L.

Polymnia L., *Sp. Pl.* : 926 (1753); *Gen. Pl.* : 396 (1754).

Polymnia andrei Arechav., *Ann. Mus. Nac. Montevideo* 2, 1: 35 (1905) = **Smallanthus connatus** (Spreng.) H. Rob.

Polymnia carnososa (Rich.) Poir., *Encycl. Suppl.* 4: 482 (1816), comb. illeg. = **Sphagneticola trilobata** (L.) Pruski

Polymnia connata (Spreng.) S. F. Blake, *Contr. U. S. Natl. Herb.* 26: 238 (1930) = **Smallanthus connatus**

(Spreng.) H. Rob.

Polymnia crenata (Rich.) Poir., *Encycl. Suppl.* 4: 482 (1816) = **Sphagneticola trilobata** (L.) Pruski

Polymnia edulis* Wedd., *Ann. Sci. Nat. (ser. 4)* 7: 114 (1857) = **Smallanthus sonchifolius (Poepp.) H. Rob.

**Polymnia glabrata* DC., *Prodr.* 5: 515 (1836). Note: Material referred to this name by Foster (1958: 216) is most

certainly **Smallanthus parviceps** (S. F. Blake) H. Rob.

Polymnia macroscypha Baker in Mart., *Fl. Bras.* 6(3): 158 (1884) = **Smallanthus connatus** (Spreng.) H. Rob.

Polymnia parviceps S. F. Blake, *Contr. U.S. Natl. Herb.* 22: 604 (1924) = **Smallanthus parviceps** (S. F. Blake) H. Rob.

Polymnia siegesbeckia* DC., *Prodr.* 5: 516 (1836) = **Smallanthus siegesbeckius (DC.) H. Rob.

Polymnia silphoides DC., *Prodr.* 5: 516 (1836) = **Smallanthus connatus** (Spreng.) H. Rob.

Polymnia silphoides DC. var. *perennis* Bettfr., *Fl. Argent.* 2: 116 (1900) = **Smallanthus connatus** (Spreng.) H. Rob.

Polymnia sonchifolia Poepp., *Nov. Gen. Sp. Pl.* 3: 47 (1843) = **Smallanthus sonchifolius** (Poepp.) H. Rob.

Polypappus Less., *Linnaea* 4(3): 314 (1829) = **Baccharis** L.

Pontesia Vell., Fl. Flum. 8: t. 147 (1825)[7 Sept. - 28 Nov. 1829] = **Riencourtia** Cass.

Porcellites Cass., Dict. Sci. Nat. 25: 64 (1822) = **Hypochoeris** L.

Porcellites brasiliensis Less., Linnaea 6(1): 103 (1831), p.p. = **Hypochoeris chillensis** (Kunth) Hieron.

Porophyllum Guett., Hist. Acad. Roy. Sci. Mém. Math. Phys. (Paris, 4to) 1750: 377 (1754).

Kleinia Jacq., Enum. Pl. Carib. : 8 (1760), non *Kleinia* L. (1754). Type: *Kleinia ruderalis* Jacq. = **Porophyllum ruderale** (Jacq.) Cass.

Hunteria Moc. & Sessé ex DC., Prodr. 5: 649 (1836), nom. nud. pro syn., non *Hunteria* Roxb. (1824).

Type: *Cacalia porophyllum* L., nom. rej. *Kleinia ruderalis* Jacq. = **Porophyllum ruderale** (Jacq.) Cass.

Index Nominum Genericorum (online version) gives 'Neotype: *P. ellipticum* Cass. (Dict. Sci. Nat. 43: 56, Sept. 1826) (= *Cacalia porophyllum* L.) (vide P. A. Rydberg, N. Amer. Fl. 34: 182. 29. Dec. 1916).

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Schorr, O. Z. (1978). El genero *Porophyllum* Vaillant (fam. Compositae) en Chile. Anales Mus. Hist. Nat. Valparaiso 11: 37–40.

Porophyllum ellipticum Cass., Dict. Sci. Nat. 43: 56 (1826), nom. nov. pro *Cacalia porophyllum* L. = **Porophyllum ruderale** (Jacq.) Cass.

Porophyllum ellipticum Cass. var. *genuinum* Urb., Symb. Antill. 1: 467 (1900) = **Porophyllum ruderale** (Jacq.) Cass.

Porophyllum ellipticum Cass. var. *ruderae* (Jacq.) Urb., Symb. Antill. 1: 468 (1900) = **Porophyllum ruderae** (Jacq.) Cass.

Porophyllum lanceolatum* DC., Prodr. 5: 649 (1836) = **Porophyllum obscurum (Spreng.) DC.

Porophyllum lanceolatum DC. var. *glaucum* Hassl., Repert. Spec. Nov. Regni Veg. 16(1/4): 29 (1919) = **Porophyllum obscurum** (Spreng.) DC.

Porophyllum latifolium Benth., Ann. Nat. Hist. 2(12): 441 (Feb. 1839) = **Porophyllum ruderae** (Jacq.) Cass.

Porophyllum macrocephalum DC., Prodr. 5: 648 (1836) = **Porophyllum ruderae** (Jacq.) Cass.

Porophyllum macrolepideum Malme, Kong. Svenska Vetenskapsakad. Handl. 32(5): 69 (1899) = **Porophyllum ruderae** (Jacq.) Cass.

***Porophyllum oblanceolatum** Rusby, Mem. Torrey Bot. Club 6(1): 64 (1896). Type: [Bolivia:] 'Below Cochabamba, 1901 ([Bang] 1013).' Holotype: NY (00232643); isotypes: K, Z (000003804). [Note: Johnson determined the NY material (in 1964) as *P. lanceolatum* DC., which I consider is a synonym of *P. obscurum* (Spreng.) DC. Bolivia (Cochabamba).

Porophyllum obscurum (Spreng.) DC., Prodr. 5: 651 (1836).

Kleinia obscura Spreng., Syst. Veg., ed. 16, 3: 438 (1826). Type: 'Ad fl. magnum Amer. austr. (Rio Grande. Sello).' Holotype: P.

**Porophyllum lanceolatum* DC., Prodr. 5: 649 (1836). Type: 'in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 936 miss.)'. Holotype: P; isotype: G-DC.

Porophyllum lanceolatum DC. var. *glaucum* Hassl., Repert. Spec. Nov. Regni Veg. 16(1/4): 29 (1919). Types: 'Paraguay: Hassler 5772, 5287, 5897 l.c. id. In campis siccis pr. Yhú Hassler 9671a et 9671.' Syntypes: G.

Argentina, Bolivia (Chuquisaca, Santa Cruz), Brazil, Paraguay.

Chaco scrub, seasonal pond margins.

350–2500 m.

December–January.

Vernacular names: COMIDA DE ZORRO, COMINILLO, CURUPAIMI, HIERBA DEL VENADO, KILKINA, PUS PUS, QUIRQUINA, RUDA BLANCA, YERBA DE LA GAMA, YERBA DEL CIERVO, YERVA DEL VENADO (Freire et al., 2006); YERBA DEL VENADO (Cord, SL, San Juan), YERBA DE LA GAMA (SL), RUDA BLANCA; KILKINA (S), CURUPAIMI (Cha), QUIRQUINA (Ct), YERBA DEL CIERVO (SL) (Pettenatti & Ariza Espinar, 1997: 20)

Porophyllum oppositifolium Kuntze, Revis. Gen. Pl. 3(3): 168 (1898). Type: 'Mattogrosso: Jacobina, nur vereinzelt vorkommend.' Holotype: NY (232645). ['BRAZIL. Mato Grosso, Jacobina, 10 jul 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 335]

**Porophyllum platyphyllum* Chodat, Bull. Herb. Boissier, sér. 2, 2(4): 397 (1902). Type: [Paraguay] 'Suffrutex 1–1,5 m., petala flavo-virentia, in dumeto Cordillera de Altos, Febr., [Hassler] 3907.' Holotype: G; isotypes: K, US (01802855 – fragments of holotype).

Bolivia (Santa Cruz), Brazil, Paraguay.

Cerrado, often amongst scrub.

600 m.

March–April.

Porophyllum platyphyllum* Chodat, Bull. Herb. Boissier, sér. 2, 2(4): 397 (1902) = **Porophyllum oppositifolium Kuntze

Porophyllum porophyllum (L.) Kuntze, Revis. Gen. Pl. 3(3): 168 (1898), comb. illegit. = **Porophyllum ruderales** (Jacq.) Cass.

***Porophyllum ruderales** (Jacq.) Cass., Dict. Sci. Nat. 43: 56 (1826).

Cacalia porophyllum L., Sp. Pl.: 834 (1753), nom. rej. (as a combination in a rejected genus) [Type: 'Habitat in America. ♀' Type not yet designated. Original material includes two sheets in LINN (976.9 & 976.8), and two icones – LINN 976.9 provides a good mature flowering branch with characteristic leaves. Lectotype (chosen here): LINN 976.9.

Kleinia ruderalis Jacq., Enum. Syst. Pl.: 28 (1760). Type: not stated. Note: this name is probably semi nudum as only an annual symbol was provided as the diagnosis, debatably validating the name. Jacquin's later work, Select. Stirp. Amer. Hist.: 215 (1763), provided a complete diagnosis and description, together with localities – 'Habitat in Domingo & Martinica; in ruderalis, glareosis, muris, similibusque locis.' and a plate, tab. CXXVII. The location of any extant type material is unknown.

Cacalia glandulosa Salisb., Prodr. : 187 (1798), nom. illegit. superfl. (incl. *Cacalia porophyllum* L.), et nom. rej.

Kleinia porophyllum (L.) Willd., Sp. Pl. 3: 1738 (1804).

Porophyllum ellipticum Cass., Dict. Sci. Nat. 43: 56 (1826), nom. nov. pro *Cacalia porophyllum* L.. Note: Not nom. inval. according to some authors.

Porophyllum macrocephalum DC., Prodr. 5: 648 (1836). Type: '• in Mexico circa Villalpando legit cl. Mendez.

Tsinoma Hern. mex. 434. f. 3. ... (v.s.)'. Holotype: G-DC. Note: there is a second specimen, unattributed to collector in G-DC.

Kleinia glandulosa Moc. & Sessé ex DC., Prodr. 5: 648 (1836), nom. nud. pro syn. sub. *Porophyllum macrocephalum* DC.

Porophyllum latifolium Benth., Ann. Nat. Hist. 2(12): 441 (Feb. 1839). Note: *Index Kewensis* cited 'J. Bot.

(Hooker) 2: 44 (1840)' which essentially duplicates Bentham's earlier description. Type: ['British Guiana'] 'Dry Savannahs on the Upper Rupunoony. Schomburgk.' Holotype: K.

Porophyllum porophyllum (L.) Kuntze, Revis. Gen. Pl. 3(3): 168 (1898), comb. illegit.

Porophyllum macrolepideum Malme, Kong. Svenska Vetenskapsakad. Handl. 32(5): 69 (1899). Type: [Brazil] 'Matto Grosso: Cuyabá (Juxta viam in »cerrado« pr. oppidum. 187/294. MALME 1368 B.)'

Porophyllum ellipticum Cass. var. *genuinum* Urb., Symb. Antill. 1: 467 (1900).

Porophyllum ellipticum Cass. var. *ruderales* (Jacq.) Urb., Symb. Antill. 1: 468 (1900).

Porophyllum ruderales (Jacq.) Cass. var. *macrolepideum* (Malme) Chodat, Bull. Herb. Boissier, ser. 2, 3(8): 729 (1903).

Porophyllum ruderales (Jacq.) Cass. var. *glandulosum* Chodat & Hassl., Bull. Herb. Boissier, ser. 2, 3(8): 729

(1903). Type: [Paraguay] 'Suffrutex 0,3[-]0,5 [m], spec. flor. deficient, omnis planta foetidissima, in campis pr. Vaqueria Capibary, Sept., [Hassler] n. 4459.' Holotype: G.

**Porophyllum ruderale* (Jacq.) Cass. var. *angustifolium* Hassl., Trab. Mus. Farm. Med. Buenos Aires 21: 131 (1909). Type: [Original publication not seen.]

**Porophyllum ruderale* (Jacq.) Cass. *ellipticum* (Cass.) B. L. Rob., Proc. Amer. Acad. 49: 509 (1913).

Tagetes integrifolia Muschl., Bot. Jahrb. Syst. 50(2/3), Beibl. 111: 77 (1913). Types: 'Peruvia: Supra San Bartolomé, in declivibus ad viam ferream inter Limam et Oroyam; formatio laxa xerophytica cactaceis fruticibusque mixta, 1500–1800 m s.m. (WEBERBAUER n. 5259 – florens 27. Martii 1910) – Prope Cocachara, in declivibus, 1300–1400 m s.m. (WEBERBAUER n. 5263 – 27. Martii 1910). – Supra San Bartolomé, 1500–1800 m s.m. (WEBERBAUER n. 5260 – fructif. 27. Martii 1910).' Syntypes: B.

Porophyllum ruderale (Jacq.) Cass. ssp. *macrocephalum* (DC.) R. R. Johnson, Univ. Kansas Sci. Bull. 48: 233 (1969).

Porophyllum ruderale (Jacq.) Cass. var. *macrocephalum* (DC.) Cronquist, Madroño 20: 255 (1970).

Argentina, Bolivia (Bení, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija), Brazil, Ecuador, Mexico, Peru, Venezuela, USA, West Indies.

Disturbed areas, roadsides, path edges.

0–2600 m.

Potentially flowering throughout the year.

Vernacular names: AMORES SECOS, MBOI-MOROTÍ, PINITA (Freire et al., 2006), KILLI, QUILLQUÍÑA, QUILLQUÍÑA, QUIRQUÍÑA, BOLIVIAN CORIANDER, PORELEAF (Australia), CRAVINHO, YERBA POROSA, PAPALO, PAPALOQUELITE.

Porophyllum ruderale* (Jacq.) Cass. var. *angustifolium* Hassl., Trab. Mus. Farm. Med. Buenos Aires 21: 131 (1909) = **Porophyllum ruderale (Jacq.) Cass.

Porophyllum ruderale* (Jacq.) Cass. var. *ellipticum* (Cass.) A. Gray ex B. L. Rob. & Greenm., Proc. Amer. Acad. Arts 49: 509 (1913) = **Porophyllum ruderale (Jacq.) Cass.

Porophyllum ruderale (Jacq.) Cass. var. *glandulosum* Chodat & Hassl., Bull. Herb. Boissier, ser. 2, 3(8): 729 (1903) = **Porophyllum ruderale** (Jacq.) Cass.

Porophyllum ruderale (Jacq.) Cass. ssp. *macrocephalum* (DC.) R. R. Johnson, Univ. Kansas Sci. Bull. 48: 233 (1969) = **Porophyllum ruderale** (Jacq.) Cass.

Porophyllum ruderale (Jacq.) Cass. var. *macrocephalum* (DC.) Cronquist, Madroño 20: 255 (1970) = **Porophyllum ruderale** (Jacq.) Cass.

Porophyllum ruderale (Jacq.) Cass. var. *macrolepideum* (Malme) Chodat, Bull. Herb. Boissier, ser. 2, 3(8): 729 (1903) = **Porophyllum ruderale** (Jacq.) Cass.

Praxeliopsis G. M. Barroso, Arch. Jard. Bot. Rio de Janeiro 9: 176 (1949).

Type: **Praxeliopsis mattogrossensis** G. M. Barroso

Reference

Barroso, G. M. (1949). *Praxeliopsis* – um novo gênero de Compositae. Arch. Jard. Bot. Rio de Janeiro 9: 175–178.

Praxeliopsis matogrossensis G. M. Barroso, Arch. Jard. Bot. Rio de Janeiro 9: 176 (1949). Type: [Brazil:] 'Habitat in Matto Grosso, Catagui-iamain, campos dos Urupós, cab. do Canario, colligit J. G. Kuhlmann, 2.381, in 1918.' Holotype: R (48,252).

Bolivia (Santa Cruz), Brazil.

Praxelis Cass., Dict. Sci. Nat. 43: 261 (1826).

Ooclinium DC., Prodr. 5: 133 (1836). Lectotype (selected by King & Robinson, 1969: 338): *Ooclinium grandiflorum* DC. = *Praxelis grandiflora* (DC.) Sch.Bip.

Type: *Praxelis villosa* Cass. = *Praxelis pauciflora* (Kunth) R. M. King & H. Rob. = *Praxelis diffusa* (Rich.) J. Pruski

References

King, R. M. & H. Robinson. (1969). Studies in the Compositae–Eupatorieae, XI. Typification of genera. Sida 3: 329–342.

Veldkamp, J. F. (1999). *Eupatorium catarium*, a new name for *Eupatorium clematideum* Griseb., non Sch.Bip. (Compositae), a South American species naturalized and spreading in SE Asia and Queensland, Australia. *Gardners' Bull. Singapore* 51: 119–124.

Praxelis asperulacea (Baker) R. M. King & H. Rob., *Phytologia* 20(3): 194 (1970).

Eupatorium asperulaceum Baker in Mart., *Fl. Bras.* 6(2): 342 (1876). Types: Habitat in prov. do Alto Amazonas ad S. Carlos secus ripas fluminis Rio Negre: *Spruce* n. 3005; etiam in Guiana britannica ad sinum Cucuya: *Appun* n. 984.' Syntypes: Bolivia (Santa Cruz), Brazil.

Praxelis chiquitensis (B. L. Rob.) R. M. King & H. Rob., *Phytologia* 37: 458 (1977).

**Eupatorium chiquitense* B. L. Rob., *Contr. Gray Herb.* 68: 11 (1923). Type: 'BOLIVIA: Dept. Santa Cruz: Prov. Chiquitos; on rocks of the Cerro Pesenema near Santiago de Chiquitos, alt. 800 m., May, 1907, *Th. Herzog*, no. 25' [An Felsen des Cerro Pesenerma bei Santiago de Chiquitos; 800 m]. Holotype: Z (000003344); isotype: GH ('single leaf only').

Bolivia (Santa Cruz).

On rocks.

800 m.

May.

Praxelis clematidea R. M. King & H. Rob., *Phytologia* 20(3): 194 (1970). Note: This is regarded as nom. nov., rather than a combination as originally proposed. Types: see below for citation in Grisebach (1879).

Eupatorium urticifolium L.f., *Suppl. Pl.* : 354 (1781), nom. illegit. non Reichard (1780) (= *Ageratina altissima* (L.) R. M. King & H. Rob.) Type: 'Habitat in America meridionali. *Mutis*.'

**Eupatorium clematideum* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 172 (March–April 1879), *Symb. Fl. Argent.* 172 (1879), nom. illegit., non (Wall. ex DC.) Sch.Bip. (1866) (= *Eupatorium reevesii* Wall. ex DC.), nec Less. ex Baker (1876) (nom. nud. pro syn. = *Mikania phaeoclados* Mart. ex Baker). Types: '[Argentina] C. pr. Cordoba. T.: forma involucris squamis exterioribus obtusioribus. (Paraguay: *Bal[ansa]* 936.)'. Syntypes: *Balansa* 936, *Lorentz* 81, *Lorentz & Hieronymus* 1119, GOET. Lectotype (according to GOET type database): *Lorentz* 81, GOET.

Eupatorium urticifolium L.f. var. *nanum* [as *nana*] Hieron., *Bot. Jahrb. Syst.* 22(4–5): 783 (1897). Type: 'Paraguay: im Süden des Landes an nicht genauer angegebenen Orte (O. KUNTZE, Sept. 1892)'. Holotype: B.

Eupatorium urticifolium L.f. var. *clematideum* (Griseb.) Hieron. ex Kuntze, *Revis. Gen. Pl.* 3(3): 148 (1898).

Eupatorium catarium Veldk., *Gardner's Bull. Singapore* 51: 121 (1999), as nom. nov. pro *Eupatorium clematideum* Griseb.

Argentina, Bolivia (Cochabamba, Santa Cruz), Brazil, Paraguay. Australia, Hong Kong. Rapidly becoming a pantropical weed.

Rocky soils, disturbed ground, roadsides, cultivated areas.

0–2300 m.

Probably flowering throughout the year.

Note: Veldkamp (1999), at some length, noted that Grisebach's name was a later homonym of Schultz Bipontinus' combination (Schultz Bipontinus 1866: 258) of a de Candolle name – *Mikania clematidea* Wall. ex DC. (de Candolle, 1836: 191). Effectively, King & Robinson (1970: 194) had provided a new name for Grisebach's plant within *Praxelis*. Veldkamp also noted that the two varietal names were 'comb. incorr.'

Praxelis conoclinanthia (Hieron.) R. M. King & H. Rob., 20: 194 (1970).

Eupatorium erythrolepis Sch.Bip., *Bull. Soc. Bot. France* 12: 82 (1865); *Linnaea* 34(5): 535 (Feb. 1866), nom. nud. (based on *Mandon* 261).

**Eupatorium conoclinanthium* Hieron., *Bot. Jahrb. Syst.* 40(3): 388 (1908). Types: 'Bolivia: in parte australi reipublicae loco accuratis non indicato (K. FIEBRIG n. 3514 et 3515); prope Pinos haud procul ab urbe Tarija, alt. s. m. 2200 m, locis lapidosis humidis apricis (K. FIEBRIG n. 3152 et 3152a; 21. m. Martii 1904)'. Syntypes: B†. Isosytype: *Fiebrig* 3152, GOET, S. Isosyntypes: *Fiebrig* 3515, 3152 & 3152a, K; *Fiebrig* 3152, US (01157814).

?Argentina (see Cabrera & Freire, 1997: 27), Bolivia (La Paz, Santa Cruz, Tarija).

2200–2700 m.

March.

Note: *Eupatorium erythrolepis* Sch.Bip., a nom. nud., is based on *Madon* 261. However, this name is equated with *Lorentzianthus viscidus* (Hook. & Arn.) R. M. King & H. Rob., although clearly the material is of a *Praxelis*.

Praxelis hecatantha Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 343 (1876), nom. nud. pro syn. = **Praxelis kleinioides** (Kunth) Sch.Bip.

Praxelis kleinioides (Kunth) Sch.Bip., Jahresb. Pollichia 22/24: 254 (1866).

**Eupatorium kleinioides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio) : 94 (1818). Type: 'Crescit in aridis montium Cocollar et Tumiriquiri, alt. 600 hex. (Nova Andalusia.) † Floret Septembri.' [Humboldt & Bonpland 'n. 271. Cocollar'] Holotype: P-Bonpl.

Ooclinium paucidentatum DC., Prodr. 5: 134 (1836). Type/s: '■ in Peruvîa legit olim cl. Haenke ex ill. de Banza (sed in herb. Haenk. non reperire quivi). ... (v.s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC (evidently one shoot from the material in M).

Ooclinium pedunculare DC., Prodr. 5: 134 (1836). Type/s: '■ in Brasiliae prov. Minarum generalium ad Sabara legit cl. Vauthier [133] et hab. etiam in prov. Sancti-Pauli (h. Mus. Paris!) ... (v.s.)'. Syntype: Vauthier 133, G-DC.

Campuloclinium kleinioides (Kunth) DC., Prodr. 5: 137 (1836).

Eupatorium kleinioides Kunth var. β *hecatantha* Baker in Mart., Fl. Bras. 6(2): 343 (1876). Type: 'In „Brasilia meridionali“: Sello.'

Praxelis hecatantha Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 343 (1876), nom. nud. pro syn.

Bolivia (La Paz), Brazil, Colombia, Peru Venezuela.

Open grassland, sandy soil.

450–1830 m.

September–February, but probably flowering throughout the year.

Cabrera & Freire (1997: 31) listed several synonyms under *P. kleinioides* based on *Eupatorium kleinioides* var. *subglabratum* Hieron. King & Robinson (1987) suggested this might be an unsepecified *Chromolaena* sp. Rusby 1734, May 1886, Guanai.

Prenanthes L., Sp. Pl. : 797 (1753).

Prenanthes? *subdentata* Hook. & Arn., Hooker's Bot. Misc. 2: 221 (1831) = **Picrosia longifolia** D. Don

Prionanthes Schrank, Pl. Rar. Hort. Acad. Monac. 2: tab 51 (1819) = **Trixis** P.Browne

Prionanthes antimenorrhoea Schrank, Pl. Rar. Hort. Acad. Monac. 2: tab. 51 (1819) = **Trixis divaricata** (Kunth) Spreng.

Prionolepis Poepp., Nov. Gen. Sp. Pl. 3: 55, tab. 261 (1845) = **Munnozia** Ruiz & Pav.

Proselia D. Don., Trans. Linn. Soc. Bot. ser. 2, 16(2): 234 (1830) = **Chaetanthera** Ruiz & Pav.

Proustia Lag., Amen. Nat. Españ. 1, 1: 33 (1811).

Type: *Proustia pyrifolia* DC.

References

Fabris, H. A. (1968). Revisión del género *Proustia* (Compositae). Revista Mus. La Plata n.s. Secc. Bot. 11: 23–49.

Tellería, M. C., Urtubey, E., & L. Katinas. (2003). *Proustia* and *Lophopappus* (Asteraceae, Mutisieae): generic and subtribal relationships based on pollen morphology. Rev. Palaeobot. Palynology 123: 237–246.

Note: Evidently Fabris (1968) considered only one species was present in Bolivia, *P. cuneifolia*, the only species of *Proustia* sect. *Harmodia* D. Don

Proustia angustifolia* Wedd., *Chloris Andina* 1: 24 (1855) = *Proustia cuneifolia*** D. Don f. ***angustifolia*** (Wedd.) Fabris

Proustia angustifolia* Wedd. var. *mollis* Kuntze, *Revis. Gen. Pl.* 3(3): 169 (1898) = *Proustia cuneifolia*** D. Don f. ***angustifolia*** (Wedd.) Fabris

Proustia cuneifolia D. Don, *Trans. Linn. Soc. London* 16(2): 202 (1830). Type: 'In Chile ad Coquimbo. *Caldcleugh*. ■ Holotype: originally in Aylmer Bourke Lambert's herbarium, now in G – see Miller (1970: 517).

**Proustia pungens* Poepp. ex Less., *Syn. Gen. Comp.* : 110 (1832). Type: 'In Chile legit Pöppig. (v. sp. s. 1.)'
Holotype: ?B. Note: there are two specimens marked as isotypes in NY: NY (00232663, 00232664), but these come from 'Pöppig Coll. pl. Chil. III' number 207.

**Proustia pungens* Poepp. ex Less. var. *cuneifolia* (D. Don) Wedd., *Chloris Andina* 1: 23 (1855).

Note: Fabris (1968) treated *P. cuneifolia* as divided into 6 formas, only f. *angustifolia*, *cuneifolia* and *oblongifolia* were reported for Bolivia. Formas *cinerea* (Phil.) Fabris (Chile), *mendocina* (Phil.) Fabris (Argentina) and *tipia* (Phil.) Fabris are not included in the synonymy here. However, if a less divided view is taken of the species the synonymy can be augmented accordingly to include all of Fabris's formas, although Cabrera's view (Cabrera, 1978: 613–615) was clearly to recognize varieties.

Key to forms [only if forms are recognized]

- | | | |
|--------|--|---------------------------|
| 1. | Leaves white-lanose/tomentose beneath, linear-lanceolate | forma <i>angustifolia</i> |
| | Leaves glabrous or sometimes puberulous | 2 |
| 2. (2) | Leaves spatulate or narrowly ovate, base attenuate | forma <i>cuneifolia</i> |
| | Leaves elliptic or oblong, base obtuse | forma <i>oblongifolia</i> |

*forma ***angustifolia*** (Wedd.) Fabris, *Revista Mus. La Plata* 11: 48 (1968).

Proustia angustifolia Wedd., *Chloris Andina* 1: 24 (1855). Type?: 'Hab. BOLIVIE: sommet de la côte de Cachimayo!, dans le département de Chuquisaca (*d'Orbigny*, n° 1274).' ?Holotype: P.

**Proustia angustifolia* Wedd. var. *mollis* Kuntze, *Revis. Gen. Pl.* 3(3): 169 (1898). Type: 'Bolivia: Cochabamba.'
Holotype: NY (00232661). ['BOLIVIA. Cochabamba, 3000 m, 26 Mar 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 335] Isotype: US (00702083).

Proustia cuneifolia D. Don var. *mollis* (Kuntze) Cabrera, *Fl. Prov. Jujuy* 13(10): 615 (1978).
Argentina, Bolivia (Chuquisaca, Cochabamba).

High pastures.

1500–3000 m.

November–April.

forma ***cuneifolia***

Proustia pungens Poepp. ex Less. α *spinulosa* Hook. & Arn., *Companion Bot. Mag.* 1(No. 4): 106 (1835). Types: 'San Pedro near Quillota, *Bridges* (n. 362). Province of Maule, *Cuming* (n. 852).' However, Hooker & Arnott actually cited 'P. *pungens*, Poepp. Less. *Syn.* p. 110' directly after the diagnosis for this entity. Fabris (1968: 42) essentially lectotypified this name (by citing 'holotipo') based on *Bridges* 362, E.

Proustia pungens Poepp. ex Less. β *integrifolia* Hook. & Arn., *Companion Bot. Mag.* 1(No. 4): 107 (1835). Type: not cited. Note: there is nothing amongst the specimen citations which signifies material is applicable to this unranked infraspecific taxon. It is possible that it refers to the *Cuming* collection above.

Proustia pungens Poepp. ex Less. β *heterophylla* Kuntze, *Revis. Gen. Pl.* 3(3): 168 (1898), nom. nud. [Citing only 'Folia var. α et var. δ in eadem stirpe. Chile: Maule.'] Note: Material corresponding to this name in NY, NY (00232665).

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Sucre), Chile, Peru.

Dry rocky escarpments, Prepuna, Puna, amongst xerophytic scrub on steep sandstone slopes.

2000–3500 m.

December–July.

Vernacular names: CHARCOMA, HUAÑIL, TUSCA-TUSCA (Fabris, 1968: 41).

forma ***oblongifolia*** (Wedd.) Fabris, *Revista Mus. La Plata* 11: 43 (1968).

**Proustia pungens* Poepp. ex Less. [var.] β *oblongifolia* Wedd., *Chloris Andina* 1: 23 (1855). Types: 'Hab.

BOLIVIE (et): lieux exposés des montagnes du département de La Paz! h. 3800 mètres (*Pentland, Wedd.*). –

CHILI: endrots des montagnes d'Aconcagua!, au bord des torrents (*Poeppig, Gay*); Coquimbo (*Don*); Qullota, prov. de Valparaise, h. 2000 mètres (*Bridges*).¹ Syntypes: ?P.

Bolivia (La Paz), Chile, Peru.

Bare ground, streamsides.

2000–4000 m.

Proustia cuneifolia D. Don var. *mollis* (Kuntze) Cabrera, Fl. Prov. Jujuy 13(10): 615 (1978) = **Proustia cuneifolia**

D. Don forma **angustifolia** (Wedd.) Fabris

Proustia foliosa (Rusby) Ferreyra, Fieldiana, Bot. n.s. 35: 90 (1995) = **Lophopappus foliosus** Rusby

Proustia pungens* Poepp. ex Less., Syn. Gen. Comp. : 110 (1832) = **Proustia cuneifolia D. Don

Proustia pungens* Poepp. ex Less. [var.] α *cuneifolia* (D. Don) Wedd., Chloris Andina 1: 23 (1855) = **Proustia cuneifolia D. Don

Proustia pungens Poepp. ex Less. β *heterophylla* Kuntze, Revis. Gen. Pl. 3(3): 168 (1898), nom. nud. = **Proustia cuneifolia** D. Don

Proustia pungens Poepp. ex Less. β *integrifolia* Hook. & Arn., Companion Bot. Mag. 1(No. 4): 107 (1835) = **Proustia cuneifolia** D. Don

Proustia pungens* Poepp. ex Less. [var.] β *oblongifolia* Wedd., Chloris Andina 1: 23 (1855) = **Proustia cuneifolia D. Don forma **oblongifolia** (Wedd.) fabris

Psathurochaeta DC., Prodr. 5: 609 (1836) = **Melanthera** Rohr

Pseudelephantopus Rohr, Skr. Naturhist.-Selsk, Kjobenhavn 2: 213 (1792), nom. et orth. cons. = **Elephantopus** L.

Pseudelephantopus crispus (Cass.) Cabrera, Darwiniana 6: 371 (1944) = **Elephantopus angustifolius** Sw.

Pseudo-elephantopus funckii (Turcz.) Philip., J. Bot. London 76: 301 (1938) = **Elephantopus spiralis** (Less.) Clonts

Pseudelephantopus spicatus (Juss. ex Aubl.) Rohr, Skr. Nat. Selsk. Kjobenhavn 2: 214 (1792) = **Elephantopus spicatus** Juss. ex Aubl.

Pseudelephantopus spiralis (Less.) Cronquist, Madroño 20: 255 (1970) = **Elephantopus spiralis** (Less.) Clonts

Pseudobaccharis Cabrera, Notas Mus. La Plata, Bot. 9(No. 46): 246 (1944) = **Baccharis** L.

Pseudobaccharis acaulis* (Wedd. ex R. E. Fr.) Cabrera, Notas Mus. La Plata, Bot. 9(No. 46): 248 (1944) = **Baccharis acaulis (Wedd. ex R. E. Fr.) Cabrera

Pseudobaccharis boliviensis* (Wedd.) Cabrera, Notas Mus. La Plata, Bot. 9(No. 46): 249 (1944) = **Baccharis boliviensis (Wedd.) Cabrera

Pseudobaccharis boliviensis (Wedd.) Cabrera var. *latifolia* (R. E. Fr.) Cabrera, Notas Mus. La Plata, Bot. 9(No. 46): 250 (1944) = **Baccharis boliviensis** (Wedd.) Cabrera

Pseudobaccharis cotinifolia (Willd.) Teodoro, Contr. Inst. Geobiol. 2: 47 (1952) = **Baccharis pedunculata** (Mill.) Cabrera

Pseudobaccharis rhexioides (Kunth) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 306 (1946) = **Baccharis trinervis** Pers. var. **rhexioides** (Kunth) Baker

Pseudobaccharis trinervis (Pers.) V. M. Badillo, Bol. Soc. Venez. Ci. Nat. 10: 306 (1946) = **Baccharis trinervis** Pers.

Pseudoconyza Cuatrec., Ciencia (Mexico) 21(1): 30 (1961).

Ernstia V. M. Badillo, Cat. Fl. Venez. 2: 503 (in key); 504 (1947), nom. nud.

Type: *Conyza lyrata* Kunth = **Pseudoconyza viscosa** (Mill.) D'Arcy.

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D'Arcy, W. G. (1975). *Blumea*. Inuleae. In: R. E. Woodson & R. W. Schery, Flora of Panama. Part. IX. Family 184. Compositae. Ann. Missouri Bot. Gard. 62(4): 1033–1053.

Badillo, V. M. (1974). *Blumea viscosa* y *Piptocarpha cuatrecasiana*, dos nuevas combinaciones en Compositae. *Revista Fac. Agron. (Maracay)* 7(3): 9–16.

Cuatrecasas, J. (1961). Notas sobre Astereas andinas. *Ciencia (Mexico)* 21(1): 21–32.

Cuatrecasas, J. (1969). *Pseudoconyza*. Prima flora colombiana. 3. Compositae-Astereae. *Webbia* 24(1): 228–231.

Cuatrecasas, J. (1973). Supplemental characterization of genus *Pseudoconyza*. *Phytologia* 26(6): 410–412.

Dillon, M. O. & A. Sagástegui Alva. (1991). *Blumea*. In: J. F. Macbride & collab., Flora of Peru, Family Asteraceae: Part V. Fieldiana, Bot. n.s. 26 (1422): 18–22.

Zareh, M. M. (2005). Systematic and anatomical studies of Inuleae and Plucheae in Egypt. *Feddes Repert. Spec.* 116 (1–2): 43–53.

Note: D'Arcy (1975) and Dillon & Sagástegui (1991) maintained the following taxon in *Blumea* DC., thus accepting it as the only New World species of the genus. D'Arcy (1975: 1034) also suggested that if '*Blumea viscosa*' were to be treated as generically distinct then 'either the name *Pseudoconyza* or *Placus* should be used'. However, he had already provided the relevant combination in *Pseudoconyza* a little earlier (D'Arcy, 1975: 281). Zareh (2005) provided no supporting evidence for the transfer of this taxon back into *Laggera*, the anatomical 'evidence' pertains only to features present in some of the other taxa studied without any distinguishing features of *Pseudoconyza* (as a *Laggera*).

Pseudoconyza lyrata (Kunth) Cuatrec., *Ciencia (Mexico)* 21(1): 31 (1961) = ***Pseudoconyza viscosa*** (Mill.) D'Arcy

Pseudoconyza viscosa (Mill.) D'Arcy, *Phytologia* 25(5): 281 (1973).

Conyza viscosa Mill., *Gard. Dict.*, ed. 8, *Conyza* no. 8 (1768). Type: 'Houst. MSS. ... The eighth sort grows naturally at La Vera Cruz, from whence it was sent me by the later Dr. Houston.' Holotype: BM.

Conyza aurita L.f., *Suppl. Pl.* : 367 (1781). Type: 'Habitat in Indiae orientalis subhumidis. H.U.'

**Conyza lyrata* Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 55 (1818). Type: [Ecuador:] 'Crescit in humidis prope Guayaquil Quitensium. ■ Floret Februario. [Humboldt & Bonpland 3812]' Holotype: P-Bonpl; isotype: B-W.

Blumea aurita (L.f.) DC. in Wight, *Contr. Bot. Ind.* : 16 (1834).

Laggera aurita (L.f.) C. B. Clarke, *Compositae Ind.* : 92 (1876).

Erigeron lyratum (Kunth) Gómez [de la Maza], *An. Hist. Nat. Madrid* 19: 272 (1890).

Conyza lyrata Kunth var. *pilosa* Fernald, *Proc. Amer. Acad. Arts* 36: 506 (1901). Type: [Mexico:] 'Chiapas, on the border of a lake, Tonalá, Paredon, Feb. 8, 1896 (C. & E. Seler, no. 1879).' Holotype: GH (22890).

Eschenbachia lyrata (Kunth) Britton & Millsp., *Fl. Baham. Fl.* : 444 (1920).

Blumea lyrata (Kunth) V. M. Badillo, *Bot. Soc. Venez. Cienc. Nat.* 10: 257 (1946).

Ernstia lyrata (Kunth) V. M. Badillo, *Cat. Fl. Venez.* 2: 503 (in key); 504 (1947), nom. nud.

Pseudoconyza lyrata (Kunth) Cuatrec., *Ciencia (Mexico)* 21(1): 31 (1961).

Laggera lyrata (Kunth) Leins, *Mitt. Bot. Staatssaml. München* 9: 107 (1971).

Pseudoconyza viscosa (Mill.) D'Arcy var. *lyrata* (Kunth) D'Arcy, *Phytologia* 25(6): 281 (1973)

Blumea viscosa (Mill.) V. M. Badillo, *Rev. Fac. Agr. Maracay* 7(3): 9 (1974).

Blumea viscosa (Mill.) D'Arcy, *Phytologia* 30(1): 5 (1975), comb. superfl.

Laggera viscosa (Mill.) Zareh, *Feddes Repert. Spec.* 116(1–2): 44 (2005).

Bolivia (?), 'Central America', Colombia, Ecuador, Mexico, Panama, Peru, Venezuela, USA (Florida).

Widespread in Africa north to Egypt, Asia.

0–500 m.

Pseudoconyza viscosa (Mill.) D'Arcy var. *lyrata* (Kunth) D'Arcy, *Phytologia* 25(6): 281 (1973)

Pseudognaphalium Kirp., *Acta Inst. Bot. Acad. Sci. URSS, Ser. 1, Fasc. 9* : 33 (1950).

Hypelichrysum Kirp., *Acta Inst. Bot. Acad. Sci. URSS, Ser. 1, Fasc. 9* : 33 (1950). Type: *Hypelichrysum heterotrichum* (Phil.) Kirp. = *Pseudognaphalium heterotrichum* (Phil.) Anderb.

Gnaphalium L. sect. *Calolepis* Kirp., *Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R.* 20: 309 (1960).

Type: *Gnaphalium luteo-album* L. = ***Pseudognaphalium luteo-album*** (L.) Hilliard & B. L. Burt

Pseudognaphalium Kirp. subgen. *Laphangium* Hilliard & B. L. Burt, Bot. J. Linn. Soc. 82(3): 205 (1981). Type:
Pseudognaphalium luteo-album (L.) Hilliard & B. L. Burt

Type: *Pseudognaphalium oxyphyllum* (DC.) Kirp.

References

Anderberg, A. A. (1991). Taxonomy and phylogeny of the tribe Gnaphalieae (Asteraceae). *Opera Bot.* 104: 1–195.

Deble, L. P. & J. N. C. Marchiori. (2006). O gênero *Pseudognaphalium* Kirp. (Asteraeae-Gnaphalieae) no sul do Brasil. *Balduinia*. 6: 1–13.

Deble, L. P. & J. N. C. Marchiori. (2006). Sinopse de *Pseudognaphalium* Kirp. (Asteraceae-Gnaphalieae) no Brasil. *Balduinia* 9: 13–16.

Hilliard, O. M. & B. L. Burt. (1981). Some generic concepts in Compositae-Gnaphaliinae. *Bot. J. Linn. Soc.* 82(3): 181–232.

Pseudognaphalium antennarioides (DC.) Anderb., *Opera Bot.* 104: 147 (1991).

Helichrysum [as *Elichrysum*] *gnaphalioides* Kunth, in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4(ed. folio): 68 (1818). Type: 'Crescit prope pagum Ayavacæ Peruvianorum, alt. 1410 hex. ■ Floret Augusto.'

Gnaphalium antennarioides DC., *Prodr.* 6: 224 (1838), as nom. nov. pro *Helichrysum gnaphalioides* Kunth.

Antennaria monoica Wedd., *Chloris Andina* 1: 150 (1856), nom. illegit. pro *Helichrysum gnaphalioides* Kunth.

Antennaria gnaphalioides (Kunth) Standley ex Knuth, *Fedde Repert. Beih.* 43: 709 (1928).

Bolivia (?), Colombia, Ecuador, Peru.

Note: Dillon & Sagástegui-Alva (1991b: 34) cited this taxon for Bolivia, as a relatively uncommon species throughout its range. The synonymy provided needs careful checking. Although de Candolle appears to have provided a new name it is unclear why, in citing Steudel's homonym anyone should have thought that had priority (cf. Steudel's *Nomencl. Bot. ed.* 2)

Pseudognaphalium austrobrasilicum Deble & Marchiori, *Balduinia* 6: 4 (2006) = ***Pseudognaphalium gaudichaudianum*** (DC.) Anderb.

Pseudognaphalium badium (Wedd.) Anderb., *Opera Bot.* 104: 147 (1991).

**Gnaphalium badium* Wedd., *Chloris Andina* 1: 145 (1856). Types: 'Hab. BOLIVIE: sur les coteaux, autour des lagunas de Potosí!, et dans la province de Carangas! (*d'Orbigny*, n. 1375 et 1366).' Syntypes: P.

Argentina, Bolivia (Potosí), Peru.

Piso Puneño (pajonales seriales pineõs supratropicales del Tunari).

3000–>4500 m.

Pseudognaphalium cheiranthifolium (Lam.) Hilliard & B. L. Burt, *Bot. J. Linn. Soc.* 82(3): 105 (1981).

**Gnaphalium cheiranthifolium* [sic!] Lam., *Encycl.* 2: 752 (1786). Type: [Uruguay:] 'Comerson à trouvé cette plante à Monte-Video. (v.s.)'. Note: this is not apparently in P-LA under this epithet, although Hilliard & Burt (1981: 205) indicated that they had seen the material, but not the epithet used.

Gnaphalium citrinum Hook. & Arn., *Bot. Beechey Voy.* : 31 (1830). Type: 'Hab. Conception.' Holotype: Probably K, not yet located.

Gnaphalium paniculatum Bertero ex Colla, *Mem. Accad. Sci. Torino* 38: 17, tab. 26 (1835). Type: 'Cultum in H. Ripul. e seminibus missis a BERTERO sine nomine specifico et lectis in saxosis apricis Valparaiso, servatur hyeme in frigidario, et floret secundo anno, ac raro diutius perdurat.' Holotype: ?TO.

Gnaphalium valdivianum Phil., *Linnaea* 29(1): 6 (1857). Type: 'In prov. Valdivia habitat.' Pizarro (1960: 143) cited the following sheet at SGO: 64374.

Gnaphalium araucanum Phil., *Anales Univ. Chile* 43: 502 (1873). Type: 'El finado don Jerman Volkmann halló esta especie cerca de Lebu, en la Araucanía.' Holotype: Pizarro (1960: 142) cited 64381 – SGO. [Note: In a separately paginated reprint/preprint in K this appeared on p. 26.]

Gnaphalium riedelianum Klatt, *Linnaea* 42: 115 (1878). Type: 'In Brasilia, leg. Riedel. ... Es findet sich leider im Herbar. nur der obere Theil, die Pflanze muss lebend recht stattlich sein.' ? [B-Willd 15463']

Gnaphalium cheiranthifolium Lam. var. *riedelianum* (Klatt) Baker in *Mart., Fl. Bras.* 6(3): 122 (1882).

Gnaphalium acutifolium Phil., Anales Univ. Chile 90: 12 (1895). Type: 'Habitat in Araucania; ad Curanilahue
Januario 1893 legi.' Note: Pizarro (1960: 141) cited 440968 and 64401 in SGO.

Gnaphalium andicola Phil., Anal. Univ. Chil. 90: 17 (1895). Types: 'Se halla en los Andes, de las provincias
centrales, Las Condes, en Santiago; Cajón de Lontué, en Curicó.' Note: Pizarro (1960: 141) cited 64384,
64385 in SGO.

Gnaphalium cheiranthifolium Lam. var. α *typicum* Kuntze f. 1. *citrinum* (Hook. & Arn.) Kuntze, Revis. Gen. Pl.
3(3): 151 (1898).

Gnaphalium cheiranthifolium Lam. var. *paniculatum* (Bertero ex Colla) Skottsbo., Kongl. Svenska
Vetenskapsakad. Handl. 51(9): 5 (1914).

**Gnaphalium cheiranthifolium* Lam. var. *multiflorum* J. Koster, Blumea 5(3): 655 (1945). Type: [Bolivia] 'Hab.:
auf kahlen steinigen Kämmen um Samaipata, 2000-2200 m alt., März 1911, [Herzog] n. 1758.' Holotype: L.
Argentina, Bolivia (Santa Cruz), Brazil, Chile, Uruguay.

Grassland.

500-3900 m.

December-June.

Note: Deble & Marchiori (2006: 14) were of the opinion that '*Gnaphalium erectum* Vell., Fl. Flum. Ic. 8: tab. 98
(1831)' belonged in the synonymy of this species, although the appearance of the tab in the Icones might also
resemble an *Achyrocline* sp.

Pseudognaphalium cymatoides (Kunze ex DC.) Anderb., Opera Bot. 104: 147 (1991).

**Gnaphalium cymatoides* Kunze ex DC., Prodr. 6: 225 (1838). Types: ' · in Chili circà Concon (*Poepp!* [379]) in
lapidosis maritimis secùs torrentes ad Valparaiso et S. Iago (*Bert!* [303 & 1025]) *G. ulophyllum* Hook. et
Arn. bot. Beech. 1. (1831) p. 31. *G. cheiranthifolium* Bert.! herb. *G. Piravira* var. Less. in linnaea. ... (v.s.)'.

Note: Syntype material of the *Poeppig* and the *Bertero* collections are in G-DC.

Bolivia (?), Chile.

Pseudognaphalium frigidum (Wedd.) Anderb., Opera Bot. 104: 147 (1991) = **Pseudognaphalium lacteum**
(Meyen & Walp.) Anderb.

Pseudognaphalium gaudichaudianum (DC.) Anderb., Opera Bot. 104: 147 (1991).

**Gnaphalium gaudichaudianum* DC., Prodr. 6: 226 (1838). Type: ' · circà Rio de Janeiro legit cl. *Gaudichaud* [673].
... (v.s.)'. Holotype: G-DC.

Gnaphalium regnellii Sch.Bip., Linnaea 30: 180 (1859/60), nom. nud.

Gnaphalium mendocinum Phil., Anales Univ. Chile 36: 184 (1870). [Note: In a separately paginated
reprint/preprint in K this appeared on p. 26.] Type/s: [Chile:] 'Mendoza.' Pizarro (1960: 142) cited 2
collections in SGO - 44959, 64434. agreeing with Philippi's comment that 'Los ejemplares carecen de raiz
...'. Isotype?: *Philippi* s.n., GOET.

Gnaphalium cheiranthifolium Lam. var. *gaudichaudianum* (DC.) Baker in Mart., Fl. Bras. 6(3): 122 (1882).

Pseudognaphalium austrobrasilicum Deble & Marchiori, Balduinia 6: 4 (2006). Type: 'Brasil, Rio Grande do Sul,
São Sepé, BR 392, p. Santa Maria, após o viaduto da BR 290, em campo, na beira da estrada, abundante,
erva glandulosa, ereta, de 90 cm, capítulos brancos, odor fétido intenso, L. P. Deble & A. S. de Oliveira 5.000,
02.X.2004.' Holotype: SI.

Pseudognaphalium mendocinum (Phil.) Deble & Marchiori, Balduinia 9: 15 (2006).

Argentina, Bolivia(?), Brazil, Paraguay, Uruguay.

2200 m.

October-May.

Vernacular names: VIRA-VIRA'I (Freire, 1998); BALSAMO ALEMÁN, CAÁ GUAZÚ, MARCELA, MARCELITA, VIRA-VIRA'I (Freire et
al., 2006).

Pseudognaphalium glandulosum (Klatt) Anderb., Opera Bot. 104: 147 (1991).

Gnaphalium glandulosum Klatt, Linnaea 42(1): 129 (1878). Type: 'Hab. Peru, in planitie circa Tacorum, 14-
17000 ped. leg. Meyen. (*Gnaphalium luteo-album* var. β *glandulosum* Walpers.)'. Holotype: B.

Argentina, Bolivia (?), Chile, Peru.

5180 m.

January-February.

Pseudognaphalium graveolens (Kunth) Anderb., Opera Bot. 104: 147 (1991).

Gnaphalium graveolens Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 64 (1818). Type:

[Ecuador:] 'Crescit in alta planitie Tapiensi juxta urbem Novæ Riobambæ, alt. 1490 hex. (Regno Quitensi.) ■ Floret Junio.' [Humboldt & Bonpland n. 3193]. Holotype: P-Bonpl.

Argentina, Bolivia (?), Ecuador, Peru.

450 m.

June.

Pseudognaphalium lacteum (Meyen & Walp.) Anderb., Opera Bot. 104: 147 (1991).

**Gnaphalium lacteum* Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 276 (1843). Type: 'Peruvia: in plantitie circa Tacoram, alt. 14-17,000 ped. (v.s.)'. Holotype: B†.

**Gnaphalium frigidum* Wedd., Chloris Andina 1: 147 (1856). Types: 'Hab. PÉROU: Cordillère de Tacora! (Wedd.). - BOLIVIE: fentes des rochers, au niveau des neiges, dans le ravin (quebrada) des lagunas de Potosi! (d'Orbigny, n. 1367 et 1372).'

Gnaphalium argyrolepis Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 46 (1891). Types: [Chile:] 'Habitat in provincia Tarapacá ad Usmagama, Vilon etc.' Pizarro (1960: 142) cited 2 collections 44934, 64432 in SGO.

Pseudognaphalium frigidum (Wedd.) Anderb., Opera Bot. 104: 147 (1991).

Argentina, Bolivia (Potosí), Chile, Peru.

January-March.

Pseudognaphalium melanosphaeroides (Sch.Bip. ex Wedd.) Anderb., Opera Bot. 104: 147 (1991).

**Gnaphalium melanosphaeroides* Sch.Bip. ex Wedd., Chloris Andina 1: 148 (1856). Type: 'G. melanosphaeroides Schultz Bip., in Bonplandia, ann. 1856, p. 54. ... Hab. PÉROU: province de Carabaya! (Lechler, exsicc. n. 1838). - BOLIVIE: environs de La Paz! (d'Orbigny, Wedd.); province de Carangas! (d'Orbigny, n. 1376).'

Argentina, Bolivia (La Paz), Peru.

Pseudognaphalium mendocinum (Phil.) Deble & Marchiori, Balduinia 9: 15 (2006) = **Pseudognaphalium gaudichaudianum** (DC.) Anderb.

Pseudognaphalium versatile (Rusby) Anderb., Opera Bot. 104: 147 (1991).

**Gnaphalium versatile* Rusby, Mem. Torrey Bot. Club 6(1): 62 (1896). Types: [Bolivia:] 'Near snow-line, Mt.

Tunari, 1891 ([Bang] 1035). Also collected by Pearce at Pelechuco.' Syntypes: ?. ?Isosyntype: Bang 1035, US (01403116).

Argentina, Bolivia (Cochabamba).

Pseudogynoxys (Greenm.) Cabrera, Brittonia 7(2): 54 (1950).

Senecio L. subgen. *Pseudogynoxys* Greenm., Bot. Jahrb. Syst. 32: 19 (in key) (1902). Type: not stated.

Lectotype (selected by Cabrera, 1950: 54): *Gynoxys cordifolia* Cass. = *Pseudogynoxys cordifolia* (Cass.) Cabrera

References

Cabrera, A. L. (1950). Notes on the Brazilian Senecioneae. Brittonia 7(2): 53-74.

Hind, [D. J.] N. (1992). *Pseudogynoxys cabreræ*. Kew Mag. 9(4): 153-156.

Perret, P. & R. Martini. (2001). Notula 85. *Pseudogynoxys benthamii* Cabrera (Compositae-Senecioneae) est un nom légitime. In: L. Ramella & P. Perret (eds), Notulae ad Floram paraquaiensem, [82-]85. Candollea 56(1): 127-129.

Pruski, J. F. (1996). *Pseudogynoxys lobata* (Compositae: Senecioneae), a new species from Bolivia and Brazil. Syst. Bot. 21(1): 101-105.

Robinson, H. & Cuatrecasas, J. (1977). Notes on the genus and species limits of *Pseudogynoxys* (Greenm.) Cabrera (Senecioneae, Asteraceae). Phytologia 36(5): 177-192.

Key to species of *Pseudogynoxys*

1. Basal leaves strongly and deeply lobed; phyllaries 1.5-3 mm wide; lamina pinnately veined (Bolivia, Brazil) *P. lobata*

- Leaves entire to serrate; phyllaries 0.5–2 mm wide; lamina 3-veined from near base or subpinnately veined 2
2. (1) Leaves 3-veined from base, leaf base usually cordate (Argentina, Bolivia, Brazil, Paraguay) *P. cabreræ*
 Leaves subpinnately veined, leaf base usually acute to truncate (Mexico to northern South America, Bolivia, and occasionally cultivated in the USA) *P. cummingii*

Pseudogynoxys benthamii* sensu Cabrera, Brittonia 7(21): 56 (1950) = *Pseudogynoxys cabreræ*** H. Rob. & Cuatrec.

Pseudogynoxys cabreræ H. Rob. & Cuatrec., Phytologia 36(3): 182 (1977).

Senecio benthamii sensu Baker in Mart., Fl. Bras. 6(3): 318 (1884), non Griseb. [Based on: 'Habitat in prov. Minas Geraës, in spibus d S. José Barbara et in Serra de S. Geraldo: *Martius!*; in Paraguay, in silvis umbrosis ad ripas fluminis prope Assomption: *Balansa* n. 902!; ad insulam Perrito: *Gibert* n. 1094!'] Lectotype (selected by Perret & Martini, 2001: 127): 'PARAGUAY. Central: "Tiges grimpantes, fleurs pourpres. L'Assomption, sur les berges ombragées du Rio Paraguay", VII. 1876, *Balansa* 902', K.

**Pseudogynoxys benthamii* sensu Cabrera, Brittonia 7(21): 56 (1950).

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay. Note: This species is also cultivated and has been seen growing in cocoa plantations in Bahia State, Brazil.

Woodland margins, riverine forest.

90–800 m.

November–August.

Note: Perret & Martini (2001) have argued that the correct name for this taxon is *P. benthamii* Cabrera. However, they cited in synonymy *P. cabreræ* H. Rob. & Cuatrec., noting the holotype 'ARGENTINA, Corrientes, Pedersen 1888 (US).'

Pseudogynoxys cummingii (Benth.) H. Rob. & Cuatrec., Phytologia 36(3): 185 (1977).

Gynoxys cummingii Benth., Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1852(5–7): 106 (1852)[1853].

Type: 'Jeg fandt denne klattrende Busk i Skovene paa Bjerget Aguacate i Costa-Rica. Cumming fandt den ved Panama og Friedrichsthal i Guatemala, saa at den altsaa er udbredt over hele Centralamerika.'

'Mexico to northern South America, occasionally cultivated in the United States' (Pruski, 1996). Bolivia (Santa Cruz).

Scrub.

500 m.

February–March.

Note: On the basis of Pruski's key, two collections (*Wood* 16095 and 22254) from Bolivia (Santa Cruz), key out to *P. cummingii*, although the specimen has several differences from the type material of this species at K, not least the appearance of the leaves which are pinnately veined, possess a rounded to obtuse lamina base and margins with few short-mucronate 'teeth'.

Pseudogynoxys lobata Pruski, Syst. Bot. 21(1): 104 (1996). Type: 'Brazil. Rondônia: Município de Juru, BR 364, estrada Cuiabá-Porto Velho, km 428, linha 621, estrada da Pedra Branca, km 40, 3 Jul 1984, C. A. Cid [Ferreira], J. Lima, J. Guedes & J. Coêlho 5008' Holotype: INPA; isotypes: K, NY (00579072), US (03187578). Bolivia (Santa Cruz), Brazil.

Roadsides in tall evergreen forest.

200–250 m.

June–August.

Pseudonosseris H. Rob. & Brettell, Phytologia 28(1): 59 (1974).

Type: *Liabum striatum* Cuatrec. = *Pseudonosseris striata* (Cuatrec.) H. Rob. & Brettell

References

Robinson, H. & R. D. Brettell. (1974). Studies in the Liabeae (Asteraceae). II. Preliminary survey of the genera. Phytologia 28(1): 43–63.

Pseudonosseris discolor (Muschl.) H. Rob. & Brettell, *Phytologia* 28(1): 60 (1974).

Onoseris discolor Muschl., *Bot. Jahrb. Syst.* 50(2/3), Beibl. 111: 94 (1913). Type: 'Peruvia: Inter Sandia et Cuyocuyo ad rupes, 2600–2800 m s. m. (WEBERBAUER n. 883. – Florens 1. Maii 1902).' Holotype: B†. *Liabum lanatum* Ferreyra, *Bol. Soc. Peru Bot.* 1: 17 (1948), as nom. nov. pro *Onoseris discolor* Muschl. Bolivia (La Paz), Peru.

Amongst rocks, path edges, roadsides, scrub/woodland margins.

2600–3450 m.

April–June.

La Paz: *Fuentes & Cuevas* 8624 (K); *Fuentes et al.* 10422 (K).

Psila Phil., *Anales Mus. Nac. Chile, Secc. 2, Bot.* 7: 36 (1891) = **Baccharis** L.

Psila boliviensis (Wedd.) Cabrera, *Bol. Soc. Argent. Bot.* 5(4): 210 (1955) = **Baccharis boliviensis** (Wedd.) Cabrera

Psila boliviensis (Wedd.) Cabrera var. *latifolia* (R. E. Fr.) Cabrera, *Bol. Soc. Argent. Bot.* 5(4): 210 (1955) =

Baccharis boliviensis (Wedd.) Cabrera

Psila brachylaenoides (DC.) Aristeg., *Fl. Venez.* 10(1): 316 (1964) = **Baccharis oblongifolia** (Ruiz & Pav.) Pers.

Psila trinervis (Pers.) Cabrera, *Bol. Soc. Argent. Bot.* 5(4): 211 (1955) = **Baccharis trinervis** Pers.

Psilopogon Phil., *Linnaea* 33(1): 126 (1864) = **Picrosia** D. Don

Psilopogon albiflorus Phil., *Linnaea* 33(1): 126 (1864) = **Picrosia longifolia** D. Don

Pterocaulon Elliott, *Sketchb. Bot. S.-Carolina Georgia* 2: 323 (1823).

Monenteles Labill., *Sertum Austrocal.* : 43 (1825). Type: not designated.

Chlaenobolus Cass., *Dict. Sci. Nat.* 49: 337 (1827). Type: not designated.

Type: *Conyza pycnostachya* Michx. = *Pterocaulon pycnostachyum* (Michx.) Elliott

References

Cabrera, A. L. & A. M. Ragonese. (1978). Revisión del género *Pterocaulon* (Compositae). *Darwiniana* 21(2–4): 185–257.

Malme, G. O. A.:N (1901). Beiträge zur Kenntnis der Südamerikanischen Arten der Gattung *Pterocaulon* Ell. *Bihang Kongl. Svenska Vetenskapsakad. Handl.* 27(3, 12): 1–27 + Tab. I–IV. (1901).

Key to species

1. Leaves lanose or tomentose on both surfaces, never grey tomentose *P. lanatum*
Leaves more or less glabrescent above and densely grey tomentose beneath 2
2. (1) Glomerules in lax panicles, with internodes clearly visible in inflorescence *P. virgatum*
Glomerules in dense spikes, simple or branched, internodes not visible in inflorescence 3
3. (2) Spikes short, 4–8 cm long, ovoid, frequently solitary; lower leaves 15–35 mm wide
P. purpurascens
Spikes much longer, cylindrical 4
4. (3) Leaves oblanceolate or linear, 10–20 mm wide; male florets 2–5 per capitulum *P. lorentzii*
Lower leaves obovate-elliptic, 18–40 mm wide; upper leaves ovate-oblong; male florets 1–3 per capitulum *P. alopecuroides*

***Pterocaulon alopecuroides** (Lam.) DC., *Prodr.* 5: 454 (1836).

Conyza alopecuroides Lam., *Encycl.* 2: 93 (1786). Types: 'On trouve cette plante à le Martinique, dans les prés qu'on nomme Savannes. M. Commerson l'a observé au Brésil. ■ (v.s. in h. Juss.) ... Elle croît aux Antilles. (v.s.)'. Lectotype (effectively selected by Cabrera & Ragonese, 1978: 208 as holotype): 'Martinique' (without any other details), P – see following note. Note: In P-LA there is one sheet 315/4 (from Martinique) that corresponds to this species, although doubtless there is a corresponding sheet in P-JU; this distinction was not made by Cabrera & Ragonese.

Chlaenobolus alopecuroides (Lam.) Cass., *Dict. Sci. Nat.* 49: 339 (1827).

- Pterocaulon alopecuroides* (Lam.) DC. [var.] β *polystachyum* DC., Prodr. 5: 454 (1836). Type: '■ in insul. Caribaeis? (v. s. comm. à cl. Lambert.)'. Holotype: G-DC. Note: Cabrera & Ragonese (1978: 208) cited the holotype as in P; this must be considered an isotype.
- Pterocaulon interruptum* DC., Prodr. 5: 454 (1836). Type: '■ in Brasiliâ circa Bahiam (*Salzm.!* [7]), Rio-Janeiro (*Gaudich.!* [181] \times 2), prov. Rio-Grande (h. mus. Bras.!)'. The *Salzmann* and *Gaudichaud* collections are in G-DC; the 'h. Mus. Bras.' material is almost certainly in P. Lectotype (selected by Cabrera & Ragonese, 1978: 208): 'Bahía. *Salzman.*', G. Note: Although lectotypified by Cabrera & Ragonese more precision is needed and G-DC should be the correct citation. Isolectotype: K.
- Pterocaulon interruptum* DC. [var.] α *polystachyum* DC., Prodr. 5: 454 (1836). Type: '(v.s.)'. Note: No material is marked as this taxon in G-DC.
- Pterocaulon interruptum* DC. [var.] β *monostachyum* DC., Prodr. 5: 454 (1836). Type: '(v.s.)'. Note: No material is marked as this taxon in G-DC.
- Baccharis erioptera* Benth., Ann. Nat. Hist. 2(12): 441 (1839). Type: ['British Guiana:'] 'Dry Savannahs on the Upper Rupunoony. *Schomburgk*, n. 709.' Holotype: K; isotype: P.
- **Pterocaulon latifolium* Kuntze, Revis. Gen. Pl. 3(3): 169 (1898). Type: 'Bolivia: 400 m Yapacani.' ['BOLIVIA. Yapacani, 400 m, Jun 1892, *Kuntze* s.n.' - according to Wetter & Zanoni, 1985: 336]. Holotype: NY (00232703).
- Pterocaulon alopecuroides* (Lam.) DC. [var.] α *glabrescens* Chodat, Bull. Herb. Boissier, Ser. 2, 2(4): 387 (1902). Types: 'Suffrutex 0,5-1,2 m, capitula argentea, in dumeto San Bernadino, Feb., [*Hassler*] 6079; l' Assomption, dans les champs incultes, Avril, [*Balansa*] 837 (= *P. spicatum* Griseb. Symbol.)'. Lectotype (chosen by Cabrera & Ragonese, 1978: 209): '*Hassler* 6079' G; isolectotype: P. Note: The *Balansa* 837 syntype is in P.
- Pterocaulon alopecuroides* (Lam.) DC. [var.] γ *salicifolium* Chodat, Bull. Herb. Boissier, Ser. 2, 2(4): 387 (1902). Type: not cited except as '... (*P. interruptum* DC. p. p.)'.
- Pterocaulon virgatum* (L.) DC. f. γ *alopecuroides* (Lam.) Arechav., Anal. Mus. Nac. Montevideo 6: 268 (1906)[1908].
- Pterocaulon virgatum* (L.) DC. f. δ *subcorymbosa* Arechav., Anal. Mus. Nac. Montevideo 6(3, 3): 268 (1906)[1908]. Type: not cited. Note: Cabrera & Ragonese (1978: 209) cited 'Abril y Marzo. *Arechavaleta*' MVM (17694 p.p.).
- Antigua, Argentina, Bolivia (La Paz, Santa Cruz, Tarija), Brazil, Colombia, Cuba, Dominican Republic, Ecuador, Guadeloupe, Guayana, Haiti, Jamaica, Martinique, Paraguay, Peru, Puerto Rico, St. Croix, Trinidad, Uruguay, Venezuela.
- Woodland margins, cerrado, disturbed soils, grassland, sandy banks, margins of swampy hollows. 0-2000 m.
- January-August.
- Vernacular names: JAKARE KA'A, TORO KA'A MOROTÍ (Freire, 1998); CARÁI CASÓ, CAARÁI TUYÁ CASÓ, NOOM(A)RÁ, NOOM(A)RÁ ITAÁ, SUP TOPTOBELITÉ, TOTO CAÁ, TORO CAÁ MOROTÍ, TUYÁ CASÓ, YAKARÉ CAÁ (Freire et al., 2006).
- Pterocaulon alopecuroides* (Lam.) DC. [var.] α *glabrescens* Chodat, Bull. Herb. Boissier, Ser. 2, 2(4): 387 (1902) = ***Pterocaulon alopecuroides*** (Lam.) DC.
- Pterocaulon alopecuroides* (Lam.) DC. [var.] β *polystachyum* DC., Prodr. 5: 454 (1836) = ***Pterocaulon alopecuroides*** (Lam.) DC.
- Pterocaulon alopecuroides* (Lam.) DC. [var.] γ *salicifolium* Chodat, Bull. Herb. Boissier, Ser. 2, 2(4): 387 (1902) = ***Pterocaulon alopecuroides*** (Lam.) DC.
- Pterocaulon hassleri* Chodat, Bull. Herb. Boissier, Ser. 2, 2(4): 387 (1902) = ***Pterocaulon lanatum*** Kuntze
- Pterocaulon interruptum* DC., Prodr. 5: 454 (1836) = ***Pterocaulon alopecuroides*** (Lam.) DC.
- Pterocaulon interruptum* DC. [var.] β *monostachyum* DC., Prodr. 5: 454 (1836) = ***Pterocaulon alopecuroides*** (Lam.) DC.
- Pterocaulon interruptum* DC. [var.] α *polystachyum* DC., Prodr. 5: 454 (1836) = ***Pterocaulon alopecuroides*** (Lam.) DC.
- ****Pterocaulon lanatum*** Kuntze, Revis. Gen. Pl. 3(3): 169 (1898). Types: 'Bolivia: 400-200 m Yapacani, Santa Cruz, Prov. Velasco.' ['BOLIVIA. Santa Cruz, 740 m, Jun 1892, *Kuntze* s.n.; Prov. Velasco, 200 m, Jul 1892, *Kuntze* s.n.' - according to Wetter & Zanoni, 1985: 336]. Lectotype (selected by Cabrera & Ragonese, 1978: 239): 'Bolivia: Santa Cruz. 340 m. VI.92. *Otto Kuntze*' - NY (00232701). Syntype (Velasco, 200 m, *Kuntze* s.n.: NY (00232702).

Pterocaulon hassleri Chodat, Bull. Herb. Boissier, Ser. 2, 2(4): 387 (1902). Type: 'Inter rupes, suffrutex subsimplex 0,5–0,8, petalis albis, San Bernardino, Febr., [Hassler] 6041.' Holotype: ?G; isotype: S. Argentina, Bolivia (Bení, Santa Cruz), Paraguay.
Dry grassland, sandy soils, degraded cerrado.
0–500 m.
November–May.
Vernacular names: KITÓ RAVIJU, TATA RAGUE (Freire, 1998).

Pterocaulon latifolium* Kuntze, Revis. Gen. Pl. 3(3): 169 (1898) = *Pterocaulon alopecuroides*** (Lam.) DC.
Pterocaulon lorentzii Malme, Kongl. Svenska Vetenskapsakad. Handl. 32(5): 55 (1899), nom. nud. =
Pterocaulon lorentzii Malme

****Pterocaulon lorentzii*** Malme, Bihang Kongl. Svenska Vetenskapsakad. Handl. 27(3, 12): 22 (1901). Type: [Brazil:] 'Rio Grande do Sul: Cachoeira (In campo parico, arenoso, parce gramíneo. 18¹⁰/293. MALME 578.)' Holotype: S.

Pterocaulon lorentzii Malme, Kongl. Svenska Vetenskapsakad. Handl. 32(5): 55 (1899), nom. nud.
Pterocaulon malmeanum Chodat, Bull. Herb. Boissier, Ser. 2, 2(4): 388 (1902). Types: [Paraguay:] 'Suffrutex 0,5–1,2 m., flores argentei, in campo montano, Cordill. de Altos, April, [Hassler] 4051; B. Balansa, Plaine d'Aregua, 836b, Janvier.' Lectotype (selected effectively by Cabrera & Ragonese, 1978: 234): 'Hassler 4051' [in citing 'isolectotypus']: P.

Pterocaulon virgatum (L.) DC. f. *α spicata* Arechav., Anales Mus. Nac. Montevideo 6(3): 268 (1906)[1908]. Type: not cited. Holotype cited by Cabrera & Ragonese, 1978: 234): MVM (17695) - an *Arechavaleta* collection, 'Sin loc.; sin no.'

Pterocaulon virgatum (L.) DC. f. *β angustifolia* Arechav., Anales Mus. Nac. Montevideo 6(3): 268 (1906)[1908]. Type: [Uruguay:] 'Vive en terrenos áridos pedregosos y también en arenosos de la costa platense. Florece por los meses de febrero y marzo.' Holotype (cited by Cabrera & Ragonese, 1978: 234): MVM (17696) - an *Arechavaleta* collection 'Arenales de la costa y terrenos áridos. Febrero.'

Argentina, Bolivia (?), Brazil, Paraguay, Uruguay.
Humid sandy soils, grassland, rocky areas.
0–500 m.

December–April.

Vernacular names: TORO KA'A KOKUERE, TUJA RETYMA (Freire, 1998); CARAÍ CASÓ, CARAÍ TUYÁ CASÓ, FREZADILLA NEGRA, NOOM(A)RÁ, NOOM(A)RÁ ITAÁ, KOCHÉ ELEU(A)RÁK, TORO KA'A KOKUERE, TUYÁ CASÓ, TUYÁ-CANILLA, TUYA RETYMA (Freire et al., 2006).

Pterocaulon malmeanum Chodat, Bull. Herb. Boissier, Ser. 2, 2(4): 388 (1902) = ***Pterocaulon lorentzii*** Malme
Pterocaulon pilcomayense Malme, Repert. Spec. Nov. Regni Veg. 8: 73 (1910) = ***Pterocaulon virgatum*** (L.) DC.
Pterocaulon pompilianum Standl. & L. O. Williams, Ceiba 1: 94 (1974) = ***Pterocaulon virgatum*** (L.) DC.
Pterocaulon purpurascens Malme, Kongl. Svenska Vetenskapsakad. Handl. 32(5) : 55 (1899), nom. nud. =
Pterocaulon purpurascens Malme

Pterocaulon purpurascens Malme, Bihang Kongl. Svensk. Vetenskapsakad. Handl. 27(3, 12): 13 (1901). Types: 'Paraguay: Colonia Risso pr. Rio Apa (In campo hinc inde Coperniciis obsito, paullo ante flammis vexato. 18³⁰/93. MALME 1014.), Guarda Francia pr. Rio Apa (In ripa fluminis Paraguay, loco aperto, erenoso parce gramíneo. 18¹⁷/1093. MALME 1014*)./Eandem speciem etiam e republica paraguayensi («Plaine d'Aregua, dans les argiles imperméables. 10 Janvier 1875.») reportavit celebr. B. BALANSA (N:o 838)'. Syntypes: *Malme* 1014, 1014*, S. Lectotype (selected by Cabrera & Ragonese, 1978: 231): *Malme* 1014, 30.9.1893 - S.

Pterocaulon purpurascens Malme, Kongl. Svenska Vetenskapsakad. Handl. 32(5) : 55 (1899), nom. nud.
Argentina, Bolivia (?), Brazil, Paraguay.
Roadsides, clayey soils, seasonally flooded grassland, Chaco saline swamp palm-forest.
0–1000 m.

October–May (–August).

Vernacular name: VIRA-VIRA POTY PYTANGY (Freire, 1998).

Pterocaulon subvirgatum Malme, Kongl. Svensk. Vetenskapsakad. Handl. 32(5): 55 (1899), nom. nud. = ***Pterocaulon virgatum*** (L.) DC.

Pterocaulon subspicatum Malme ex Chodat, Bull. Herb. Boissier, ser. 2, 2: 388 (1902) = ***Pterocaulon virgatum*** (L.) DC.

Pterocaulon subvirgatum Malme, Bihang Kongl. Svenska Vetenskapsakad. Handl. 27(3, 12): 24 (1901) = ***Pterocaulon virgatum*** (L.) DC.

****Pterocaulon virgatum*** (L.) DC., Prodr. 5: 454 (1836).

Gnaphalium virgatum L., Syst. Nat. ed. 10: 1211 (1759). Type: 'Habitat in Jamaica, Carolina.' Lectotype (selected by D'Arcy in Woodson & Schery, 1975: 1048): *Browne*, Herb. Linn. No. 993.29 (LINN).

Conyza virgata (L.) L., Sp. Pl. ed. 2, 2: 1206 (1763).

Chlenobolus virgatum (L.) Cass., Dict. Sci. Nat. 49: 340 (1827).

Pterocaulon subvirgatum Malme, Kongl. Svensk. Vetenskapsakad. Handl. 32(5): 55 (1899), nom. nud.

Pterocaulon subvirgatum Malme, Bihang Kongl. Svenska Vetenskapsakad. Handl. 27(3, 12): 24 (1901). Types:

'Paraguay: Colonia Risso pr. Rio Apa (In campis hinc inde Copernicis obsito; in consortio *Pt.*

purpurascens. 18³⁰/93. MALME 1014 B.) / Alia specimina paraguayensia examinavimus a celeberr.

BALANSA collecta (N:o 836 »Cerro Peron près de Paraguari dans les lieux herbeux. 19 Fevrier 1875.«) / Ad

eandem speciem verisimiliter pertinent specimina a TH. MORONG et N. L. BRITTON (Rio Pilcomayo;

Asunçion) et ab O. KUNTZE (Argentina: Sierra Chica de Cordoba; Bolivia: Santa Cruz) commemorata [sub nomine *Pt. virgatum* (L.) DC.]; a nobis non visa.'

Pterocaulon subspicatum Malme ex Chodat, Bull. Herb. Boissier, ser. 2, 2(4): 388 (1902). Type: '*B. Balansa*, Cerro-Peron, 830 (vid. Malme, Die Composit. der ersten Regnell'schen Exped. l.c., 55).' Note: Malme (1899: 55) actually cited this material under the name '*Pt. subvirgatum* Malme mscr.' with a different number - 'Ad eandem speciem pertinet BALANSA N:o 836 («Cerro Peron près de Paraguari, dans les lieux herbeux». 18¹⁹/275.)'. This could well be considered a superfluous name since Malme had actually published his name, *P. subvirgatum*, the year before.

Pterocaulon virgatum (L.) DC. f. *subvirgata* (Malme) Arechav., Anales Mus. Nac. Montevideo 6: 269 (1906)[1908].

Pterocaulon pilcomayense Malme, Repert. Spec. Nov. Regni Veg. 8: 73 (1910). Type: [Paraguay] 'Gran Chaco: In regione cursus inferioris fluminis Pilcomayo. In „palmares“. mens. Jun. 1906. *Rojas*, Pl. pilcom. No. 300 in Herb. Hassler.' Holotype: G; isotype: S.

Pterocaulon pompilianum Standl. & L. O. Williams, Ceiba 1: 94 (1974). Type: 'Honduras: Dept. Morazán: In boggy savanna near Las Mesas, alt. 900 m., Oct. 2, 1949, *Louis O. Williams* 16898'. Holotype: 'Herb. Esc. Agr. Panam.' [= ? PMA]; isotype: ?F.

Argentina, Bolivia (Bení, Chuquisaca, Santa Cruz), Brazil, Cuba, Dominican Republic, Haiti, Honduras, Jamaica, Mexico, Paraguay, Puerto Rico, Uruguay, USA, Virgin Islands.

Roadsides, dry grassland, clayey soils, cerrado, .

0-1500 m.

December-May.

Vernacular name: KA'A TINGY (Freire, 1998).

Pterocaulon virgatum (L.) DC. f. γ *alopecuroides* (Lam.) Arechav., Anal. Mus. Nac. Montevideo 6: 268 (1906)[1908] = ***Pterocaulon alopecuroides*** (Lam.) DC.

Pterocaulon virgatum (L.) DC. f. β *angustifolia* Arechav., Anales Mus. Nac. Montevideo 6: 268 (1906)[1908] = ***Pterocaulon lorentzii*** Malme

Pterocaulon virgatum (L.) DC. f. α *spicata* Arechav., Anales Mus. Nac. Montevideo 6: 268 (1906)[1908] = ***Pterocaulon lorentzii*** Malme

Pterocaulon virgatum (L.) DC. f. δ *subcorymbosa* Arechav., Anal. Mus. Nac. Montevideo 6: 268 (1906)[1908] = ***Pterocaulon alopecuroides*** (Lam.) DC.

Pterocaulon virgatum (L.) DC. f. *subvirgata* (Malme) Arechav., Anales Mus. Nac. Montevideo 6: 269 (1906)[1908] = ***Pterocaulon virgatum*** (L.) DC.

Ptileris Raf., Amer. Month. Mag. : 268 (1818), nom. nud. = ***Erechtites*** Raf.

Ptileris hieracifolia (L.) Raf. ex B. D. Jacks., Index Kewensis 2: 657 (1895), nom. nud. = ***Erechtites hieraciifolia*** (L.) Raf. ex DC. var. ***cacalioides*** (Fisch. ex Spreng.) Griseb.

Ptilurus D. Don, Trans. Linn. Soc. London 16(2): 218 (1830) = **Leucheria** Lag.

Pugiopappus A. Gray, Explor. Railroad Pacific 4: 104 (1857) = **Coreopsis** L.

Pycnocephalum (Less.) DC., Prodr. 5: 83 (1836).

Vernonia Schreb. sect. *Pycnocephalum* Less., Linnaea 6(4): 629 (1831). Type: Not stated. Lectotype (selected by MacLeish, 1985: 461): *Vernonia plantaginifolia* Less. = *Pycnocephalum plantaginifolium* (Less.) DC.

Chresta DC. sect. *Pycnocephalum* (Less.) Gardner, London J. Bot. 1: 240 (1842).

Eremanthus Less. sect. *Pycnocephalum* (Less.) Baker in Mart., Fl. Bras. 6(2): 168 (1873).

Lectotype (selected by MacLeish, 1985: 461): *Pycnocephalum plantaginifolium* (Less.) DC.

References

Gardner, G. (1842). Characters of three new species of *Chresta*; with remarks on the identity of *Pycnocephalum* and *Chresta*. London J. Bot. 1: 238–241 & tab. VIII & IX.

MacLeish, N. F. F. (1985). Revision of *Chresta* and *Pycnocephalum* (Compositae: Vernonieae). Syst. Bot. 10(4): 459–470.

Pycnocephalum angustifolium (Gardner) MacLeish, Syst. Bot. 10(4): 462 (1985).

Chresta angustifolia Gardner, London J. Bot. 1: 240, t. 8 (1842). Type: [Brazil:] 'Gardn. Herb. Brasil. n. 3802. ...

HAB. In umbrosis montosis apud Villa de Arrayas Provinciae Goyazanæ Brasiliæ, florens Aprili.' Holotype (noted by MacLeish, 1985: 462): BM; isotypes: F (1013164, 1012051 – fragments), G × 3, K, NY (00163362), P, S, W. Note: Since Gardner wrote the paper citing clearly at the end 'Kew, April, 1842.' he would have had access to both his own material and that in Hooker's private herbarium, now known as 'herb.

Hookerianum' forming part of the general collections in K. This would preclude categorically calling the BM specimen the holotype.

Eremanthus angustifolius (Gardner) Baker in Mart., Fl. Bras. 6(2): 170 (1873).

Eremanthus rivularis Taub., Bot. Jahrb. Syst. 21(4): 453 (1896). Type: [Brazil:] 'Habitat secus rivos in ditione fluminis Maranhão superioris: ULE n. 2962. – Flor. m. Sept.' Holotype: B†; isotype: F (971118 – 2 leaves and several florets, together with a photograph of the source isotype), P (?37563).

Bolivia (Santa Cruz), Brazil.

River and pool margins, rocky streambeds, rocky grassland.

1000–1200 m.

April–November.

Pyrethrum acmella (L.) Medik., Hist. Comentar. Acad. Elect. Sci. Theod.-Palat. 3: 243, t. 19 (1775) = **Blainvillea acmella** (L.) Philipson

Pyrethrum parthenium (L.) J. E. Smith, Fl. Brit. 2: 900 (1800) = **Tanacetum parthenium** (L.) Sch.Bip.

Q

Quechualia H. Rob., Proc. Biol. Soc. Washington 106(4): 780 (1993).

Vernonia sect. *Lepidaploa* (Cass.) DC. subsect. *Laurifoliae* Cabrera, Darwiniana 6(3): 350 (1944), p.p. Type: not stated.

Type: *Vernonia fulva* Griseb. = **Quechualia fulva** (Griseb.) H. Rob.

Reference

Robinson, H. (1993). Three new genera of Vernonieae from South America, *Dasyandantha*, *Dasyanthina* and *Quechualia* (Asteraceae). Proc. Biol. Soc. Washington 106(4): 775–785.

Key to species included in *Quechualia* (modified from Robinson, 1993)

1. Outer phyllaries all appressed or with stiff spreading tips; pedicels less than 1 mm wide; corolla throats usually sparsely pubescent on inner surface, hairs long 2
Outer phyllaries with weakly to strongly recurved tips; pedicels c. 1 mm wide; corolla throats glabrous or with few hairs on inner surface 3
2. (1) Lamina distinctly gland-dotted beneath outer phyllaries obtuse to short-acute *Q. fulva*
Lamina lacking obvious gland-dots beneath; outer phyllaries sharp-acute to short-acuminate *Q. trixioides*
3. (1) Capitula in clusters on leafless lateral inflorescence branches; tips of phyllaries often tightly recurved, densely tomentellous; plants slender shrubs *Q. cardenasii*
Capitula few at apices of leafy inflorescence branches; tips of phyllaries only partly recurved, densely pilose; plants scandent *Q. smithii*

Quechualia cardenasii (H. Rob.) H. Rob., Proc. Biol. Soc. Washington 106(4): 783 (1993).

Vernonia cardenasii H. Rob. Phytologia, 49(3): 262 (1981). Type: 'BOLIVIA: Cochabamba: Cordillera of Chimore, 2700 m. Shrub, slender 2-3 m high. At forest edge. Nov. 1, 1937. M. Cardenas 2079'. Holotype: US (01694060).

Bolivia (Cochabamba).

Forest margins.

2700 m.

October–November.

Quechualia fulva (Griseb.) H. Rob., Proc. Biol. Soc. Washington 106(4): 783 (1993).

**Vernonia fulva* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 164 (March–April 1879), Symb. Fl. Argent. 164 (1879). Type: 'O.: Oran, pr. urbem et in sylvis virgineis Tabacal.' Syntypes: Lorentz & Hieronymus 341, 381, 531, GOET. All syntypes are marked 'Argentina' in the type database in GOET.

**Vernonia senecionifolia* [as *senecionaefolia*] Britton, Bull. Torrey Bot. Club 18: 331 (1891). Type: 'Yungas, 6,000 ft. ([Rusby] 1730).' Holotype: NY (00277673) – ex Columbia College Herbarium; isotype: NY (00277672) – ex College of Pharmacy Herbarium, NY (00277674) – ex Princeton University Herbarium, US (01400461).

Cacalia fulva (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 138 (1898).

Vernonia herzogii Ekman ex Herzog, Pflanzenw. Bolivischen Anden : 189 (1923), nom. nud.

**Vernonia fulva* Griseb. f. *tomentosa* J. Koster, Blumea 5(3): 643 (1945). Type: [Bolivia:] 'Hab.: kletternd im feuchten Wald, des unteren Coranithales, circa 1800 m alt., Mai 1911, Bl. lila, [Herzog] n. 2152.' Holotype: L (94437189).

Argentina, Bolivia (La Paz), Peru.

Cloud forest.

1800–2400 m.

July–November.

Note: Cabrera (1978: 50) observed that this species is frequently cultivated in parks and gardens of Gran Buenos Aires.

Quechualia smithii H. Rob., Proc. Biol. Soc. Washington 106(4): 784 (1993). Type: 'BOLIVIA: Santa Cruz, Prov. Manuel Maria Caballero, 50 km ala norte de Mataral (en la carretera Santa Cruz–Comarapa) pasando

por San Juan del Potrero y bajando a la cunche del alto Rio Ichilo, 2000-2100 m, 26 May 1989, *D.N. Smith, G. Quintana & V. García* 13451'. Holotype US (03209868); isotypes: LPB, MO.

Bolivia (Cochabamba, Santa Cruz).

Cloud forest.

2000-2300 m.

May-September.

Quechualia trixioides (Rusby) H. Rob., Proc. Biol. Soc. Washington 106(4): 783 (1993).

**Vernonia trixioides* Rusby, Mem. Torrey Bot. Club 6(1): 54 (1896). Type: [Bolivia:] 'Mapiri, July-Aug., 1892 ([Bang] 1484).' Holotype: NY (00277722); isotypes: F, LD, NY × 2 (00274516, 00277723), US (00046783), Z × 2 (000004090, 000004091).

Bolivia (La Paz), Peru.

July-August.

Note: Jones (1980: 37) included *Vernonia cotaniensis* Hieron. in the synonymy of *Vernonia fulva*, alongside *Vernonia trixioides*. Robinson (1988: 944) clearly considered *Vernonia cotaniensis* a synonym of *Lessingianthus ligulifolius* (Mart. ex DC.) H. Rob.). Robinson's view on these as separate taxa is accepted, but with *Vernonia cotaniensis* (as a synonym of *V. ligulifolius*) still considered a *Vernonia*, *V. fulva* and *V. trixioides* as species of *Quechualia*.

R

Raulinoreitzia R. M. King & H. Rob., *Phytologia* 22: 113 (1971).

Eupatorium L. sect. *Raulinoreitzia* (R. M. King & H. Rob.) Cabrera, *Fl. Illustr. Catarinense Part 1. Monogr. Compositas 4. Tribo Eupatorieae* : 496 (1991).

Type: *Baccharis crenulata* Spreng. = **Raulinoreitzia crenulata** (Spreng.) R. M. King & H. Rob.

References

Cabrera, A. L. 1989 [1991]. *Fl. Illustr. Catarinense. Part 1 Monogr. Compositas 4. Tribo Eupatorieae. Itajaí, Santa Catarina, Brazil.* pp. 413–760.

Cabrera, A. L. 1996. *Compositae III. Asteroideae. Eupatorieae.* In: R. Spichiger & L. Ramella (eds), *Flora del Paraguay*. 25. Geneva, Conservatoire et Jardin botaniques de la Ville de Genève & Missouri Botanical Garden.

King, R. M. & H. Robinson (1971). *Studies in the Eupatorieae (Asteraceae). LIII. A new genus, Raulinoreitzia.* *Phytologia* 22: 113–114.

Note: Examination of material of *Villarroel* et al. 158 (USZ), collected in Santa Cruz, suggests that it may represent an immature specimen of *Raulinoreitzia tremula* (Hook. & Arn.) R. M. King & H. Rob., a species presently known from Argentina, Brazil and Uruguay.

Raulinoreitzia crenulata (Spreng.) R. M. King & H. Rob., *Phytologia* 22: 113/4 (1971).

Baccharis crenulata Spreng., *Syst. Veg.*, ed. 16, 3: 465 (1826). Type: 'Brasil. Sello.'

Eupatorium xylophyloides DC., *Prodr.* 5: 149 (1836). Types: '■ in Brasiliae prov. Rio-Grande et Sancti-Pauli (h. mus. imp. Bras. n. 997 et 513), prov. Minarum General. (*Gaud!* in h. Mus. Par.), circa Tejuco (*Vauthier!* pl. exs. n. 277). ... (v.s.)'. Syntypes: 'h. imp. Bras. 513, 997', and the *Gaudichaud* material, P; *Vauthier* 277, G-DC.

Eupatorium piauhyense Gardner, *London J. Bot.* 5: 472 (1846). Type: Brazil, '[Gardner] 2645. ... HAB. Near Paranagoa, Province of Piauhy, Brazil. Fl. in Sept.' Types: BM, K,

Eupatorium pentanthum Sch.Bip., *Linnaea* 22(5): 572 (1849), nom. nud. based on '(*Claussen!* n. 256.) ([*Regnell!* I. 227.)'

Eupatorium neurophyllum Mart. ex Baker in Mart., *Fl. Bras.* 6(2): 321 (1876), nom. nud. pro syn.

Mikania glastifolia Mart. ex Baker in Mart., *Fl. Bras.* 6(2): 321 (1876), nom. nud. pro syn.

**Eupatorium crenulatum* (Spreng.) Spreng. ex Hieron., *Bot. Jahrb. Syst.* 22(4–5): 776 (1897), comb. illegit., non *E. crenulatum* Gardner (1846) (= *Trichogonia crenulata* (DC.) D. J. N. Hind)

Argentina, Bolivia (Bení, Cochabamba, La Paz, Santa Cruz), Brazil, Peru.

Scrub, woodland margins, damp areas in cerrado.

200–1800 m.

March–May.

Vernacular name: EUPATÓRIO (Cabrera & Klein, 1991).

Rhinactina Willd., *Ges. Naturf. Freunde Berl. Mag.* 1: 139 (1807) = **Jungia** L.f.

Rhodactinea Gardner, *London J. Bot.* 6: 449 (1847) = **Barnadesia** Mutis.

Rhodactinea rosea (Lindl.) Gardner, *London J. Bot.* 6: 450 (1847) = **Barnadesia caryophylla** (Vell.) S. F. Blake

Rhodoseris Turcz., *Bull. Soc. Imp. Naturalistes Moscou* 24(2): 95, t. 2 (1851) = **Onoseris** Willd.

Rhysolepis S. F. Blake, *Contr. Gray Herb.* n. s. 52: 36 (1917).

Rhysolepis anchusifolia (DC.) H. Rob. & A. J. Moore, *Proc. Biol. Soc. Washington* 117(3): 425 (2004) = **Viguiera anchusifolia** (DC.) Baker

Rhysolepis australis (S. F. Blake) H. Rob. & A. J. Moore, *Proc. Biol. Soc. Washington* 117(3): 425 (2004) = **Viguiera australis** S. F. Blake

Rhysolepis bishopii (H. Rob.) H. Rob. & A. J. Moore, *Proc. Biol. Soc. Washington* 117(3): 426 (2004) = **Viguiera bishopii** H. Rob.

Rhysolepis emaciata H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 434 (2004) = **Viguiera emaciata** (H. Rob. & A. J. Moore) D. J. N.Hind
Rhysolepis fusiformis (S. F. Blake) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 426 (2004) = **Viguiera fusiformis** S. F. Blake
Rhysolepis helianthoides (Rich.) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 427 (2004) = **Viguiera pazensis** Rusby
Rhysolepis lanceolata (Britton) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 429 (2004) = **Viguiera lanceolata** Britton
Rhysolepis retroflexa (S. F. Blake) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 431 (2004) = **Viguiera retroflexa** S. F. Blake
Rhysolepis tucumanensis (Hook. & Arn.) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 432 (2004) = **Viguiera tucumanensis** Hook. & Arn.
Rhysolepis weddellii (Sch.Bip. ex Wedd.) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 432 (2004) = **Viguiera weddellii** Sch.Bip. ex S. F. Blake

Ridan Adans., Fam. Pl. 2: 120, 598x (1763), nom. rej. = **Verbesina** L.

Riencourtia Cass., Bull. Soc. Philom. Paris 1818: 76 (1818) [Originally published as *Riencurtia* Cass.; spelling corrected in Dict. Sci. Nat. 45: 466 (1827)].

Pontesia Vell., Fl. Flum. 8: t. 147 (1825)[7 Sept. - 28 Nov. 1829]. Type: *Pontesia serrata* Vell. = ?*Riencourtia latifolia* Gardner

Tetrantha Poit. ex DC., Prodr. 5: 693 (1836) [originally appearing as '*Petrantha* Poit.' on p. 503], nom. nud. pro syn.

Tetrantha Poit. ex Baker in Mart., Fl. Bras. 6(3): 143 (1884), nom. nud. pro syn.

Type: *Riencurtia spiculifera* Cass. = *Riencourtia pedunculosa* (Rich.) Pruski

Note: As originally published in 1818 Cassini proposed the name *Riencurtia*, a name used several times up until Dict. Sci. Nat. 38: 18 (Dec. 1825). However, in Dict. Sci. Nat. 45: 466 (1827) Cassini used the variant spelling, *Riencourtia* for the first time. Since the genus was named after his wife's family name, as explained by King & Dawson (1975) in the Introduction to *Cassini on Compositae*, this correction is accepted.

References

Pruski, J. F. (1998). *Compositae* of the Guayana Highland–XIII. New combinations in *Conyza* (*Astereae*), *Praxelis* (*Eupatorieae*), and *Riencourtia* (*Heliantheae*) based on names proposed by L.C.M. Richard. *Brittonia* 50(4): 473–482.

Riencourtia angustifolia Gardner, London J. Bot. 7: 287 (1848) = **Riencourtia oblongifolia** Gardner

Riencourtia oblongifolia Gardner, London J. Bot. 7: 287 (1848). Type: [Brazil:] '[Gardner] 3279. ... HAB. Arid bushy places near Natividade, Province of Goyaz. Dec., 1839.' Types: K, NY (00232806).

Riencourtia angustifolia Gardner, London J. Bot. 7: 287 (1848). Type: [Brazil:] '[Gardner] 3278. ... HAB. Dry Campos near Natividade, Province of Goyaz. Dec., 1839.' Types: K, NY (00232802, 00232803).

Leiomphalus aggregatus Less. ex Baker in Mart., Fl. Bras. 6(3): 144 (1884), nom. nud. pro syn.

Riencourtia oblongifolia Gardner var. *angustifolia* (Gardner) Baker in Mart., Fl. Bras. 6(3): 144 (1884).

Bolivia (Santa Cruz), Brazil.

Cerrado.

360–500 m.

March–June.

Riencourtia tenuifolia Gardner, London J. Bot. 7: 287 (184). Type: [Brazil:] '[Gardner] 4249. ... HAB. Dry Campos near San Domingos, Province of Goyaz. May, 1840.' Types: BM, K.

Bolivia (Santa Cruz), Brazil.

Cerrado.

500 m.

February–March.

Robertia DC. in Lam. & DC., Fl. Franç., ed. 3, 6: 453 (1815) = **Hypochoeris** L.

Rolandra Rottb., Soc. Med. Havn. Collect. 2: 256 (1775).

Type: *Rolandra argentea* Rottb. = **Rolandra fruticosa** (L.) Kuntze

Rolandra argentea Rottb., Soc. Med. Havn. Collect. 2: 256 (1775) = **Rolandra fruticosa** (L.) Kuntze

Rolandra diacantha Cass., Dict. Sci. Nat. 46: 171 (1827) = **Rolandra fruticosa** (L.) Kuntze

Rolandra fruticosa (L.) Kuntze, Revis. Gen. Pl. 1: 360 (1891).

Echinops fruticosus L., Sp. Pl.: 815 (1753). Type: 'Habitat in America meridionali.' Lectotype (selected by Howard, 1989: 595): [icon] '*Echinops foliis lanceolatis, dentatis, capitulis axillaribus*' in Plumier in Burman, Pl. Amer.: 114, t. 123, f. 1. (1757).

Rolandra argentea Rottb., Soc. Med. Havn. Collect. 2: 256 (1775). Type: Based on Sloane, Voy. Isl. Madera 1: 43, Tab. 7, fig. 3. [*Amaranthoides fruticosum, folijs longis, angustis, subtus niveis*. Cat. pl. Jam. p. 48] (1707). 'I found it in Madera Island, or one of the Caribes'. Holotype: [Herb. Sloane, Vol. 2: 107] BM (000588965).

Echinops nodiflorus Lam., Encycl. 2: 337 (1786). Type: 'Nous avons vu plusieurs rameaux de cette plante dans l'Herbier de M. de Jussieu; ... On trouve cette plante en beaucoup d'endroits, dans l'Isle de la Martinique. ...' Holotype: P-JU.

Rolandra diacantha Cass., Dict. Sci. Nat. 46: 171 (1827). Type: Not specified, but based on a collection in Jussieu's herbarium.

Rolandra monacantha Cass., Dict. Sci. Nat. 46: 171 (1827). Type: Not specified, but based on a collection in Jussieu's herbarium.

Bolivia (Pando), Brazil, Colombia, Costa Rica, French Guiana, Guyana, Honduras, Panama, Peru, Puerto Rico, Surinam, Venezuela. Adventive in Japan, Java.

Rolandra monacantha Cass., Dict. Sci. Nat. 46: 171 (1827) = **Rolandra fruticosa** (L.) Kuntze

Rolandra reptans Willd. ex Less., Linnaea 4(3): 343 (1829), nom. nud. pro syn. = **Trichospira verticillata** (L.) S. F. Blake

Rolandra terminalis Spreng., Syst. Veg., ed. 16, 3: 673 (1826) = **Ichthyothere terminalis** (Spreng.) S. F. Blake

Rosalesia La Llave in La Llave & Lex., Nov. Veg. Descr. 1: 14 (1824) = **Brickellia** Elliott

Rothia degenerica Kuntze, Revis. Gen. Pl. 3(3): 169 (1898) = **Schkuhria degenerica** (Kuntze) R. E. Fr.

Rothia intermedia Kuntze, Revis. Gen. Pl. 3(3): 170 (1898) = **Schkuhria multiflora** Hook. & Arn.

Rothia pinnata (Lam.) Kuntze, Revis. Gen. Pl. 3(3): 170 (1898) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Rothia pinnata (Lam.) Kuntze α *pallida* Kuntze, Revis. Gen. Pl. 3(3): 170 (1898), pro parte = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Rothia pinnata (Lam.) Kuntze β *purpuascens* Kuntze, Revis. Gen. Pl. 3: 170 (1898), pro parte = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Rothia pusilla (Wedd.) Kuntze, Revis. Gen. Pl. 3(3): 170 (1898) = **Schkuhria multiflora** Hook. & Arn.

?*Rudbeckia densifolia* Sm., in Rees, Encycl. : 30 (1819) = **Viguiera anchusifolia** (DC.) Baker

S

Sabazia Cass., Dict. Sci. Nat. 46: 480 (1827).

Sabazia microglossa DC., Prodr. 5: 497 (1836) = **Galinsoga parviflora** Cav.

Sabazia microglossa DC. var. *β puberula* DC., Prodr. 5: 497 (1836) = **Galinsoga parviflora** Cav.

Sabazia urticifolia (Kunth) DC., Prodr. 5: 497 (1836) = **Galinsoga quadriradiata** Ruiz & Pav.

Sabazia urticifolia (Kunth) DC. var. *venezuelensis* Steyererm., Fieldiana, Bot. 28: 672 (1953) = **Galinsoga quadriradiata** Ruiz & Pav.

Salmea DC., Cat. Pl. Horti Monsp. : 140 (1813).

Hopkirkia Spreng., Novi Provent. : 23 (1819). Type: *Salmea eupatoria* DC. = **Salmea scandens** (L.) DC.

Fornicaria Raf., Sylva Tellur. : 116 (1838). Type: *Fornicaria scandens* (L.) Raf. = **Salmea scandens** (L.) DC.

Salmeopsis Benth. in Benth. & Hook. f., Gen. Pl. 2: 197, 381 (1873); Hooker's Icon. Pl., ser. 3, 2 (12 of the whole): 1152 (Dec. 1873). Type: *Salmeopsis clausenii* Benth. = **Salmea scandens** (L.) DC.

Type (cons.) : *Bidens scandens* L. = **Salmea scandens** (L.) DC.

References

Blake, S. F. (1915). A revision of *Salmea* and some allied genera. J. Bot. 53(No. 631): 193–236.

Bolick, M. R. (1991). Systematics of *Salmea* DC. (Compositae: Heliantheae). Syst. Bot. 16(3): 462–477.

Robinson, H. (2006). *Salmea*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(2): 190(6).

Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 79–83.

Salmea eupatoriea DC., Cat. Pl. Horti Monsp. : 141 (1813) = **Salmea scandens** (L.) DC.

Salmea eupatoria DC. [var.] *β intermedia* DC., Prodr. 5: 493 (1836) = **Salmea scandens** (L.) DC.

Salmea grandiceps Cass., Dict. Sci. Nat. 47: 88 (1827) = **Salmea scandens** (L.) DC.

Salmea mikanioides Britton. Bull. Torrey Bot. Club 19: 150 (1892) = **Oblivia mikanioides** (Britton) Strother

Salmea nitida (Llave & Lex.) Sch.Bip. ex Klatt, Leopoldina 23: 145 (1887) = **Salmea scandens** (L.) DC.

Salmea oppositiceps Cass., Dict. Sci. Nat. 47: 89 (1827) = **Salmea scandens** (L.) DC.

Salmea parviceps Cass., Dict. Sci. Nat. 47: 89 (1827) = **Salmea scandens** (L.) DC.

Salmea salicifolia Brong. ex Neumann, Rev. Hort., ser. 3, 1: 87 (1847) = **Salmea scandens** (L.) DC.

***Salmea scandens** (L.) DC., Cat. Pl. Horti Monsp. : 141 (1813).

Bidens scandens L., Sp. Pl. : 833 (1753). Type: 'Habitat in Vera Cruce.' Lectotype (selected by Blake in J. Bot. 53: 197, 1915; Moore in Fawcett & Rendle, Fl. Jamaica 7: 241, 1936 restricted the choice): Herb. Clifford: 399, *Bidens* 5 (BM-000646991).

Fornicaria scandens (L.) Raf., Sylva Tellur. : 116 (1838).

Santolina amellus L., Syst. Nat., ed. 10, 2: 1207 (1759); Sp. Pl. ed. 2, 2: 1179 (1763). Type: 'Habitat in Jamaica.'

Lectotype (selected by Wussow et al., Syst. Bot. 10: 263, 1985): *Browne*, Herb. Linn. No. 984.3. (LINN).

Calea amellus (L.) L., Sp. Pl., ed. 2 : 1179 (1763).

Salmea eupatoriea DC., Cat. Pl. Horti Monsp. : 141 (1813). Type: 'Hab. verosimiliter in Americae meridionalis insulis; in hortis interdum occurrit sub nomine vale erroneo Eupatorii Gouani. ■' Holotype: ?MPU.

Hopkirkia eupatoria (DC.) Spreng., Novi Provent. : 23 (1819).

Eupatorium gouani hort. ex Spreng., Novi Provent. : 23 (1819), nom. nud. pro syn.

Spilanthes nitidus La Llave & Lex., Nov. Veg. Descr., fasc. 1: 28 (1824). Type: [Mexico:] 'Crescit in S. Jose del Corral ad vius in montosis; florebat martio et aprili. *Llav.*' Holotype: G.

Salmea grandiceps Cass., Dict. Sci. Nat. 47: 88 (1827). Type: not specifically designated, but all three species were based on material from the following 'Nous avons fait cette description en 1816 sur trois échantillons de l'herbier de M. de Jussieu, où ils étoient réunis dans la même enveloppe et faussement étiquetés *Mikania Houstonis.*' Syntypes: P-JU.

Salmea parviceps Cass., Dict. Sci. Nat. 47: 89 (1827). Type: see above.

Salmea oppositiceps Cass., Dict. Sci. Nat. 47: 89 (1827). Type: see above.

Salmea eupatoria DC. [var.] *β intermedia* DC., Prodr. 5: 493 (1836). Type: '■in Jamaica! ... (v.s.)'. Note: there are two specimens in G-DC, only one, s. coll. indicating it was collected in Jamaica.

Salmea salicifolia Brong. ex Neumann, Rev. Hort., ser. 3, 1: 87 (1847). Type: not stated. Note: this description was part of a short article titled 'Note sur quelques plantes nouvelles ou peu connues, actuellement en fleurs dans les serres du Muséum.' This reference is to the glasshouses of the Jardin des Plantes de Paris. Neumann was 'chef des serres'. If type material exists it is most probably in P.

Salmea sessilifolia Griseb., Fl. Brit. W. I. : 375 (1861). Type: 'HAB. Jamaica!, Pd., Westmoreland.' Holotype: K; isotype: GOET. Note: Pd. = Purdie.

Salmeopsis clausenii Benth., Icon. Pl., Ser. 3, 2 (12 of whole work): 1152 (Dec. 1873). Type: 'Hab. Brazil, prov. Minas Geraes, Clausen.' Holotype: K.

Salmea nitida (Llave & Lex.) Sch. Bip. ex Klatt, Leopoldina 23: 145 (1887).

Verbesina scandens (L.) Klatt, Leopoldina 25: 106 (1889).

Salmea scandens (L.) DC. var. *amellus* (L.) Kuntze, Revis. Gen. Pl. 1: 361 (1891).

Salmea scandens (L.) DC. var. *obtusata* S. F. Blake, J. Bot. 53: 197 (1915). Type: 'GUATEMALA: Alta Vera Paz, near Coban, alt. 1342 m., March, 1879, Türkheim, 392 (type, Brit. Mus.; the Kew specimen of this number is var. *genuina*) ...' Holotype: BM.

Salmea scandens (L.) DC. var. *paraguariensis* Hassl., Repert. Nov. Spec. Regni Veg. 14: 174 (1915). Types: 'Paraguay: Balansa no. 760 in Hb. DC.! Hassler no. 3329, Pl. Hassl., l.c. idem in silvi pr. Sapucay flor. et fruct. immaturis mens. Aug., Hassler no. 12233.'

Salmea scandens (L.) DC. var. *pubescens* S. F. Blake, Brittonia 2(4): 351 (1937). Type: 'GUATEMALA: Dry stony ravine, Huehuetenango, Dept. Huehuetenango, alt. 2040 m., 11 Nov. 1934, Skutch 1644'. Holotype: GH (11713).

Salmea tomentosa D.L.Nash, Phytologia 31(4): 361 (1975). Type: 'GUATEMALA: Dept. Baja Verapaz, damp forest, mountain side north of divide north of Santa Rosa, about 1,650 m., Standley 69898'. Holotype: F (978633).

Argentina, Belize, Bolivia (Bení, Chuquisaca, La Paz, Pando, Santa Cruz), Brazil, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Venezuela.

Irrigation ditches, roadside scrub, forest margins, humid forest, dry forest.

0–2000 m.

Potentially flowering throughout much of the year.

Salmea scandens (L.) DC. var. *amellus* (L.) Kuntze, Revis. Gen. Pl. 1: 361 (1891) = **Salmea scandens** (L.) DC.

Salmea scandens (L.) DC. var. *obtusata* S. F. Blake, J. Bot. 53: 197 (1915) = **Salmea scandens** (L.) DC.

Salmea scandens (L.) DC. var. *paraguariensis* Hassl., Repert. Nov. Spec. Regni Veg. 14: 174 (1915) = **Salmea scandens** (L.) DC.

Salmea scandens (L.) DC. var. *pubescens* S. F. Blake, Brittonia 2(4): 351 (1937) = **Salmea scandens** (L.) DC.

Salmea sessilifolia Griseb., Fl. Brit. W. I. : 375 (1861) = **Salmea scandens** (L.) DC.

Salmea tomentosa D.L.Nash, Phytologia 31(4): 361 (1975) = **Salmea scandens** (L.) DC.

Salmea verticillata (L.) Druce, Bot. Exch. Club Soc. Brit. Isles 3: 423 (1914) = **Trichospira verticillata** (L.) S. F. Blake

Salmeopsis Benth. in Benth. & Hook. f., Gen. Pl. 2: 197, 381 (1876) = **Salmea** DC.

Salmeopsis clausenii Benth., Hooker's Icon. Pl. 12: 1152 (1876) = **Salmea scandens** (L.) DC.

Santolina amellus L., Syst. Nat., ed. 10, 2: 1207 (1759) = **Salmea scandens** (L.) DC.

Sanvitalia Lam., J. Hist. Nat., Paris 2: 176 (1792).

Lorentea Ortega, Nov. Pl. Descr. Dec. 4: 41, t. 5 (1797). Type: *Lorentea atropurpurea* Ortega = *Sanvitalia procumbens* Lam.

Laurentia Steud., Nom. Bot. : 466 (1821), orth var., citing '*Laurentia*' *atropurpurea* Ortega

Type: *Sanvitalia procumbens* Lam.

Reference

Ariza Espinar, L. (2000). *Sanvitalia*. In: Prodrómo de la flora fanerogámica de Argentina Central. No. 2. Familia Asteraceae: Tribu Heliantheae. pp. 72–75 (Fig. 24).

Torres, A. M. (1964). Revision of *Sanvitalia* (Compositae-Heliantheae). *Brittonia* 16(4): 417–433.

Sanvitalia helianthoides Rich. ex Willd., *Sp. Pl.* 3: 2190 (1803) = **Viguiera pazensis** Rusby

****Sanvitalia versicolor*** Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 189 (March–April 1879); *Symb. Fl. Argent.*: 189 (1879). Type: ‘T.: in confinio prov. Salta.’ Given by Torres (1964: 422) as ‘T: Salta, Argentina, Lorentz & Hieronymus 1213.’ Holotype: GOET (photo GH); isotype: CORD. Argentina, Bolivia (Chuquisaca, Cochabamba, Santa Cruz, Tarija), Paraguay. Chaqueña, dry grassy roadsides, open grassland, sandy soils, stony banks. 500–2000 m. November–May.

Sanvitaliopsis Sch.Bip. ex Greenm., *Proc. Amer. Acad. Arts* 4: 260 (1905) = **Zinnia** L.

Saubinetia Remy in Gay, *Hist. Chile Bot.* 4: 282, pl. 49 (1849) = **Verbesina** L.

Schaetzellia Klotsch in Otto & Dietr. *Allg. Gartenz.* (Otto & Dietrich) 17: 82 (1849), non Sch.Bip. (1849) = **Onoseris** Willd.

Schistocarpha Less., *Linnaea* 6(3): 409 (1831).

Neilreichia Fenzl, *Nova Gen. Sp. Pl. Vasc.* : 6 (1849)[a separately published pre-print]; *Denkschr. Kaiserlich. Akad. Wissenschaft.* 1: 258 (1850). Type: *Neilreichia eupatorioides* Fenzl = ***Schistocarpha eupatorioides*** (Fenzl) Kuntze

Zycoma Kuntze, *Revis. Gen. Pl.* 1: 373 (1891). Type: *Zycoma oppositifolia* Kuntze = ***Schistocarpha eupatorioides*** (Fenzl) Kuntze

Type: *Schistocarpha bicolor* Less.

References

Fenzl, E. (Jan 1849). *Nova quaedam genera et species vascularium*. [A separately paginated pre-print in K is paginated: 1–12, taf. I & II]; (1850) *Denkschr. Kaiserlich. Akad. Wissenschaft.* 1: 253–264 + taf. 30 & taf. 31.

Robinson, H. (1979). A study of the genus *Schistocarpha* (Heliantheae: Asteraceae). *Smithsonian Contr. Bot.* 42: 1–20 (1979).

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Turner, B. L. (1986). An overview of the genus *Schistocarpha* (Asteraceae-Heliantheae). *Phytologia* 59(4): 269–286.

Schistocarpha eupatorioides (Fenzl) Kuntze, *Revis. Gen. Pl.* 3(3): 170 (1898).

Neilreichia eupatorioides Fenzl, *Nova Gen. Sp. Pl. Vasc.*: 6 & taf. I (1849)[a separately paginated pre-print from the journal in which it was later published]; *Denkschr. Kaiserlich. Akad. Wissenschaft.* 1: 258 (1850).

Type/s: ‘Hab: in Peruvia subandina prope Cuchero (*Poeppig* Coll. in Addendis n. 74. – *Eupatorium fl. flavis*), nec non in Brasilia prope Rio Janeiro. – E terra cum Orchidearum messi ante triennium advecta enata, in tepidario horti universitatis Vindobonensis mensibus Decembris ac Jannarii 1848–49 primum flores elegantissimos explicavit.’ Robinson (1979: 9) cited the holotype as ‘W?’, although it is quite clear that Fenzl had both herbarium material and cultivated material on which the description was probably based.

Neurolaena (*Schistocarpha*) *lindenii* Sch.Bip. ex A. Gray, *Proc. Amer. Acad. Arts* 5: 185 (1861), nom. nud.

Schistocarpha lindenii J. D. Smith, *Enum. Pl. Guat.* 1: 24 (1881), nom. nud.

Zycona oppositifolia Kuntze, Revis. Gen. Pl. 1: 373 (1891). Type: 'La Guayra, Venezuela.' ['VENEZUELA. La Guayra, 26 May 1874, Kuntze 1773' – according to Wetter & Zanon, 1985: 339.] Holotype: NY (00278235); isotype: K.

Schistocarpha oppositifolia (Kuntze) Rydb., North Amer. Fl. 34(4): 306 (1927).

**Schistocarpha hoffmannii* Kuntze, Revis. Gen. Pl. 3(3): 170 (1898). Type: 'Bolivia: 2600 Rio Juntas.' ['BOLIVIA. rio Juntas, 2600 m, 13–21 Apr 1892, Kuntze s.n.' – according to Wetter & Zanon, 1985: 336]. Holotype: NY (00232408) – as annotated by H. Robinson; isotype: NY (00232409) – as annotated by H. Robinson ('198') and Elizabeth W. Lawson (1977). However, the 'isotype' would appear to be none other than a lower portion of stem, the sheet heavily annotated with a manuscript note by Kuntze, and the label entirely written by Kuntze.

Argentina, Bolivia (La Paz), Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Venezuela.

Riverbanks, wet montane forest, secondary woodland.

100–1800 m.

December–June.

Schistocarpha hoffmannii* Kuntze, Revis. Gen. Pl. 3(3): 170 (1898) = **Schistocarpha eupatorioides (Fenzl) Kuntze

Schistocarpha lindenii J. D. Smith, Enum. Pl. Guat. 1; 24 (1881), nom. nud. = **Schistocarpha eupatorioides** (Fenzl) Kuntze

Schistocarpha oppositifolia (Kuntze) Rydb., North Amer. Fl. 34(4): 306 (1927) = **Schistocarpha eupatorioides** (Fenzl) Kuntze

**Schistocarpha paniculata* Klatt, Bull. Soc. Roy. Bot. Belgique 31(2): 210 (1892). Listed by Foster (1958: 216), this is a species from Costa Rica and was not recorded for Bolivia by Robinson (1979), q.v. Foster's inclusion was based on determinations by B. L. Robinson, and their listing by Rusby (1907), of *Bang* 2184 and *Rusby* 2126.

Schistocarpha* (?) *triangularis* Rusby, Bull. New York Bot. Gard. 4(14): 392 (1907) = **Nordenstamia repanda (Wedd.) Lundin

Schkuhria Moench, Meth. : 566 (1794), nom. rej. non **Schkuhria** Roth = **Sigesbeckia** L.

Schkuhria Roth, Cat. Bot. 1: 116 (1797).

Tetracarpum Moench, Meth. Suppl. : 240 (1802). Type: *Schkuhria abrotanoides* Roth = **Schkuhria pinnata** (Lam.) Kuntze

Chamaestephanum Willd., Ges. Naturf. Freunde Berlin Mag. neuesten Entdeck. Gesamnten Naturk. 1: 140 (1807). Type: not designated.

Mieria La Llave in La Llave & Lex., Nov. Veg. Descr. 2: 12 (1825). Type: *Mieria virgata* Llave & Lex. = *Schkuhria virgata* (Llave) DC. = **Schkuhria pinnata** (Lam.) Kuntze

Achyropappus Link & Otto, Ic. Pl. Rar. Pl. 30 (1829), non *Achyropappus* Kunth (1818). Type: *Achyropappus schkuhrioides* Link & Otto = *Schkuhria schkuhrioides* (Link & Otto) Thell.

Hopkirkia DC., Prodr. 5: 660 (1836), non *Hopkirkia* Spreng. (1819). Type: *Hopkirkia anthemoidea* DC. = *Schkuhria anthemoidea* (DC.) Coult.

Cephalobembix Rydb., N. Amer. Fl. 34: 46 (1914). Type: *Schkuhria neomexicana* A. Gray

Type: *Schkuhria abrotanoides* Roth = **Schkuhria pinnata** (Lam.) Kuntze [var. *abrotanoides* (Roth) Cabrera]

References

Heiser Jr., C. B. (1945). A revision of the genus *Schkuhria*. Ann. Missouri Bot. Gard. 32(3): 265–278.

Robinson, H. (2006). *Schkuhria*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(2): 190(6). Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 91–96.

Turner, B. L. (1995). Taxonomy and nomenclature of *Schkuhria pinnata* (Asteraceae, Helenieae). Phytologia 79(5): 364–368.

Note: Robinson (2006) took a very broad view of *S. pinnata* but noting varieties were sometimes recognized. The full synonymy provided by Robinson is given below as *S. pinnata*, and could be divided. Turner's (1995) further recognition of the North American element as var. *wislizeni* was provided against the background of MacVaugh's (1984: 794–799) treatment of plants from New Mexico. All are recognized as synonyms of a broad species concept. Anyone wanting to recognize any infraspecific categories should in the first instance examine Heiser's (1945) revision for the South American element; This, following Turner, is to be referred solely to 'var. *pinnata*'.

Key to species

- | | | |
|--------|---|---|
| 1. | Rays absent; achenes 10 or more | 2 |
| | Ray or rays usually present; achenes 9 or less | <i>S. pinnata</i> |
| 2. (1) | At least upper half of pappus scales awned | 3 |
| | Pappus scales not awned, except rarely 1 or 2 | 4 |
| 3. (2) | Awns of pappus scales 1 mm or longer; scales colourless | <i>S. multiflora</i> |
| | Awns less than 1 mm long; scales maroon to purplish | <i>S. degenerica</i> |
| 4. (2) | Phyllaries 5–6, 2 rarely 3 mm wide; achenes usually less than 15; pappus scales rarely longer than 0.5 mm | <i>S. multiflora</i> [var. <i>pusilla</i>] |
| | Phyllaries 7 or more, mostly 1–2 mm wide; achenes usually more than 15; pappus scales frequently longer than 0.5 mm | <i>S. multiflora</i> |

Schkuhria abrotanoides Roth, Catalecta Bot. 1: 116 (1797) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schkuhria abrotanoides Roth var. *isopappa* (Benth.) Hieron., Bot. Jahrb. Syst. 29(1): 53 (1900) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schkuhria abrotanoides Roth var. *pomasquiensis* Hieron., Bot. Jahrb. Syst. 29(1): 53 (1900) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schkuhria advena Thell., Repert. Spec. Nov. Regni Veg. 11: 308 (1918) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schkuhria anthemoidea (DC.) Coult. var. *wislizenii* (A. Gray) Heiser f. *flava* (Rydb.) Heiser, Ann. Missouri Bot. Gard. 32(3): 274 (1945) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schkuhria anthemoidea (DC.) Coult. var. *guatemalensis* (Rydb.) Heiser, Ann. Missouri Bot. Gard. 32(3): 273 (1945) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schkuhria anthemoidea (DC.) Coult. var. *wislizeni* (A. Gray) Heiser, Ann. Missouri Bot. Gard. 32(3): 273 (1945) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schkuhria anthemoidea (DC.) Coult. var. *wrightii* (A. Gray) Heiser, Ann. Missouri Bot. Gard. 32(3): 274 (1945) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schkuhria bonariensis Hook. & Arn., J. Bot. (Hooker) 3(No. 22): 321 (1841), p.p. = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schkuhria coquimbana Phil., Anales Univ. Chile 90: 29 (1895) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

***Schkuhria degenerica** (Kuntze) R. E. Fr., Ark. Bot. 5(13): 22 (1906).

Schkuhria pusilla Wedd. var. *major* Sch.Bip., Bull. Soc. Bot. France 7: 80 (1865), nom. nud.

Schkuhria oolepis Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 529 (1866), nom. nud. pro syn. (based on Mandon 72).

Rothia degenerica Kuntze, Revis. Gen. Pl. 3(3): 169 (1898). Type: 'Bolivia: 3000 m am Rio Tapacari.' ['BOLIVIA. Rio Tapacari, 3000 m, 19 Mar 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 336]. Holotype: NY (00232810).

Argentina, Bolivia (Cochabamba, La Paz, Tarija).

Pastures and rocky areas, cultivated ground.

2000–3040 m.

February–March.

Schkuhria glabrescens Gand., Bull. Soc. Bot. France 65: 46 (1918) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schkuhria guatemalensis (Rydb.) Standl. & Steyerl., Field Mus. Publ. Bot. 22: 319 (1940) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schkuhria hopkirkia A. Gray, Smithsonian Contr. Knowl. [Pl. Wrightianae pt. 2] 5(Art. 6): 94 (1853) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

- ***Schkuhria multiflora** Hook. & Arn., J. Bot. 3: 322 (1841). Type: 'Achyropappus schkuhrioides, Don, (non Link.) – Mendoza; *Dr Gillies*.' Holotype: K.
Achyropappus schkuhrioides D. Don ex Hook. & Arn., J. Bot. 3: 322 (1841), nom. nud. pro syn., non *A. schkuhrioides* Link & Otto (1829)(= *Schkuhria schkuhrioides* (Link & Otto) Thell.).
Schkuhria neo-mexicana A. Gray, Mem. Amer. Acad. Arts, ser. 2, 4(1): 96 (1849). Type: 'Margin of fields, Santa Fé; July, Aug. ([Fendler] 458.)'. Holotype: GH (11828); isotype: GH (11829).
Schkuhria pusilla Wedd., Chloris Andina 1: 73, t. 14, B (1856). Types: 'Hab. PÉROU: dans les champs sablonneux, près du village de Moho (frontière de la Bolivie), au voisinage du lac de Titicaca, h. 3900 mètres. – BOLIVIE: environs de Potosi (*d'Orbigny*, no 1403)'. Syntypes: P.
Amblyopappus neo-mexicana (A. Gray) A. Gray, Torrey Pacif. R. R. Report 4: 106 (1857).
Bahia neo-mexicana (A. Gray) A. Gray, Proc. Amer. Acad. Arts 19: 27 (1883).
Rothia intermedia Kuntze, Revis. Gen. Pl. 3(3): 170 (1898). Type: 'Bolivia: 4000 m Challapata.' ['BOLIVIA. Challapata, 4000 m, 11 Mar 1892, *Kuntze s.n.*' – according to Wetter & Zanoni, 1985: 336]
Rothia pusilla (Wedd.) Kuntze, Revis. Gen. Pl. 3(3): 170 (1898).
Schkuhria pusilla Wedd. var. *aristata* R. E. Fr., Nova Acta Regiae Soc. Sci. Upsal. 4(11): 85, t. 6, 8 (1905). Type: [Argentina:] 'Moreno loco arenosis, ca. 3500 m. s. m. (12 Dec. 1901; FR[IES] 812 b, floribus et fructibus immaturis instructa.)'.
Achyropappus neo-mexicana (A. Gray) Rydb., Fl. Colorado : 377 (1906).
Cephalobombix neo-mexicana (A. Gray) Rydb., N. Amer. Fl. 34: 46 (1914).
Schkuhria pusilla Wedd. var. *longepedicellata* Hauman, Anal. Soc. Ci. Argent. 86: 328 (1918) [p. 174 in separately reprint – see References]. Types: En terrains secs, assez rare, près de Puente del Inca, dans le sable au fond de la vallée, janvier 1910 (exemplaires rachitique peu ramifiés); Précordillère de San Juan, Carmen Alto, leg. *Bodenbender*, février 1897 (Herb. Fac. Med. Buenos Aires). Holotype: ?BAF.
**Schkuhria multiflora* Hook. & Arn. var. *pusilla* (Wedd.) Cabrera, Anales Soc. Cient. Argentina 114: 192 (1932).
Schkuhria multiflora Hook. & Arn. var. *aristata* (R. E. Fr.) Cabrera, Anal. Soc. Cient. Argent. 114: 193 (1932). Argentina, Bolivia (Chuquisaca, La Paz, Oruro, Tarija), Chile, Mexico, Peru, USA.
Prepuna, rocky areas, Altiplano, Tolillares (Altiplano xeromorphic thorn-scrub), Tolares eutróficos (Altiplano edaphophilous eutrophic scrub), Herbazal altioplánico anual halófilo, field margins, a weed of maize and potato fields.
2000–4000 m.
Flowering throughout the year.
Vernacular name: CANCHALAGUA (CT) (Petenatti & Ariza Espinar, 1997: 23).
- Schkuhria multiflora* Hook. & Arn. var. *aristata* (R. E. Fr.) Cabrera, Anal. Soc. Cient. Argent. 114: 193 (1932) = **Schkuhria multiflora** Hook. & Arn.
Schkuhria multiflora* Hook. & Arn. var. *pusilla* (Wedd.) Cabrera, Anales Soc. Cient. Argentina 114: 192 (1932) = **Schkuhria multiflora Hook. & Arn.
Schkuhria octoaristata DC., Prodr. 5: 654 (1836) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Schkuhria oolepis Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 529 (Feb. 1866), nom. nud. pro syn. (based on *Mandon* 72) = **Schkuhria degenerica** (Kuntze) R. E. Fr.
Schkuhria pinnata (Lam.) Kuntze, Revis. Gen. Pl. 3(3): 170 (1898), pro syn. = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
- ***Schkuhria pinnata** (Lam.) Kuntze ex Thell., Repert. Spec. Nov. Regni Veg. 11: 308 (1912).
Pectis pinnata Lam., J. Hist. Nat. 2: 150, pl. 31 (1792). Type: 'Habitat . . . ■s. ■' Holotype: ?Z.
Schkuhria abrotanoides Roth, Catal. Bot. 1: 116 (1797). Type: 'Sub nomine *Bellii minuti* mihi communicata sunt semina ab amico perdilecto Ill. *de Voigt*.' Holotype: unknown, but probably B† or B-W.
Mieria virgata La Llave & Lex., Nov. Veg. Descr., fasc. 2: 9 (1825). Type: 'Habitat ad colles Tacnbaya et aliis in locis Mexico vicinis.' Holotype: G.
Schkuhria octoaristata DC., Prodr. 5: 654 (1836). Type: '· in Peruvîa legit cl. *Dombey* [27]. ... (v.s.)'. Holotype: G-DC. There are two specimens labelled as *S. octoaristata* in G-DC. One is clearly a *Dombey* collection from Paris, which is considered to be the holotype; the other, numbered 84, is without the collector's name.
Schkuhria virgata (Llave & Lex.) DC., Prodr. 5: 654 (1836). [Note: this was placed in synonymy with *S. octoaristata* in Robinson's homotypic synonymy but this cannot be the case!]
Hopkirkia anthemioidea DC., Prodr. 5: 660 (1836). Type: '– in Mexici agro Regiomontano legit cl. *Haenke*. (v.s. in h. Haenk. à cl. de Sternberg comm.)'. Holotype: PR; isotype: G-DC.

- Schkuhria bonariensis* Hook. & Arn., J. Bot. (Hooker) 3(No. 22): 321 (1841), pro parte. Types: 'Pampas of Buenos Ayres; *Dr. Gillies*. Buenos Ayres; *Tweedie*.'
- Schkuhria isopappa* Benth., Pl. Hartweg. : 205 (1845). Type: [Peru:] 'Ad pontem Guapulo prope Quito.' [Hartweg].
- Schkuhria wislizeni* A. Gray, Mem. Amer. Acad. Arts [Pl. Fendl.] ser. 2, 4: 96 (1849). Type: 'High mountains around Cosiquiriachi in the Sierra Madre west of Chihuahua, Oct. *Dr. Wislizenus*.'
- Schkuhria hopkirkia* A. Gray, Smithsonian Contr. Knowl. [Pl. Wrightianae pt. 2] 5 (Art. 6): 94 (1853), nom. illegit., based on *Hopkirkia anthemoidea* DC.
- Schkuhria wrightii* A. Gray, Smithsonian Contr. Knowl. [Pl. Wrightianae pt. 2] 5 (Art. 6): 95 (1853). Type: 'On the Sonorita near Deserted Rancho, Sonora; Sept. ([*Wright*] 1254).'
- Amblyopappus mendocinus* Phil., Anales Univ. Chile 36: 184 (1870). Type: [Chile:] 'Mendoza.' Pizarro (1960: 131) cited two collections in SGO – 60578, 44110. Note: Philippi (1870) also noted 'Nuestros ejemplares no son ...' suggesting there were either two collections or more than one specimen per collection.
- Schkuhria pringlei* S. Watson, Proc. Amer. Acad. Arts 23: 278 (1888). Type: In moist places on the plains near Guerrero, Chihuahua; C. G. Pringle (n. 1292), Sept., 1887.'
- Schkuhria coquimbana* Phil., Anales Univ. Chile 90: 29 (1895). Type: 'Prope Paihuano in provincia Coquimbo legit *Frid. Philippi* incolae eam *cachanlahuen cimarron* vocant.' ['Cerca de Paihuano, en la provincia de Coquimbo, la recolectó Federico Philippi; la gente la llama "cachanlahuén cimarrón". 60580' – Pizarro, 1960: 154]
- Rothia pinnata* (Lam.) Kuntze, Revis. Gen. Pl. 3(3): 170 (1898).
- Schkuhria pinnata* (Lam.) Kuntze, Revis. Gen. Pl. 3(3): 170 (1898), pro syn.
- Rothia pinnata* (Lam.) Kuntze α *pallida* Kuntze, Revis. Gen. Pl. 3(3): 170 (1898), pro parte
- Rothia pinnata* (Lam.) Kuntze β *purpuascens* Kuntze, Revis. Gen. Pl. 3(3): 170 (1898), pro parte
- Schkuria abrotanoides* Roth var. *pomasquiensis* Hieron., Bot. Jahrb. Syst. 29(1): 53 (1900*). Type: [Ecuador] 'Crescit in arvis arenosis prope Pomasqui (*S.[odiro]* n. 47).' Holotype: B†. [*Note: See Reference section concerning problem with date of publication]
- Schkuhria abrotanoides* Roth var. *isopappa* (Benth.) Hieron., Bot. Jahrb. Syst. 29(1): 53 (1900*). [*Note: See Reference section concerning problem with date of publication]
- Tetracarpum wrightii* (A. Gray) Rydb., N. Amer. Fl. 34: 44 (1914).
- Tetracarpum pringlei* (S. Watson) Rydb., N. Amer. Fl. 34: 44 (1914).
- Tetracarpum virgatum* (La Llave & Lex.) Rydb., N. Amer. Fl. 34: 45 (1914).
- Tetracarpum anthemoideum* (DC.) Rydb., N. Amer. Fl. 34: 45 (1914).
- Tetracarpum wislizeni* (A. Gray) Rydb., N. Amer. Fl. 34: 45 (1914).
- Tetracarpum guatemalensis* Rydb., N. Amer. Fl. 34: 45 (1914). Type: 'Type collected at Llano de San Juan de Dios, Guatemala, 1865, *Bernouli* 135'. Holotype: originally LGO, transferred to USNC.
- Tetracarpum flavum* Rydb., N. Amer. Fl. 34: 46 (1914). Types: 'Type collected in Sierra de San Felipe, Oaxaca, October 10, 1894, *Charles L. Smith* 263 & 626'. ?Syntypes: NY (00273776). Note: The material in NY (00273776) is of two specimens mounted with a label clearly indicating '*Smith* 263 & 626'
- Schkuhria glabrescens* Gand., Bull. Soc. Bot. France 65: 46 (1918). Type: 'Mexico, Valley of Mexico, alt. 7300 ped. (*Pringle* n. 7928!).' Isotype: US (959354).
- Schkuhria advena* Thell., Repert. Spec. Nov. Regni Veg. 11: 308 (1918). Type: 'Süd-Afrika: Transvaal: Florida, 1906, *H. Hutton* no. 630 (Albany Museum), ab *S. bonariensis* in herb. Univ. Zürich.' Holotype: Z.
- Schkuhria guatemalensis* (Rydb.) Standl. & Steyerl., Field Mus. Publ. Bot. 22: 319 (1940).
- Schkuhria pinnata* (Lam.) Kuntze ex Thell. var. *virgata* (Llave & Lex.) Heiser, Ann. Missouri Bot. Gard., 32(3): 271 (1945).
- Schkuhria pinnata* (Lam.) Kuntze ex Thell. f. *pringlei* (S. Watson) Heiser, Ann. Missouri Bot. Gard. 32(3): 271 (1945).
- Schkuhria anthemoidea* (DC.) Coult. var. *guatemalensis* (Rydb.) Heiser, Ann. Missouri Bot. Gard. 32(3): 273 (1945).
- Schkuhria anthemoidea* (DC.) Coult. var. *wislizenii* (A. Gray) Heiser, Ann. Missouri Bot. Gard. 32(3): 273 (1945).
- Schkuhria anthemoidea* (DC.) Coult. var. *wislizenii* (A. Gray) Heiser f. *flava* (Rydb.) Heiser, Ann. Missouri Bot. Gard. 32(3): 274 (1945).
- Schkuhria anthemoidea* (DC.) Coult. var. *wrightii* (A. Gray) Heiser, Ann. Missouri Bot. Gard. 32(3): 274 (1945).
- Schkuhria wislizeni* A. Gray var. *wrightii* (A. Gray) S. F. Blake, Leaflets West. Bot. 6: 115 (1951).
- Schkuhria wislizeni* (A. Gray) Rydb. var. *frustrata* S. F. Blake, Leaflets West. Bot. 6: 115 (1951), nom. nov. pro *Hopkirkia anthemoidea* DC.

Schkuhria wilsizeni A. Gray var. *guatemalensis* (Rydb.) S. F. Blake, Leaflets West. Bot. 6: 115 (1951).
Schkuhria wislizeni A. Gray f. *flava* (Rydb.) S. F. Blake, Leaflets West. Bot. 6: 115 (1951).
Schkuhria pinnata (Lam.) Kuntze ex Thell. var. *guatemalensis* (Rydb.) McVaugh, Contr. Univ. Mich. Herb. 9: 443 (1972).
Schkuhria pinnata (Lam.) Kuntze var. *wislizeni* (A. Gray) B. L. Turner, Phytologia 79: 364 (1995).
Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija), Brazil, Chile, Colombia, Ecuador, Peru, Uruguay, USA, Venezuela; Cape Verde Islands, cult. ex France, Mozambique.
Disturbed areas, roadsides, cultivated ground.
0–3700 m.
Flowering throughout the year.
Vernacular names: CANCHALAGUA; MATAPULGAS (Pettenatti & Ariza Espinar, 1997: 24)

Schkuhria pinnata (Lam.) Kuntze ex Thell. var. *guatemalensis* (Rydb.) McVaugh, Contr. Univ. Mich. Herb. 9: 443 (1972) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Schkuhria pinnata (Lam.) Kuntze ex Thell. f. *pringlei* (S. Watson) Heiser, Ann. Missouri Bot. Gard. 32: 271 (1945) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Schkuhria pinnata (Lam.) Kuntze ex Thell. var. *virgata* (Llave & Lex.) Heiser, Ann. Missouri Bot. Gard., 32: 271 (1945) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Schkuhria pinnata (Lam.) Kuntze var. *wislizeni* (A. Gray) B. L. Turner, Phytologia 79: 364 (1995) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Schkuhria pusilla Wedd., Chloris Andina 1: 73, t. 14, B (1856) = **Schkuhria multiflora** Hook. & Arn.
Schkuhria pusilla Wedd. var. *aristata* R. E. Fr., Nova Acta Regiae Soc. Sci. Upsal. 4(11): 85, t. 6, 8 (1905) = **Schkuhria multiflora** Hook. & Arn.
Schkuhria pusilla Wedd. var. *longepedicellata* Hauman, Anal. Soc. Ci. Argent. 86: 328 (1918) = **Schkuhria multiflora** Hook. & Arn.
Schkuhria pusilla Wedd. var. *major* Sch.Bip., Bull. Soc. Bot. France 7: 80 (1865), nom. nud. = **Schkuhria degenerica** (Kuntze) R. E. Fr.
Schkuhria virgata (La Llave & Lex.) DC., Prodr. 5: 654 (1836) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Schkuhria wislizeni A. Gray, Mem. Amer. Acad. Arts [Pl. Fendl.] ser. 2, 4: 96 (1849) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Schkuhria wislizeni A. Gray f. *flava* (Rydb.) S. F. Blake, Leaflets West. Bot. 6: 115 (1951) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Schkuhria wislizeni (A. Gray) Rydb. var. *frustrata* S. F. Blake, Leaflets West. Bot. 6: 115 (1951) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Schkuhria wrightii A. Gray, Smithsonian Contr. Knowl. [Pl. Wrightianae pt. 2] 5 (Art. 6): 95 (1853) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Schomburghia DC., Prodr. 7: 293 (1838), nom. illegit., non *Schomburgkia* Lindl. (1838) [ORCHIDACEAE] = **Calea** L.

Scolospermum Less., Linnaea 5(1): 152 (1830) = **Baltimora** L.

Scolopospermum Hemsl., Biol. Centr.-Amer. Bot. 2: 144 (1881), orth. var. (of *Scolospermum* Less.) = **Baltimora** L.

Scolymanthus DC., Prodr. 7: 63 (1838), nom. nud. pro syn. sub. *Homoianthus* Bonpl. ex DC. = **Perezia** Lag.

Seala Adans., Fam. 2: 131 (1763) = **Pectis** L.

Selleophytum Urb., Repert. Spec. Nov. Regni Veg. 13: 483 (1915) = **Coreopsis** L.

Senecio L. sect. *Aetheolaena* (Cass.) O. Hoffm., Nat. Pflanzenfam. 4(5): 301 (1892) = **Aetheolaena** Cass.

Senecio L. sect. *Culcitium* (Humb. & Bonpl.) Cuatrec., Fieldiana, Bot. 27: 50 (1950) = **Culcitium** Humb. & Bonpl.

Senecio L. sect. *Dendrophorbium* Cuatrec., Fieldiana, Bot. 27(2): 72 (1951) = **Dendrophorbium** (Cuatrec.) C. Jeffrey

Senecio L. sect. *Diclini* Cabrera, Lilloa 5(1): 73 (1939) = **Chersodoma** Phil.

Senecio L. subgen. *Dioicosenecio* Cabrera, Lilloa 5(1): 68 (1939), nom. nud. = **Chersodoma** Phil.

Senecio L. sect. *Emilioidei* Muschl., Bot. Jahrb. Syst. 43: 40 (1909) = **Emilia** (Cass.) Cass.

Senecio L. sect. *Macbrideus* Cuatrec., Fieldiana, Bot. 27(2): 72 (1951) = **Dendrophorbium** (Cuatrec.) C. Jeffrey

Senecio L. sect. *Myriocephalus* Cabrera, Lilloa 15: 56 (1949) = **Dendrophorbium** (Cuatrec.) C. Jeffrey

Senecio L. 'ser. *Myriocephali* (Cabrera) Cabrera', Darwiniana 26(1-4): 126 (1985), comb. illegit, nom. non rite public. = **Dendrophorbium** (Cuatrec.) C. Jeffrey

Senecio L. sect. *Pluricephali* Cabrera, Lilloa 5(1): 70 (1939) = **Dendrophorbium** (Cuatrec.) C. Jeffrey

Senecio L. sect. *Praegynoxys* Cuatrec., Fieldiana, Bot. 27(2): 72 (1951) = **Nordenstamia** Lundin

Senecio L. sect. *Streptothamnus* Greenm., Bot. Jahrb. Syst. 32: 19 (1902) = **Pentacalia** Cass.

Senecio L., Sp. Pl. 866 (1753).

Senecio L. sect. *Wernerioides* Cabrera, Lilloa 5(1): 68 (1939). Type: not cited. Lectotype (selected by Cabrera, 1949: 349): *Senecio wernerioides* Wedd. = **Senecio breviscapus** DC.

Senecio L. sect. *Modesti* Cabrera, Lilloa 5(1): 68 (1939). Type: **Senecio mandonianus** Wedd.

Senecio L. sect. *Repentes* Cabrera, Lilloa 5(1): 69 (1939). Type: not cited. Lectotype (selected by Cabrera, 1949: 200): **Senecio jarae** Phil.

Senecio L. sect. *Crassicephali* Cabrera, Lilloa 5(1): 70 (1939). Type: **Senecio burkartii** Cabrera

Senecio L. sect. *Otopteri* Cabrera, Lilloa 5(1): 70 (1939). Type: not cited. Lectotype (selected by Cabrera, 1985: 147): *Senecio otites* Kunze ex DC.

Senecio L. sect. *Corymbosi* Cabrera, Lilloa 5(1): 71 (1939). Type: not cited. Lectotype (selected by Cabrera, 1949: 354): **Senecio brasiliensis** (Spreng.) Less.

Senecio L. sect. *Subincani* Cabrera, Lilloa 5(1): 72 (1939). Type: not cited. Lectotype (selected by Cabrera, 1949: 102): *Senecio chilensis* Less.

Senecio L. sect. *Graveolentes* Cabrera, Lilloa 5(1): 72 (1939). Type: not cited. Lectotype (selected by Cabrera, 1949: 99): *Senecio graveolens* Wedd. = **Senecio nutans** Sch.Bip.

Senecio L. sect. *Otites* Cabrera, Lilloa 15: 74 (1949). Type: *Senecio otites* Kunze ex DC.

Senecio L. sect. *Graveolens* Cabrera, Lilloa 15: 99 (1949), nom. illegit. as nom. nov. pro *Senecio* sect. *Graveolentes* Cabrera

Senecio L. sect. *Suffrutecius* Cabrera, Lilloa 15: 101 (1949). Type: *Senecio chilensis* Less.

Senecio L. sect. *Suffrutecius* Cabrera subsect. *Subincani* (Cabrera) Cabrera, Lilloa 15: 102 (1949).

Senecio L. sect. *Suffrutecius* Cabrera subsect. *Repentes* (Cabrera) Cabrera, Lilloa 15: 200 (1949).

Senecio L. sect. *Wernerioides* Cabrera, Lilloa 15: 349 (1949), nom. illegit. as nom. nov. pro sect. *Wernerioides* Cabrera

Senecio L. sect. *Corymbocephalus* Cabrera, Lilloa 15: 354 (1949), nom. illegit. citing sect. *Corymbosi* Cabrera in synonymy [Type: *Senecio brasiliensis* (Spreng.) Less.]

Senecio L. sect. *Corymbocephalus* Cabrera subsect. *Brasilienses* Cabrera, Lilloa 15: 455 (1949). Type: **Senecio brasiliensis** (Spreng.) Less.

Senecio L. sect. *Corymbocephalus* Cabrera subsect. *Simplices* Cabrera, Brittonia 7(2): 69 (1950). Type: *Senecio grisebachii* Baker

Senecio L. sect. *Corymbocephalus* Cabrera subsect. *Viscosi* Cabrera, Brittonia 7(2): 71 (1950). Type: *Senecio selloi* (Spreng.) DC. [NB. Baker (1884: 302) merely used the word '*Viscosi*' at the beginning of a lead in part of his key to *Senecio*, and nothing more; the recognition of the subsection can be attributed just to Cabrera where it was effectively described (Cabrera, 1950: 71)]

Senecio L. sect. *Hypsobates* Cuatrec., Fieldiana Bot. 27(2): 73 (1951). Type: *Senecio hypsobates* Wedd.

Senecio L. sect. *Senecio* ser. *Wernerioides* (Cabrera) Cabrera, Darwiniana 26(1-4): 108 (1985).

Senecio L. sect. *Senecio* 'ser.' *Hualtatini* (DC.) Cabrera, Darwiniana 26(1-4): 82 (1985). [NB. Cabrera (1985: 109) incorrectly assigned this taxon as a series. De Candolle specifically used the rank of series above that of the taxon concerned. He did not treat the following entity, 'b. *Scaposi*', as a series, even though it included *S. breviscapus*, the type of 'ser. *Wernerioides*'.]

Senecio L. sect. *Senecio* ser. *Crassicephali* (Cabrera) Cabrera, Darwiniana 26(1-4): 118 (1985).

Senecio L. sect. *Senecio* ser. *Otopteri* (Cabrera) Cabrera, Darwiniana 26(1-4): 147 (1985).

Senecio L. sect. *Senecio* ser. *Graveolentes* (Cabrera) Cabrera, Darwiniana 26(1-4): 190 (1985).

Senecio L. sect. *Senecio* ser. *Suffruticosi* Cabrera, Darwiniana 26(1-4): 82, 195 (1985), nom. illegit. as nom. nov.
 pro *Senecio* L. sect. *Suffrutecius* Cabrera
Senecio L. ser. *Corymbosi* (Cabrera) Cabrera, Darwiniana 26(1-4): 157 (1985).

Type: ***Senecio vulgaris* L.**

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Note: Navarro (2002: 375) listed a '*Senecio pingüii*' as one of several species present in the *Baccharis gaudichaudiana*-*Baccharis latifolia* community known as Chillca. There is no such name listed in *Index Kewensis* or on the IPNI (International Plant Name Index) database. It is unknown to which taxon this name refers to.

Key to series of *Senecio* (based at the moment on Cabrera, 1985) excluding the separate genera pulled out from *Senecio* s.s.

- | | | |
|--------|--|--|
| 1. | Erect annual herbs; leaves ± lyrate-pinnatifid; capitula cylindrical, calyculate, discoid; plants weedy/adventive (Ser. <i>Senecio</i>) | <i>S. vulgaris</i> |
| | Plants perennial herbs, subshrubs or shrubs, native | 2 |
| 2. (1) | Rhizomatous herbs with lower leaves in a basal rosette with 'enveinador' petiole. Stems simple, at times scapiform, with reduced leaves or with bracts | 3 |
| | Herbs, subshrubs or shrubs without conspicuous basal rosette nor 'envainadoras' leaves | 5 |
| 3. (2) | Capitula radiate | 4 |
| | Capitula discoid without marginal florets; plants glabrous or glandular-pubescent | |
| | | Ser. <i>Crassicephali</i> |
| 4. (3) | Plants acaulescent with a solitary sessile or shortly pedicellate capitulum | (Ser. <i>Werneroides</i>) <i>Senecio breviscapus</i> |

- Plants stemmed with various capitula; basal leaves long-petiolate, with large triangular-ovate lamina Ser. *Hualtatini*
5. (2) Capitula numerous, in panicles or corymbose cymes 6
 Capitula solitary or few at branch ends 7
6. (5) Leaves conspicuously differentiated into lamina and petiole (if not sessile then giant herbs 1.5–3 m tall) Ser. *Otopteri*
 Leaves sessile, at times narrowed below into a pseudopetiole Ser. *Corymbosi*
7. (5) Capitula discoid, solitary or 2–3 on apices of short brachioblast Ser. *Graveolentes*
 Capitula on apices of ordinary branches Ser. *Suffruticosae*

Key to species of Ser. *Hualtatini*

- Capitula small; involucre 5 mm tall S. *dombeyanus*
 Capitula larger; involucre 7–9 mm tall S. *smithioides*

Key to species of Ser. *Crassicephali*

1. Plants glandular-pubescent; basal leaves distinctly long-petiolate, lamina ovate and irregularly dentate S. *rhizomatus*
 Plants glabrous or sometimes lanuginose 2
2. (1) Capitula solitary; involucre 10–15 mm tall, 20–40 mm diam.; phyllaries 30–40 S. *serratifolius*
 Capitula various in terminal cymes; phyllaries 12–21 3
3. (2) Basal leaves with ovate, oblong or orbicular lamina and distinct narrow petioles 4
 Basal leaves oblanceolate-spathulate, attenuate below into a broad petiole 5
4. (3) Lamina oblong, base rounded or subcordate; phyllaries 15–20 S. *praeruptorum*
 Lamina broadly elliptic or orbicular, base rounded or cuneiform; phyllaries 20 S. *violifolius*
5. (3) Lower leaves 25–35 mm wide; phyllaries 14–21 S. *burkartii*
 Lower leaves 10–20 mm wide; phyllaries 12–14 S. *tephrosioides*

Key to species of Ser. *Otopteri*

1. Plants densely glandular-pubescent; petiole auriculate S. *herrerae*
 Plants tomentose, lanose or glabrous 2
2. Petiole conspicuously auriculate at base 3
 Petiole not auriculate at base 5
3. Leaves densely white-tomentose, less so beneath; petiole not winged, with small/reduced basal auriculae; lamina 2–4 cm long; phyllaries 20–25; achenes glabrous S. *pensilis*
 Leaves laxely tomentose or glabrous beneath; petiole winged, wings dentate or partite; achenes pubescent 4
4. Leaf lamina 3–6 cm long; phyllaries 13 S. *sepium*
 Leaf lamina 10–20 long; phyllaries 20 S. *sinapoides*
5. Phyllaries 8; involucre 5–6 mm tall S. *kosteriae*
 Phyllaries 13–20; involucre 9–10 mm tall 6
6. Phyllaries 13; leaves discoloured, white-tomentose beneath S. *bangii*
 Phyllaries 15–20; leaves concolorous, glabrescent; stems and involucre with multicellular hairs S. *attenuatus*

Key to species of Ser. *Corymbosi*

1. Capitula discoid; all florets hermaphrodite, corollas tubular; capitulas usually few 2
 Capitula radiate or subdiscoid, marginal florets female and rayed or very shortly tubular 9
2. (1) Plants lanuginose; leaves linear S. *chrysolepis*
 Plants glabrous or glandular-pubescent 3
3. (2) Plants glabrous 4
 Plants more or less densely glandular-pubescent, less so on pedicels and phyllaries 5
4. (3) Phyllaries 5; florets 5; leaves narrowly linear S. *quinquelepis*
 Phyllaries 8–15; florets numerous; leaves lanceolate or elliptic S. *dryophyllus*
5. (3) Achenes densely pubescent; leaves narrowly linear, 1mm wide, entire, dentate or pectinate-pinatifid S. *phylloliptus*

| | | |
|----------|---|---------------------------|
| | Achenes glabrous; leaves much broader | 6 |
| 6. (5) | Phyllaries 18–20; leaves oblanceolate, 10–25 mm wide | <i>S. hastatifolius</i> |
| | Phyllaries 10–16; leaves 2–10 mm wide | 7 |
| 7. (6) | Calycular bracts few, short, linear | <i>S. pentlandianus</i> |
| | Calycular bracts numerous, lanceolate or ovate, reaching at least, up to half the involucre | 8 |
| 8. (7) | Calycular bracts ovate, broad; pubescence very lax and at times almost absent; leaves lanceolate or elliptic, over 10 mm wide | <i>S. wedglacialis</i> |
| | Calycular bracts oblong-lanceolate; pubescence dense; leaves oblong-lanceolate, usually less than 10 mm wide | <i>S. rufescens</i> |
| 9. (1) | Stems winged | 10 |
| | Stems unwinged | 11 |
| 10. (9) | Phyllaries 13; leaves narrowly winged | <i>S. leuceria</i> |
| | Phyllaries 20; leaves with broad wings | <i>S. pentapterus</i> |
| 11. (9) | Leaves profoundly pinnatisect, segments lanceolate or linear, entire or slightly serrate; upper leaves frequently entire | 12 |
| | Leaves entire, dentate or lobate | 15 |
| 12. (11) | Plants glandular-pubescent with capitate hairs | <i>S. tarijensis</i> |
| | Plants glabrous or tomentose | 13 |
| 13. (12) | Rachis and leaf segments narrowly linear, 1–1.5 mm wide; involucre 5–7 mm tall | <i>S. pampeanus</i> |
| | Leaf segments linear-lanceolate or lanceolate, 2–6 mm wide; involucre 6–11 mm tall | 14 |
| 14 | Involucre 6–7 mm tall; leaves tomentose beneath | <i>S. brasiliensis</i> |
| | Involucre 8–11 mm tall; leaves glabrous or slightly lanuginose beneath | <i>S. rudbeckiifolius</i> |
| 15. (11) | Plants glandular-pubescent, hairs capitate, except for pedicels and phyllaries | 15 |
| | Plants glabrous, lanose or tomentose, without capitate hairs | 20 |
| 16. (15) | Involucre 7–10 mm tall | 17 |
| | Involucre 11–12 mm tall | 18 |
| 17. (16) | Leaves profoundly dentate or lobate, 2–5 cm long, 5–6 mm wide, not auriculate at base | <i>S. loatzanus</i> |
| | Leaves entire or dentate, auriculate at base | <i>S. alniphilus</i> |
| 18. (16) | Leaves linear-lanceolate, to 18 cm long, 1 cm wide | <i>S. larecajensis</i> |
| | Leaves oblanceolate or oblong, 10 cm long, 2 cm wide | 19 |
| 19. (18) | Leaves oblanceolate, margins uniformly dentate | <i>S. crepidifolius</i> |
| | Leaves oblong-lanceolate, margins grossly dentate, with teeth distant and unequal | <i>S. ayapatensis</i> |
| 20. (15) | Upper leaves more or less conspicuously auriculate at base, usually tomentose or lanuginose beneath | 21 |
| | Upper leaves not auriculate at base | 25 |
| 21. (20) | Leaves narrowly linear, 1–2(–5) mm wide; auricles small; involucre 5 mm tall | <i>S. cochabambensis</i> |
| | Leaves linear, lanceolate or elliptic, 5–25 mm wide; involucre usually more than 5 mm tall | 22 |
| 22. (21) | Leaves elliptic-lanceolate, 50–70 mm long, 20–25 mm wide, glabrous; involucre 11 mm tall | <i>S. choroensis</i> |
| | Leaves oblanceolate, 5–15 mm wide, tomentose or lanuginose beneath, rarely glabrous | 23 |
| 23. (22) | Leaves minutely serrate | <i>S. boliviensis</i> |
| | Leaves with large teeth, irregular or entire | 24 |
| 24. (23) | Achenes pubescent | <i>S. chodatianus</i> |
| | Achenes glabrous | <i>S. pongoensis</i> |
| 25. (20) | Involucre hemispherical, 5–6 mm tall, 10 mm diam.; phyllaries 20–22; erect herbs | <i>S. colaminus</i> |
| | Involucre campanulate, 6–8 mm tall, 6 mm diam. | 26 |
| 26. (25) | Phyllaries 8(–9); leaves small, fleshy, lectinately lobed, 5–10 mm long | <i>S. viridis</i> |
| | Phyllaries 12–20 | 27 |
| 27. (26) | Phyllaries 16–20; leaves lanceolate, glabrous or lanuginose beneath | <i>S. hieronymi</i> |
| | Phyllaries 12–14; leaves linear or narrowly lanceolate, glabrous | 28 |
| 28. (27) | Capitula numerous; leaves linear or lanceolate, margins entire or serrate | <i>S. clivicolus</i> |

Capitula few, laxly cymose-corymbose; leaves subulate, margins entire or lobate *S. subulatus*

Several species also key out into the Ser. *Suffruticosi* key below!

Key to species of Ser. *Graveolentes*

| | |
|--|--------------------|
| Shrublets with divaricate spiny branches | <i>S. spinosus</i> |
| Spineless shrubs | <i>S. nutans</i> |

Key to species of Ser. *Suffruticosae*

Species marked '*' are also keyed out here as well as in the Ser. *Corymbosi* key!

- | | | |
|----------|---|---------------------------|
| 1. | Capitula heterogamous, marginal florets female, rayed or shortly tubular; disc florets hermaphrodite, tubular | 2 |
| | Capitula homogamous, florets all hermaphrodite, tubular | 7 |
| 2. (1) | Plants densely tomentose | 3 |
| | Plants glabrescent | 5 |
| 3. (2) | Involucre 6–7 mm tall, 6 mm diam. | <i>S. viridilacus</i> |
| | Involucre 12–15 mm tall, c. 20 mm diam. | 4 |
| 4. (3) | Leaves 3–9 cm long, oblong; ray limbs scarcely exceeding involucre | <i>S. octophyllus</i> |
| | Leaves 1–3 cm long, ovate-lanceolate; ray limbs well exceeding involucre | <i>S. hohenackeri</i> |
| 5. (2) | Involucre 5–6 mm tall; leaves linear, margins entire or dentate | <i>S. potosianus</i> |
| | Involucre 10 mm tall | 6 |
| 6. (5) | Leaves 5–10 mm long, with 2–3 pairs of triangular segments 1–3 mm long | * <i>S. viridis</i> |
| | Leaves 10–60 mm long with 1–3 pairs of linear segments 2–20 mm long | * <i>S. subulatus</i> |
| 7. (1) | Plants glandular-pubescent | 8 |
| | Plants tomentose, lanose or glabrous | 10 |
| 8. (7) | Achenes densely pubescent; leaves 1–2 cm long, margins profoundly dentate or lobate | <i>S. adenophyllus</i> |
| | Achenes glabrous; leaves 1–3.5 cm long, margins entire (rarely subdentate) | 9 |
| 9. (8) | Leaves 1–5 mm wide; calycular bracts oblong, reaching almost the middle of the involucre | * <i>S. rufescens</i> |
| | Leaves 4–10 mm wide; calycular bracts narrowly lanceolate almost as long as the involucre | * <i>S. wedgicalialis</i> |
| 10. (7) | Leaves narrowly linear, apices very acute, margins entire or with a few linear lobes | 11 |
| | Leaves linear-lanceolate, linear-spathulate, elliptic, obovate, ovate or circular, apices rounded or obtuse, rarely acute, margins entire, crenate or pinnatisect | 14 |
| 11. (10) | Phyllaries 10–18 | 12 |
| | Phyllaries 5–7 | 13 |
| 12. (11) | Leaves tomentulose, 10–30 mm long; phyllaries 10–15; capitula relatively few at stem apices | * <i>S. chrysolepis</i> |
| | Leaves 25–80 mm long; phyllaries 13–18; capitula solitary | <i>S. scorzonifolius</i> |
| 13. (11) | Involucre 4–5 mm tall; leaves 10–15 mm long | <i>S. helianthemoides</i> |
| | Involucre 9–10 mm tall; leaves 50 mm long | * <i>S. quinquelepis</i> |
| 14. (10) | Involucre 11–15 tall; phyllaries 16–25 | 15 |
| | Involucre shorter | 16 |
| 15. (14) | Leaves 15–25 mm long, margins entire or with 2–3 pairs of large teeth or lobes, laxly lanose | <i>S. aquilaris</i> |
| | Leaves 40–120 mm long; margins profoundly pinnatisect, with 5–12 pairs of linear segments, glabrous | <i>S. jarae</i> |
| 16. (14) | Capitula small, sessile; involucre 5 mm tall | 17 |
| | Capitula larger | 18 |
| 17. (16) | Phyllaries 8; leaves entire, glabrous | <i>S. humillimus</i> |
| | Phyllaries 13; leaves entire or dentate, glabrous or lanuginose | <i>S. vegetus</i> |
| 18. (16) | Plants tomentose, with the exception of underside of leaves | 19 |
| | Plants glabrous | 23 |

19. (18) Plants very small; leaves obovate-spathulate or circular, apices rounded, 1–6 cm long; capitula short pedicellate or sessile 20
Plants with ascending or erect stems 10–30 cm long; leaves oblong-lanceolate or ovate, 1–5 cm long; capitular long-pedicellate 22
20. (19) Leaves spathulate, 10–20 mm long; involucre 7–8 mm tall, 5–6 mm diam.; phyllaries 13–20
S. evacooides
Leaves ovate, elliptic or circular, margins crenate, 10–60 mm long, 8–15 mm wide; phyllaries 13–25 21
21. (20) Leaves 10–30 mm long; involucre 10 mm tall; phyllaries 20–25 *S. expansus*
Leaves 30–65 mm long; involucre 6–7 mm tall, 8–10 mm diam.; phyllaries 13–20 *S. repens*
22. (19) Leaves lanceolate or ovate, base attenuate in a pseudopetiole, 5–25 mm total length; phyllaries 13–15 *S. pflanzii*
Leaves oblong-lanceolate, 30–50 mm long, 2–5 mm wide; phyllaries 16–20 *S. tenuicaulis*
23. (18) Leaves entire, spathulate; phyllaries 15 *S. algens*
Leaves dentate or divided 24
24. (23) Phyllaries 8; leaves trifurcate *S. trifurcifolius*
Phyllaries 10–15 25
25. (24) Leaves sinuate-dentate *S. apolobambensis*
Leaves lobulate or divided 26
26. (25) Phyllaries with linear oil glands; calycular bracts long *S. puchi*
Phyllaries glandular; calycular bracts reduced *S. pinnatilobatus*

Senecio acaulis Phil., Anales Univ. Chile 18: 52 (1861) = **Senecio breviscapus** DC.

Senecio acuminatissimus Cabrera, Notas Mus. La Plata, Bot. 18(No. 89): 233 (1955) = **Dendrophorbium acuminatissimum** (Cabrera) D. J. N. Hind

***Senecio adamantinus** Bong., Mém. Acad. Imp. Sci. S.-Pétersbourg. Sér., Sci. Math., Seconde Pt. Sci. Nat. 6(2): 31, tab. 1 (1838). Type: [Brazil:] 'Crescit prope Tejuco, in districtu adamantino Brasiliae.' [*Langsdorff*]. Holotype LECB. Cabrera (1957: 220) cited *Riedel* 1242 as the type collection, but it is clear from Bongard's account that the collector of the plants described was *Langsdorff*, as well as the location of the holotype in LECB, not in LE.

Senecio sessilis Vell., Fl. Flum. Icones 8: tab. 106 (1831), non Thunb. (1800). Type: not cited. 'Habitat campis apricis transalpinis. Floret Nov.' (Arch. Mus. Nac. Rio de Janeiro 5: 333 (1881)).

Senecio camporum Gardner, London J. Bot. 7: 423 (1848). Type: 'Hab. Upland Campos on an elevated mountain range to the north of the Diamond District. July, 1840.' [*Gardner*] 4941.

Senecio adamantinus Bong. var. *integrifolius* Baker in Mart., Fl. Bras. 6(3): 321 (1884). Type: 'Var. β. prope Rio de Janeiro: Glaziou n. 4855!' [Bull. Soc. Bot. France, Mém. 3e: 419 (1910) gave: 'Itatiaia, dans le campo, RIO-JAN.' for this number and 6587 and 16183] [Material in K, C, P, S.]

Bolivia (?), Brazil.

Note: Although cited in Foster (1958: 216) Cabrera (1985) did not record this species

Senecio adamantinus Bong. var. *integrifolius* Baker in Mart., Fl. Bras. 6(3): 321 (1884) = **Senecio adamantinus** Bong.

Senecio adenophylloides Sch.Bip., Bonplandia 4(4): 52 (1856), nom. nud. (based on *Lechler* 1904) = **Senecio austrorufescens** Cuatrec.

Senecio adenophylloides Sch.Bip., Bonplandia 4(4): 52 (1856), nom. nud. (based on *Lechler* 1904) = **Senecio austrorufescens** Cuatrec.

***Senecio adenophyllus** Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 282 (1843). Type: 'Peruvia: cum praecedente. (v.s.)' [q.v. **Senecio scorzoniferolius** - 'Peruvia: in planitie circa Tacorum, alt. 14–17,000 ped.']. Holotype: B†. Note: Cabrera (1985: 202) appeared to have neotypified the name based on a *Meyen* duplicate in P – an isotype!

Senecio adenophyllus Meyen & Walp. var. β *oblongifolia* Wedd., Chloris Andina 1: 112 (1856), nom. nud. Note:

Cabrera (1985: 202) oddly 'lectotypified' this name based on material in P and G.

Argentina, Bolivia (La Paz, Oruro, Potosí, Tarija), Chile, Peru.

4000–5000 m.

The following specimens were cited against the species by Weddell; all of his infraspecific taxa were nomina nuda. 'Hab. Pérou: sur la Cordillère de Tacora! entre Tacna et La Paz, h. 4000 mètres (*Meyen, Wedd.*); département de Cuzco! (*Gay*). – Bolivie: province de Carangas! (*d'Orbigny*, n. 1393); fentes des rochers de la quebrada de las lagunas, près de Potosi!, au niveau des neiges (*d'Orbigny*, n. 1406).'

Senecio adenophyllus Meyen & Walp. var. *α angustifolius* Wedd., *Chloris Andina* 1: 112 (1856), nom. nud. = **Senecio phylloleptus** Cuatrec.

Senecio adenophyllus Meyen & Walp. var. *β oblongifolia* Wedd., *Chloris Andina* 1: 112 (1856), nom. nud. = **Senecio adenophyllus** Meyen & Walp.

Senecio adenophyllus Meyen & Walp. var. *stipulata* Domke, *Notizbl. Bot. Gart. Mus. Berlin-Dahlem* 13(117): 246 (1936) = **Senecio phylloleptus** Cuatrec.

Senecio agapatensis Sch.Bip., *Bonplandia* 4(4): 52, 55 (1856), nom. nud. (based on *Lechler* 1903) = **Senecio ayapatensis** Sch.Bip. ex Wedd.

Senecio albens Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud. (based on *Mandon* 120) = **Senecio pensilis** Greenm.

***Senecio algens** Wedd., *Chloris Andina* 1: 104 (1856). Type: 'Hab. BOLIVIE: fentes des rochers, au niveau des neiges, dans la quebrada de las lagunas, près de Potosi! (*d'Orbigny*, n° 1405).' Holotype: P.

Senecio algens Wedd. var. *major* Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud. (based on *Mandon* 129)

Senecio algens Wedd. var. *minor* Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865), *Linnaea* 34(5): 531 (Feb. 1866), nom. nud. (based on *Mandon* 106)

Argentina, Bolivia (La Paz, Potosí), Chile, Peru.

Vegetación geliturbada de Lipez (Lipez high-andean frost-desert vegetation).
4500–5000 m.

March.

Senecio algens Wedd. var. *major* Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud. (based on *Mandon* 129) = **Senecio algens** Wedd.

Senecio algens Wedd. var. *minor* Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865), *Linnaea* 34(5): 531 (Feb. 1866), nom. nud. (based on *Mandon* 106) = **Senecio algens** Wedd.

Senecio alniphilus Cabrera, *Darwiniana* 26(1–4): 175 (1985). Type: 'Bolivia, Depto. Tarija, Prov. O'Connor, Tarija, 71 km hacia Entre Ríos. Abra de Pinos 2200 m Bosque montano, estacionalmente húmedo de *Alnus jorullensis* y *Podocarpus parlatore*. Leg. St. G. Beck et M. Liberman 9655, 22-X-1983'. Holotype: SI; isotype: LPB. Bolivia (Chuquisaca, Tarija).

2050–2200 m.

October.

Senecio alternifolius* (Sch.Bip. ex Rusby) Greenm., *Ann. Missouri Bot. Gard.* 10: 76 (1923) = **Nordenstamia repanda (Wedd.) Lundin

Senecio ambrosioides Mart., ex Baker in Mart., *Fl. Bras.* 6(3): 322 (1884), nom. nud. pro syn. = **Senecio brasiliensis** (Spreng.) Less.

Senecio amphilobus* Wedd., *Chloris Andina* 1: 109 (1856) = **Senecio dryophyllus Meyen & Walp.

Senecio amphilobus Wedd. var. *socialis* (Wedd.) Cabrera, *Lilloa* 15: 307 (1949) = **Senecio dryophyllus** Meyen & Walp.

Senecio anacephalus Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 208 (1879) = **Culcitium humile** DC.

Senecio antaicochensis Cuatrec., *Fieldiana, Bot.* 27(2): 67 (1951) = ***Senecio hohenackeri** Sch.Bip.

Senecio antennaria Wedd., *Chloris Andina* 1: 106 (1856) = **Chersodoma antennaria** (Wedd.) Cabrera

Senecio antennaria Wedd. [var.] *β caulescens* Wedd., *Chloris Andina* 1: 106 (1856) = **Chersodoma antennaria** (Wedd.) Cabrera

Senecio apolobambensis Cabrera, *Hickenia* 2(4): 14 (1984). Type: 'BOLIVIA, Dpto. La Paz. Prov. F. Tamayo, Ulla-Ulla, estribaciones de la cordillera de Apolobamba, ladera pedregosa a 4700 m, leg. X. Menhofer 1082, 3-IV-1982'. Holotype: SI.

Bolivia (La Paz).

4000–4800 m.
March–April.

Senecio aquilaris Cabrera, *Notas Mus. La Plata, Bot.* 15(No. 75): 74 (1950). Type: 'ARGENTINA. – Jujuy: Dep. Humahuaca, Mina Aguilar, 4850 m s.m., leg. A. L. Cabrera, 9251, 14-I-1948'. Holotype: LP.
Argentina, Bolivia (La Paz).

4800–5000 m.
January.

Senecio armeriifolius Phil., *Anales Mus. Nac. Chile, Secc. 2, Bot.* 8: 43 (1891) = **Senecio scorzonerifolius** Meyen & Walp.

***Senecio attenuatus** Sch.Bip. ex Rusby, *Mem. Torrey Bot. Club* 3(3): 63 (1893). Types: [Bolivia:] 'Vic. La Paz, 10,000 ft., 1889 ([Bang] 70); 1890 ([Bang] 180). = Rusby 1717.' Lectotype (selected by Cabrera, 1985: 157): Bang 180, NY (00259110); isolectotypes: K, US. Isosyntype: Bang 70, K × 2, MO, NY (00259111), US (00040355).

Senecio attenuatus Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud.
(based on Mandon 139).

Bolivia (La Paz), Peru.

3500–4100 m.

Senecio attenuatus Sch.Bip. *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud. (based on Mandon 139) = **Senecio attenuatus** Sch.Bip. ex Rusby

Senecio attenuatus* Sch.Bip. ex Rusby var. *microphyllus* Britton, *Bull. Torrey Bot. Club* 19(9): 264 (1892) = **Senecio potosianus Klatt

Senecio austrorufescens Cuatrec., *Fieldiana, Bot.* 27(1): 43 (1950), as nom. nov. pro *Senecio rufescens* DC. *Senecio rufescens* DC., *Prodr.* 6: 413 (1838), non (Humb. & Bonpl.) Cuatrec. (1950) (= **Culcitium rufescens** Humb. & Bonpl.). Type: '■ in Chili ad Cordilleram del Planchon legit cl. Néé! ... (v.s.)'. Holotype: G-DC; isotype: P-JU (9004).

Senecio adenophylloides Sch.Bip., *Bonplandia* 4(4): 52 (1856), nom. nud. (based on Lechler 1904). Note: Cabrera (1985: 167) unnecessarily cited a holotype and several isotypes.

Senecio adenophylloides Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud. (based on Mandon 125).

**Senecio glacialis* Wedd. var. *adenophylloides* (Sch.Bip.) Perkins, *Bot. Jahrb. Syst.* 49: 230 (1913), comb. inval. Argentina, Bolivia (Cochabamba, La Paz, Oruro, Potosí), Ecuador, Peru.

Puna Peruana.

3500–5300 m.

March–April.

***Senecio ayapatensis** Sch.Bip. ex Wedd., *Chloris Andina* 1: 129 (1855). Type: 'Hab. Pérou: Cordillère d'Ayapata! (1) (Lechler, exsicc., n. 1903 [II-1854]).' The footnote referred to reads 'C'est pas erreur que ce mot se trouve écrit avec un g dans les étiquettes de 'exsiccata de Lechler.' Holotype: P; isotypes: B†, G, K.

Senecio agapatensis Sch.Bip., *Bonplandia* 4(4): 52, 55 (1856), nom. nud. (based on Lechler 1903).

Bolivia (La Paz), Peru.

(2500–) 3500–4000 m.

February–June.

Note: This species was recorded by Foster (1958) as *Senecio agapatensis* Sch.Bip.

Senecio ayopayensis* Cuatrec., *Fieldiana, Bot.* 27(2): 50 (1951) = **Dendrophorbium ayopayense (Cuatrec.) D. J. N. Hind

Senecio baccharidiflorus* Rusby, *Bull. New York Bot. Gard.* 4(14): 397 (1907) = **Pentacalia oronocensis (DC.) Cuatrec.

Senecio balansae Baker in Mart., *Fl. Bras.* 6(3): 317 (1884) = **Senecio grisebachii** Baker

***Senecio bangii** Rusby, *Mem. Torrey Bot. Club* 3(3): 64 (1893). Type: [Bolivia:] 'Capi, March, 1890 ([Bang] 778).' Holotype: NY (00259117); isotype: F (163544), K, MO, NY (00259116), US (01403270).

Lomanthus bangii (Rusby) B. Nord. & Pelser, *Compositae Newslett.* 47: 37 (2009).
Argentina, Bolivia (La Paz).
3000–3700 m.
March.

Note: Nordenstam et al. (2009) have transferred a number of species of *Senecio* to the new genus *Lomanthus* B. Nord. & Pelser, including *S. bangii*. Until more evidence is forthcoming I prefer to leave *S. bangii* in *Senecio*.

Senecio beckii Cabrera, *Hickenia*, 2(4): 15 (1984) = **Pentacalia beckii** (Cabrera) Cuatrec.

Senecio benthamii sensu Baker in Mart., *Fl. Bras.* 6(3): 318 (1884), non Griseb. = **Pseudogynoxys cabreræ** H. Rob. & Cuatrec.

Senecio biacuminatus* Rusby, *Bull. New York Bot. Gard.* 4(14): 394 (1907) = **Dendrophorbium biacuminatum (Rusby) C. Jeffrey

Senecio biserrifolius* Kuntze, *Revis. Gen. Pl.* 3(3): 171 (1898) = **Dendrophorbium biserrifolium (Kuntze) D. J. N. Hind

Senecio boliviensis Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud.

(based on *Mandon* 134, and *Mandon* 135 as '*Senecio boliviensis* Sz. Bip. var.')

ex Klatt

***Senecio boliviensis** Sch.Bip. ex Klatt, *Leopoldina* 23: 10 (1887). Types: 'Bolivia, Viciniis Sorata, Cochipata, in scopulosis et Viciniis Yani, in graminosis, leg. G. Mandon No. 134 et No. 135.' Syntypes: GH, K. Isosyntype (*Mandon* 134): US (02515489). Solbrig (1965: 190) has indicated the *Compositae* of Klatt's herbarium were purchased by B. L. Robinson and are in GH. Cabrera (1985: 180) lectotypified this name based on *Mandon* 134 in S; isolectotypes: B†, G, K, LP, NY (00259122, 00259123), P. Isosyntypes of *Mandon* 135 are in G, P, and S. *Senecio boliviensis* Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud.

(based on *Mandon* 134, and *Mandon* 135 as '*Senecio boliviensis* Sz. Bip. var.')

Senecio boliviensis Sch.Bip. ex Klatt, *Leopoldina* 24: 127 (1888), nom. illegit. superfl.

**Senecio pectioides* Rusby, *Bull. New York Bot. Gard.* 4(14): 395 (1907). Type: [Bolivia:] '([Bang] No. 1829.)'

Holotype: NY(00259331); isotype: K, NY (00259332), US (00325740). Note: The NY isotype was determined as 'holo- or iso-' by Pruski. raising an interesting point, especially since Rusby had determined both, the isotype having been in the College of Pharmacy Herbarium, via the third subscriber listed by Rusby in the distribution of *Bang's* collections – 'Mr. Wm. M. Canby, Wilmington, Del. (The Canby Herbarium has now become the property of the New York College of Pharmacy).' (Rusby, 1893), incorporated into NY in 1948.

Bolivia (Cochabamba, La Paz, Santa Cruz), Peru.

High montane forest.

3200–4200 m.

April–May.

Senecio bomanii R. E. Fr., *Arkiv Botanik* 5(13): 26 (1906) = **Dendrophorbium bomanii** (R. E. Fr.) C. Jeffrey

Senecio boyacensis (Cuatrec.) Cuatrec., *Fieldiana, Bot.* 27(1): 43 (1950) = **Culcitium canescens** Humb. & Bonpl.

Senecio brasiliensis (Spreng.) Less., *Linnaea* 6(2): 249 (1831).

Cineraria brasiliensis Spreng., *Neue Entd.* 2: 142 (Jan 1821). Type: 'E Brasilia. Otto.' Holotype: P.

Senecio schlehtendahlia Mart. ex Baker in Mart., *Fl. Bras.* 6(3): 322 (1884), nom. nud. pro syn. (based on specimen in Herb. Fl. Bras. n. 770).

Senecio ambrosioides Mart., ex Baker in Mart., *Fl. Bras.* 6(3): 322 (1884), nom. nud. pro syn.

Senecio tripartitus DC., *Prodr.* 6: 418 (1838), non A. Rich. (1834). Type: 'in Brasiliae prov. Rio-Grande (h. mus. imp. Bras. n. 921). ... (v.s. in h. Mus. reg. Par.)'. Holotype: P; isotype: G-DC (fragments of the upper part of an inflorescence and a leaf).

Senecio megapotamicus Buek, *Index Prodr.* 2: 6 (1840), as nom. nov. pro *S. tripartitus* DC.

Senecio cannabinifolius Hook. & Arn., *J. Bot. (Hooker)* 3: 341 (1841). ?Types: 'Marshes of La Plata, near Buenos Ayres; Tweedie. – β. ... – Banda Orientale; Tweedie. Note: There is one sheet in K with three shoots, ex herb. Hookerianum, which is labelled clearly 'These 3 are [illegible script] of the marshes of La Plata near B^s-Ay^s. / F Tw[eedie]'. Against the left hand specimen 'Banda Orientale' is written (on the sheet), together with Baker's annotation 'S. brasiliensis Less. β?'; this specimen has a pencilled line separating it from the other two shoots. Against the middle shoot is written 'S. canabinaefolia/H. & Arn.' under which Baker has annotated the sheet 'S. brasiliensis, Less./var. S. tripartitus, DC.', and someone else has written in ink

'Type'. There is also another specimen, ex herb. Benthamianum, labelled 'Buenos Ayres Tweedie 1837' which may well be a duplicate of the collection mentioned above. A further sheet, ex herb. Hookerianum, is labelled 'Senecio .../in Marshes of La Plata Tweedie', although this specimen stands out since its leaves are apparently simple but actually have two small lobes near the base; it is annotated by Baker as 'brasiliensis var.' in pencil on the sheet.

Senecio brasiliensis (Spreng.) Less. var. *tripartitus* (DC.) Baker in Mart., Fl. Bras. 6(3): 322 (1884).

Senecio brasiliensis (Spreng.) Less. var. *incanus* Baker in Mart., Fl. Bras. 6(3): 322 (1884). Type: [Uruguay:] 'ad Montevideo: *Arechavaleta* n. 4004a!' Holotype: K.

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay, Uruguay.

Disturbed ground, roadsides, damp grassland, river banks, lake margins, a widespread weedy plant and very poisonous to livestock.

40–1000 m.

(September–) October–January (–June). Probably flowering sporadically throughout the year.

Vernacular names: FLOR-DAS-ALMAS, MARIA-MOLE, CATIÃO, ERVA LACETA, MALMEQUER (Cabrera & Klein, 1975); YERBA DE LA PRIMAVERA (Freire et al., 2006).

Senecio breviscapus DC., Prodr. 6: 418 (1837). Type: 'in Chilensibus Cordilleris legit cl. Haenke. ... (v.s. in h. Haenk. ab. ill. de Sternberg miss.)'. Holotype: PR; isotype: G-DC (fragment of one piece of shoot with a few leaves and one capitulum). Note: Cabrera (1985: 108) indicated the holotype was in G.

Senecio wernerioides Wedd., Chloris Andina 1: 128 (1856). Type: 'Hab. PÉROU: endroits marécageux des Cordillère, entre Puno et Arequipa!, h. 4000 mètres (Wedd.)'. Holotype: P.

Senecio chamaecephalus Wedd., Chloris Andina 1: 132 (1856). Type: 'Hab. CHILI? (Gay)'. Holotype: P.

Senecio acaulis Phil., Anales Univ. Chile 18: 52 (1861). Type: [Chile:] 'Huanta, en una elevación de 4.000 metros (Volkmann)'. – Pizarro (1960: 154) cited one collection: SGO 64529, which Cabrera (1985: 108) cited as the holotype.

Werneria cortusifolia Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 194 (1874); Pl. Lorent. : 146 (1874), comb. superfl. pro *Senecio wernerioides* Wedd.

Werneria wernerioides (Wedd.) Kuntze, Revis. Gen. Pl. 3(3): 184 (1898).

Argentina, Bolivia (La Paz), Chile, Peru.

2500–4000 m.

February–April.

Senecio brittonianus* Hieron., Bot. Jahrb. Syst. 29(1): 72 (1900) = *Pentacalia brittoniana*** (Hieron.) Cuatrec.

Senecio buchtienii* Greenm., Ann. Missouri Bot. Gard. 10: 78 (1923) = *Dendrophorbium buchtienii*** (Greenm.) C. Jeffrey

Senecio burkartii Cabrera, Notas Prelim. Mus. La Plata 3: 111 (1934). Type: [Argentina:] 'Tucumán: sierras Calchaquíes, La Puerta, 4000 m. s. m., raro entre grandes rocas en lugar abrigado y húmedo, leg. A. Burkart, n° 5223, 30-I-1933.' Types: 'B., C.' [B = 'herbario del ingeniero agrónomo Arturo Burkart'; C = 'herbario del autor' – A. L. Cabrera]. This is considered a citation of two syntypes, i.e. two duplicates of Burkart's collection. Cabrera (1985: 125) cited 'Holotype: LP; isotype: SI' effectively lectotypifying the name based on the material in LP; isolectotype: SI.

Senecio hygrophilus Cuatrec., Collect. Bot. (Barcelona) 3(3): 274 (1953). Type: 'Perú, Dep. Cuzco, prov.

Urubamba: near Wenner Gren ruins; alt. 3,400–3,600 m., collect. R.D. Metcalf 30755. «Annual herb. 1–1.7 m. high; involucre yellow; disc fls. yellow, pappus white. Open wet sphagnum bog, much fog and rain.»'

Holotype: US (1876098); isotype: GH (12145 – ex A).

Argentina, Bolivia (Cochabamba), Peru.

Marshy areas.

3500–4500 m.

Senecio cabreræ* Cuatrec., Fieldiana, Bot. 27(2): 61 (1951) = *Dendrophorbium cabreræ*** (Cuatrec.) C. Jeffrey

Senecio cabrerianus* Greenm. & Cuatrec., Repert. Spec. Nov. Regni Veg. 55: 134 (1953), nom. nov. pro *Senecio williamsii* Rusby = *Dendrophorbium cabrerianum*** (Greenm. & Cuatrec.) C. Jeffrey

Senecio cacalioides Fisch. ex Spreng., Nov. Prov. : 37 (1819) = ***Erechtites hieraciifolia*** (L.) Raf. ex DC. var. ***cacalioides*** (Fisch. ex Spreng.) Griseb.

Senecio campanulatus Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud. (based on *Mandon* 121) = **Aetheolaena campanulata** (Sch.Bip. ex Klatt) B. Nord.

Senecio campanulatus* Sch.Bip. ex Klatt, Leopoldina 24: 126 (1888) = **Aetheolaena campanulata (Sch.Bip. ex Klatt) B. Nord.

Senecio campanulatus* Sch.Bip. ex Klatt var. *glabrescens* Cabrera, Blumea 7: 198 (1952) = **Aetheolaena campanulata (Sch.Bip. ex Klatt) B. Nord.

Senecio camporum Gardner, London J. Bot. 7: 423 (1848) = **Senecio adamantinus** Bong.

Senecio cannabinifolius Hook. & Arn. = **Senecio brasiliensis** (Spreng.) Less. var. **tripartitus** (DC.) Baker

Senecio candollii Wedd., Chloris Andina 1: 106 (1856), nom. nov. pro *Culcitium humile* DC. = **Culcitium humile** DC.

Senecio canescens* (Humb. & Bonpl.) Cuatrec., Fieldiana, Bot. 27(1): 43 (1950) = **Culcitium canescens Humb. & Bonpl.

Senecio canescens (Humb. & Bonpl.) Cuatrec. var. *boyacensis* (Cuatrec.) Cuatrec., Fieldiana, Bot. 27(2): 36 (1951) = **Culcitium canescens** Humb. & Bonpl.

Senecio canescens (Humb. & Bonpl.) Cuatrec. var. *ecuadoriensis* Cuatrec., Fieldiana, Bot. 27(2): 37 (1951) = **Culcitium canescens** Humb. & Bonpl.

Senecio canescens (Humb. & Bonpl.) Cuatrec. var. *elongatus* Cuatrec., Fieldiana, Bot. 27(2): 37 (1951) = **Culcitium canescens** Humb. & Bonpl.

Senecio canescens (Humb. & Bonpl.) Cuatrec. var. *elongatus* Cuatrec. f. *magnificus* Cuatrec., Fieldiana, Bot. 27(2): 37 (1951) = **Culcitium canescens** Humb. & Bonpl.

Senecio canescens (Humb. & Bonpl.) Cuatrec. var. *macrocephalus* Cuatrec., Fieldiana, Bot. 27(2): 36 (1951) = **Culcitium canescens** Humb. & Bonpl.

Senecio canescens* (Humb. & Bonpl.) Cuatrec. var. *monocephalus* (Wedd.) Cuatrec., Fieldiana, Bot. 27(2): 37 (1951). = **Culcitium canescens Humb. & Bonpl.

Senecio cardenasii* Cuatrec., Fieldiana, Bot. 27(2): 48 (1951) = **Petacalia cardenasii (Cuatrec.) Cuatrec.

Senecio carduifolius (Cass.) Desf., Cat. Hort. Paris. ed. 3: 177 (1829) = **Erechtites hieraciifolia** (L.) Raf. ex DC. var. **cacalioides** (Fisch. ex Spreng.) Griseb.

Senecio cernuiflorus Cabrera, Notas Prelim. Mus. La Plata 3: 114 (1934) = **Senecio serratifolius** (Meyen & Walp.) Cuatrec.

Senecio cernuus Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 44 (1891), nom. illegit., non L. (1753) = **Senecio serratifolius** (Meyen & Walp.) Cuatrec.

Senecio chaenocephalus* Cabrera, Notas Mus. La Plata, Bot. 9 (No. 45): 192 (1944) = **Dendrophorbium chaenocephalum (Cabrera) C. Jeffrey

Senecio chamaecephalus Wedd., Chloris Andina 1: 132 (1856) = **Senecio breviscapus** DC.

Senecio charaguensis* Cuatrec., Fieldiana, Bot. 27(2): 59 (1951) = **Senecio hieronymi Griseb.

Senecio chersodoma Reiche, Anales Univ. Chile 114: 189 & 261 (1904), nom. nud. [TO CHECK] based on *C. candida* Phil. = **Chersodoma candida** Phil.

***Senecio chodatianus** Cuatrec., Collect. Bot. (Barcelona) 3(3): 278 (1953). Type: 'Bolivia: Sailapata, Ayopaya, 2,700 m. alt. «Herb 60-80 cm. high at sandy and dry soil.» Collected *Manuel Cárdenas* 3114.' Holotype: US (01618874); photo F - 40670.

Bolivia (Cochabamba, Santa Cruz).
c. 2700 m.

Note: One collection, *Wood* et al. 26531 (K), is remarkably glabrescent, but certainly possesses the pubescent achenes expected of this species, unlike the glabrous achenes of the adjacent species, *S. boliviensis* and *S. pongoensis* (cf. *Cabrera*, 1985).

Senecio choroensis Cuatrec., Brittonia 12: 193 (1960). Type: 'Bolivia: Cochabamba: Above the Cacapata River about 100 miles nw of Cochabamba, across the Tunari range; lower and steeper slopes covered with forest, the rest pasture, cultivated at intervals; from 12000 ft upwards, constant cloud or rain in summer, lifting occasionally; Choro, 13500 ft on damp rocks in the cloud district, 8 Mar 1950, *Miss W. M. A. Brooke* 6156'. Holotype: NY (77352); isotype: US (02426330).

Bolivia (Cochabamba).
c. 4100 m.

February–March.

Senecio chrysolepis Phil., Fl. Atacam.: 32 (1860); Reise Atacama: 206 (1860). Type: 'Prope Rio Frio ad 24°50'lat. m. et 10800 p.s. m. frequens crescit.' Pizarro (1960: 156) cited one collection, 60675, in SGO. Argentina, Bolivia (Potosí), Chile.
4000–4300 m.

Senecio chulumanicus Cabrera, Hickenia, 2(4): 17 (1984) = **Pentacalia chulumanica** (Cabrera) Cuatrec.
Senecio clavifolius* Rusby, Mem. Torrey Bot. Club 3(3): 64 (1893) = **Senecio potosianus Klatt

***Senecio clivicolus** Wedd., Chloris Andina 1: 130 (1856). Types: 'Hab. BOLIVIE: environs de La Paz!, h. 3000-3600 m. (Pentland, Wedd.)'. Lectotype (selected by Cabrera, 1985: 189): *Weddell* s.n., P. Note: The *Pentland* syntype is also in P.

var. **clivicolus**

**Senecio pampae* Lingelsh. var. *penicillatus* Lingelsh., Repert. Spec. Nov. Regni Veg. 8: 6 (1910). Type: 'Bolivien: La Paz. 3600 m (Buchtien, n. 77!)'. Holotype: B†; NY (00259324).

Senecio fiebrigianus Cabrera, Bol. Soc. Argent. Bot. 10(1): 31 (1962). Type: 'Bolivia. Chiquiaca, leg. K. Fiebrig, 3517, 5-II-1904'. Holotype: G; isotype: K.

Bolivia (Cochabamba, La Paz, Oruro, Tarija), Peru.

Boliviano-Tucumano montane scrub, ancient clearings and deforested areas on eroded soils in *Podocarpus parlatoarei* forest, around cultivated areas.

2500–4000 m.

February–April.

Tarija, leg. K. Fiebrig, 2937, 5-II-1904 (G) (Cabrera, 1962: 32).

var. **pampae** (Lingelsh.) Cabrera, Darwiniana 26(1–4) 1985).

**Senecio pampae* Lingelsh., Repert. Spec. Nov. Regni Veg. 8: 6 (1910). Type: 'Bolivien: Pazua, in der Pampa, 4000 m (Buchtien, no. 1582!)'. Holotype: B†; isotype: NY (00259323), US (01098284). Note: Cabrera (1985: 189) cited a 'Clastotipo' in MO.

Bolivia (Cochabamba, Oruro, Potosí, Sucre, Tarija), Argentina.

3000–4000 m.

***Senecio cochabambensis** Cabrera, Blumea 7(1): 201 (1952). Type: 'Hab.: An sonnigen Schieferfelsen im Llavetal bei Cochabamba, 3700 m alt., Mai 1911, [Herzog] n. 2093 (Typus)'. Holotype: L(950252316); isotypes: LP (77093, 898932), S.

Bolivia (Cochabamba).

3500–3700 m.

May.

***Senecio colaminus** Cuatrec., Fieldiana, Bot. 27(2): 58 (1951). Type: 'Bolivia, Cochabamba: Colami 2900 m. alt. Dry hill sides, herb 10-70 cm. Fl. yellow, collect. M. Cárdenas 3654 [I-1946]'. Holotype: US (01564487); isotypes LIL, SI.

Bolivia (Cochabamba).

2900–4000 m.

January.

Senecio comarapensis* Cabrera, Darwiniana 10: 599 (1954) = **Pentacalia comarapensis (Cabrera) Cuatrec.

Senecio comosus Sch.Bip., Bonplandia 4(4): 52 (1856). Type: not stated, but following Hohenacker's contemporary list it was based on *Lechler* 2051. Holotype: P; isotypes: G, K. Cited by Cabrera (1985: 116) as 'Perú. Tabina, W. *Lechler* 2051, VII-1854'.

var. **comosus**

Bolivia (Cochabamba, La Paz), Peru.

2500–4000 m.

var. **culcitioides** (Sch.Bip.) Cabrera, Darwiniana 26(1–4): 116 (1985).

Senecio culcitioides Sch.Bip., Bonplandia 4(4): 52 (1856). Type: not stated but a contemporary list of determinations (Hohenacker, 1856: 55) indicated that this was based on *Lechler* 2051a, given by Weddell (1856: 103) as 'PÉROU: province de Carabaya, dans la Cordillère de Tabina! (*Lechler*, exsicc. n° 2051, a.)'. Note: Cabrera (1985: 116) cited the holotype as *Lechler* 2051a in P.

**Senecio culcitioides* Sch.Bip. ex Wedd., Chloris Andina 1: 103 (1856), nom. illegit. superfl. Types: 'Hab. PÉROU: province de Carabaya, dans la Cordillère de Tabina! (*Lechler*, exsicc. n° 2051, a.); Huasa-huasi! (*Dombey*). - BOLIVIE: Sur la crête de la Cordillère de Sorata! à une hauteur de plus de 5000 mètres (*Wedd.*); le long des ruisseaux, au sommet de la Cordillères de La Paz! (*d'Orbigny*, n° 342).' Syntypes: P.

Senecio culcitioides Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 530 (Feb. 1866), nom. nud. (based on *Mandon* 116)

Bolivia (Chuquisaca, La Paz), Peru.

Amongst rocks, in derelict mining areas.

4300–5000 m.

April–August.

Note: It is clear that Weddell (1856: 103) and Cabrera (1985: 116) both thought that Schultz Bipontinus' name was a nom. nud. However, a perfectly adequate, short, diagnosis was given for *Senecio culcitioides*.

Cuatrecasas (1951) described two other varieties, var. *blancus* and var. *debilis* which he considered different from the Bolivian entity.

Senecio coroicensis* Rusby, Bull. New York Bot. Gard. 4(14): 395 (1907) = **Dendrophorbium coroicense (Rusby) C. Jeffrey

Senecio crassus Vell., Fl. Flum. Icones 8: pl. 111 (1831) = **Erechtites valerianifolia** (Link ex Spreng.) Less. ex DC. var. **valerianifolia**

Senecio crepidifolius DC., Prodr. 6: 425 (1837). Type: '– in Peruvia legit cl. *Haenke*. ... (v.s. in h. *Haenke* à cl. de Sternberg miss.)'. Holotype: PR. Note: Cabrera (1985: 178) cited the holotype as in G, with an isotype in P. Argentina, Bolivia (Tarija), Peru. Note: Brako & Zarruchi (1993) state that this taxon was not known from Peru!

2000–4000 m.

Senecio culcitioides Sch.Bip., Bonplandia 4(4): 52 (1856), nom. nud. = **Senecio comomsus** Sch.Bip. var. **culcitioides** (Sch.Bip. ex Wedd.) Cabrera

Senecio culcitioides* Sch.Bip. ex Wedd., Chloris Andina 1: 103 (1856) = **Senecio comomsus Sch.Bip. var. **culcitioides** (Sch.Bip. ex Wedd.) Cabrera

Senecio culcitioides Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 530 (Feb. 1866), nom. nud. (based on *Mandon* 116) = **Senecio comomsus** Sch.Bip. var. **culcitioides** (Sch.Bip. ex Wedd.) Cabrera

Senecio curvidens Sch.Bip., Bonplandia 4(4): 52 (1856) = **Dendrophorbium curvidens** (Sch.Bip.) C. Jeffrey

Senecio curvidens Sch.Bip. ex Klatt, Leopoldina 23: 9 [1886](1887), nom. superfl. = **Dendrophorbium curvidens** (Sch.Bip. ex Klatt) C. Jeffrey

Senecio cuzcoensis Cabrera, Notas Mus. La Plata, Bot. 9(No. 45): 196 (1941) = **Pentacalia oronocensis** (DC.) Cuatrec.

Senecio deferens Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 193 (1874); Pl. Lorentz.: 145 (1874).

Types: 'Santiago del Estero, gregarie ad sepes et ad fl. Rio dulce. Catamarca, ubique ad vias pr. Fuerte del Andalgalá.'

Argentina, Bolivia (Santa Cruz).

Senecio declinus Wedd., Chloris Andina 1: 107 (1856) = **Chersodoma antennaria** (Wedd.) Cabrera

Senecio declinus Wedd. var. *glabriusculus* Cabrera, Notas Mus. La Plata, Bot. 1(No. 4): 96 (1935) = **Chersodoma antennaria** (Wedd.) Cabrera

Senecio dictyophlebius* Greenm., Ann. Missouri Bot. Gard. 25: 801 (1938) = **Pentacalia dictyophlebia (Greenm.) Cuatrec.

Senecio disparifolius Cabrera, Notas Prelim. Mus. La Plata 3: 116 (1934) = **Senecio subulatus** D. Don ex Hook. & Arn. var. **salsus** (Griseb.) Cabrera

Senecio diversifolius Phil., Anal. Univ. Nac. Chile 43: 495 (1873) = **Senecio subulatus** D. Don ex Hook. & Arn. var. **salsus** (Griseb.) Cabrera

Senecio dombeyanus DC., Prodr. 6: 418 (1837). Type: '■ in Amer. austr. legit cl. *Dombey* sed locus propr. ign. ... (v.s.)'. Holotype: G-DC. Note: isotype material should also be looked for in P.
Bolivia (Chuquisaca, Cochabamba, Tarija).
c. 2500 m.

Senecio dryophyllus Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 283 (1843). Type: 'Peruvia cum praecedente. (v.s.)' [q.v. *Senecio scorzoniferifolius* - 'Peruvia: in planitie circa Tacorum, alt. 14-17,000 ped.']. Holotype: B†. Cabrera (1985: 161) indicated that a 'Clastotipo' exists in MO.

**Senecio amphibolus* Wedd., Chloris Andina 1: 109 (1856). Type: 'Hab. BOLIVIA: prov. de Carangas! (*d'Orbigny*, n. 1413)'. Holotype: P; isotypes: G, K.

Senecio socialis Wedd., Chloris Andina 1: 109 (1856). Type: 'Hab. PÉROU: département de Tacna, sur haut plateau de la Cordillère de Tacora!, où il croît abondamment, en société de plusieurs Baccharidées (*Wedd.*)'. Holotype: P.

Senecio tarapacanus Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 42 (1891). Type: 'Habitat inter Paroma et Amincha nec non ad lacum Ascotan 3750 m. s. m.'. Pizarro (1960: 162) cited one collection, 44451, in SGO. Cabrera (1985: 161) indicated an isotype in SI.

**Senecio subvulgaris* Kuntze, Revis. Gen. Pl. 3(3): 178 (1898). Type: 'Bolivia: Bei den Silberbergwerken von Machacamarca 4000 m.' ['BOLIVIA. Bei den Silberbergwerken von Machacamarca, 4000 m, 12 Mar 1892, Kuntze s.n.' - according to Wetter & Zanoni, 1985: 338]. Holotype: NY(259426); isotype: B†. Cabrera (1985: 161) suggested that the holotype was in B.

Senecio amphibolus Wedd. var. *socialis* (Wedd.) Cabrera, Lilloa 15: 307 (1949).

Argentina, Bolivia (La Paz, Oruro, Potosí), Chile, Peru.

3500-4500 m.

March.

Senecio epiphyticus* Kuntze, Revis. Gen. Pl. 3(3): 173 (1898) = **Pentacalia epiphytica (Kuntze) Cuatrec.

Senecio erosus Wedd., Chloris Andina 1: 228 (1857), non L.f. = **Senecio rhizomatus** Rusby

***Senecio evacoides** Sch.Bip., Bonplandia 4(4): 52 (1856). Type: [Peru] '*Lechler* 1942'. Holotype: P; isotypes: G, K, LP, S. Note: Cabrera (1985: 206) unnecessarily lectotypified this name based upon the material in P; it is quite clear from Schultz Bipontinus' text that he examined the material in P. Cabrera also cited *Weddell* 4516 as a paratype, although there is no mention by Schultz Bipontinus of any *Weddell* collection associated with his name.

Argentina, Bolivia (La Paz), Peru.

4000-4800 m.

***Senecio expansus** Wedd., Chloris Andina 1: 107 (1856). Type: 'Hab. BOLIVIE: sur les coteaux, près du niveau des neiges perpétuelles de la Cordillère des lagunas de Potosi! (*d'Orbigny*, no 1418)'. Holotype: P; isotypes: G, K, W.

Bolivia (La Paz), Peru. Note: This taxon is not listed by Brako & Zarruchi (1993).

Snow-line.

4000-4800 m.

March.

Senecio fiebrigianus Cabrera, Bol. Soc. Argent. Bot. 10(1): 31 (1962) = **Senecio clivicolus** Wedd. var. **clivicolus**

Senecio fischeri Sch.Bip., Flora 28: 498 (1845), nom. inval. = **Erechtites hieraciifolia** (L.) Raf. ex DC. var.

acalioides (Fisch. ex Spreng.) Griseb.

Senecio flagellisectus Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 191 (1874); Pl. Lorentz.: 143 (1874) =

Senecio rudbeckiifolius Meyen & Walp.

Senecio floscosus* Britton, Bull. Torrey Bot. Club 19(9): 264 (1892) = **Pentacalia floccosa (Britton) Cuatrec.

**Senecio formosus* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 138 (1818). Foster (1958) listed the species for Bolivia apparently based on Rusby (1907: 393) citing *Bang* 1958 and *Rusby* 1672, yet I can find no evidence in Cabrera (1985) that the species occurs here. Cabrera (1985: 125) cited *Bang* 1958 under *Senecio tephrosioides* Turcz., q.v.

Senecio glacialis* Wedd., Chloris Andina 1: 113 (1856), nom. illegit., non Sch.Bip. (1845), nec (Meyen & Walp.) Cuatrec. (1950) = **Senecio wedglacialis Cuatrec.

Senecio glacialis* (Meyen & Walp.) Cuatrec., Fieldiana, Bot. 27(1): 46 (1950), nom. illegit., non Sch.Bip. (1845), nec Wedd. (1856) = **Culcitium humile DC.

Senecio glacialis* Wedd. var. *adenophylloides* (Sch.Bip.) Perkins, Bot. Jahrb. Syst. 49: 230 (1913), comb. inval. = **Senecio austrorufescens Cuatrec.

Senecio glareosus Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud. (based on Mandon 128) = **Senecio pflanzii** (Perkins) Cuatrec.

Senecio goyazensis Gardner, London J. Bot. 7: 421 (1848) = **Erechtites goyazensis** (Gardner) Cabrera

Senecio graveolens* Wedd., Chloris Andina 1: 111 (1856) = **Senecio nutans Sch.Bip.

Senecio graveolens Wedd. var. *psiloachaenius* Cabrera, Notas Mus. La Plata, Bot. 1(No. 10): 395 (1936) = **Senecio nutans** Sch.Bip.

Senecio grisebachii Baker in Mart., Fl. Bras. 6(3): 313 (1884). Type: 'Habitat in Argentinae prov. Entre Rios, ad Concepcion del Uruguay: Lorentz n. 650!' Holotype: K.

Senecio balansae Baker in Mart., Fl. Bras. 6(3): 317 (1884). Type: 'Habitat in Paraguay, in collibus incultis ad Assomption: Balansa n. 924!' Holotype: K.

Senecio grisebachii Baker var. *anomalus* Cabrera, Revista Mus. La Plata, Secc. Bot. 4: 319 (1941). Type: 'Argentina. - Buenos Aires: Baradero, leg. A. Burkart, n° 8475, 19-XI-1937'. Holotype: LP.

Senecio grisebachii Baker var. *schyzotus* Cabrera, Brittonia 7(2): 70 (1950). Type: [Argentina:] 'La Plata, leg. A. L. Cabrera, 4-XI-1940'. Holotype: LP.

Senecio grisebachii Baker var. *subincanus* Cabrera, Brittonia 7(2): 70 (1950). Type: 'Argentina: Buenos Aires: Tandil, Sierra de las Animas, leg. A. L. Cabrera, 6807, 21-XI-1940'. Holotype: LP.

Senecio grisebachii Baker var. *pseudovernonioides* Cabrera, Brittonia 7(2): 70 (1950). Type: 'Brazil: Paraná: Serrinha, leg. P. Dusén, 7238, 21-XI-1908'. Holotype: S; isotype: US (1281069).

Senecio grisebachii Baker var. *leptotus* Cabrera, Brittonia 7(2): 70 (1950). Type: [Argentina:] 'Buenos Aires: Delta del Paraná, Rio Carabelas, leg. A. L. Cabrera, 2632, XII-1932'. Holotype: LP.

Senecio grisebachii Baker var. *balansae* (Baker) Cabrera, Brittonia 7(2): 70 (1950).

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay, Uruguay.

Gallery forest, cerrado, damp/marshy depressions in grassland, roadsides, disturbed soil, cultivated areas. 0–2050 m.

July–December.

Vernacular name: PRIMAVERA (Freire et al., 2006).

Senecio hastatifolius Cabrera, Notas Mus. La Plata, Bot. 18(No. 89): 231 (1955). Type: 'PERÚ. - Dep. Cuzco, Prov. Calca, Pisac-Linli, 3700 m s.m., leg. F. Marín, 2037, III-1950'. Holotype: LP.

Bolivia (La Paz), Peru.

3500–5000 m.

March.

***Senecio helianthemoides** Wedd., Chloris Andina 1: 115 (1856). Type: 'Hab. BOLIVIE: sur le sommet des collines, au voisinage de Chuquisaca! (d'Orbigny, n. 1186)'. Holotype: P.

Bolivia (Chuquisaca).

Senecio herrerae Cabrera, Notas Mus. La Plata, Bot. 9(No. 45): 199 (1944). Type: 'PERÚ. - Departamento del Cuzco: Colinas de Saxaihuamán, 3500 m.s.m., leg. F.L. Herrera, n° 3567, IV-1932'. Holotype: 'Herb. Cabrera' - LP (64498); isotype: K, LP (64499).

Senecio sylvarum Sch.Bip., Bull. Soc. Bot. France 12: (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud. (based on Mandon 133, p.p.)

Bolivia (La Paz), Peru.

2500–4000 m.

April.

Senecio herzogii Beauverd ex Herzog, Pflanzenw. Bolivischen Anden : 188 (1923), nom. nud. = **Pentacalia herzogii** (Cabrera) Cuatrec.

Senecio herzogii* Cabrera, Blumea 7: 202 (1952) = **Pentacalia herzogii (Cabrera) Cuatrec.

*?**Senecio heterotrichus** DC., Prodr. 6: 419 (1838). Type: '■ in Brasiliae prov. Rio-Grande (h. Mus. imp. Bras. n. 931!) ... (v.s. in h. Mus. Par.)'. Holotype: P; isotype: G-DC.
Bolivia (?), Brazil. Foster (1958: 217) listed this species for Bolivia. However, Cabrera (1985) did not include it in his account for the country.
Vernacular name: CATIÃO-MELADO (Cabrera & Klein, 1975).

Senecio hieraciifolius L., Mant. Pl. : 469 (1771) = **Erechtites hieraciifolia** (L.) Raf. ex DC. var. **cacalioides** (Fisch. ex Spreng.) Griseb.

Senecio hieronymi Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 205 (March-April 1879), Symb. Fl. Argent. : 205 (1879). Type: 'O.: Sierra de Oran, pr. S. Andres.' [ARGENTINA] Salta: Oran, *Lorentz et Hieronymus* 14, X-1873' - Cabrera, 1985: 186. Holotype: GOET; isotypes: CORD, F (photo 15610) ex B†.

**Senecio charaguensis* Cuatrec., Fieldiana, Bot. 27(2): 59 (1951). Type: 'Bolivia: Santa Cruz, Reg. Charagua: Quebrada de Charagua, at sandy and dry soil (near river) 900 m. alt. Herb 60-80 cm. Flower yellow. Collect. M. Cárdenas 2825'. Holotype: F.

Argentina, Bolivia (Chuquisaca, Tarija), Paraguay.

Sandy river banks.

900-c. 3500 m.

September-October.

Senecio hohenackeri Sch.Bip., Bonplandia 4(4): 52 (1856). Type: not stated, but in a contemporary listing by Hohenacker (1856: 55) it was based on *Lechler* 1905, cited by Weddell (1956: 131) as 'PÉROU: endroits pierreux des Cordillères de la province de Carabaya!, près d'Ayapata (*Lechler, exsicc.*, n. 1905)'. Holotype: P; isotypes: G, GOET (1135), K, S.

Senecio antaicochensis Cuatrec., Fieldiana, Bot. 27(2): 67 (1951). Type: 'Peru: Dept. Lima, near Antaicocha, Cerro Colorado, East of Canta, open rocky cliff, 4000-4200 m. alt., shrub. Rays lemon chrome disk yellow, collect. F. W. Pennell 14687 [20-VI-1925]'. Holotype: US (1340905); isotype: MO (998488).

Bolivia (La Paz), Peru.

Cliffs.

3500-4500 m.

May.

Note: *Senecio hohenackeri* Sch.Bip. ex Wedd., *Chloris Andina* 1: 131 (1856) was given in Foster (1958: 217) but it is clear that in citing Schultz Bipontinus' original description Weddell was not publishing a new name. Cabrera (1985: 198) clearly considered Cuatrecasas' taxon the same even though Cuatrecasas had noted differences in 'the shape of the involucre and calycle', but not what they were. Several collections of Schultz Bipontinus' taxon were cited by Cabrera from Bolivia.

*?**Senecio hualtata** Bert. ex DC., Prodr. 6: 417 (1838). Types: '(Bert.! herb. n. 619) ... ■ in Chili (*Haenke!*), ad fossas et in locis udis maio flor. circà Rancagua Chilensium quibus ver. Ualtata dictus (*Bert.!*). ... (v.s.)'. Note: Only the Bertero collection is in G-DC; the Haenke material was seen in the material from PR. Foster (1958: 217) listed this species, although the source of this record is unknown. It is considered a Chilean endemic, and was not recorded for Bolivia by Cabrera (1985).

Senecio humillimus Sch.Bip. ex Wedd., *Chloris Andina* 1: 104 (1856). Types (except for material of var. β *vegetus* Weddell did not specify material between varieties): 'Hab. PÉROU!: au sommet de la Cordillère de Tabina! (*Lechler, exsicc.*, n° 1924); ... - BOLIVIE: pelouses arides des montagnes, autour de la ville de Potosi! (*d'Orbigny*, n° 1398; *Wedd.*)'. Holotype: P; isotype: G.

Senecio humillimus Sch.Bip., *Bonplandia* 4(4): 55 (1856), nom. nud.? Note: in translation, Schultz Bipontinus simply said 'Then the smooth *S. humillimus* of similar high alpine appearance resembling several high Andean *Baccharis*, ...'. Whether this is acceptable as a diagnosis is debatable. Cabrera (1985: 205) suggested it was not, and cited publication as in *Chloris Andina*.

Senecio humillimus Sch.Bip. ex Wedd. var. γ *fruticulosus* Wedd., *Chloris Andina* 1 :104 (1856). Type: not specified - see above under species citation.

Senecio humillimus Sch.Bip. ex Wedd. var. δ *melanolepis* Wedd., *Chloris Andina* 1 :104 (1856). Type: not specified - see above under species citation.

Senecio pulviniformis Hieron., Bot. Jahrb. Syst. 21(4): 359 (1896). Type: 'Bolivia: crescit inter Oruru et Aromas, ubi floret mense Novembri ([Stübel] coll. boliv. n. 5).' Holotype: B†. Note: Cabrera (1985: 205) neotypified this name based on an isotype in MO.

Bolivia (Cochabamba, La Paz, Oruro, Potosí), Peru.

Tolares oligotróficos (Altiplano oligotrophic edaphophilous scrub), Tolares eutróficos (Altiplano edaphophilous eutrophic scrub).

3500–4800 m.

July–December.

Vernacular name: QOLLQUE CHATA (Navarro, 2002: 463).

Senecio humillimus Sch.Bip. ex Wedd. var. γ *fruticulosus* Wedd., Chloris Andina 1 :104 (1856) = **Senecio humillimus** Sch.Bip. ex Wedd.

Senecio humillimus Sch.Bip. ex Wedd. var. δ *melanolepis* Wedd., Chloris Andina 1 :104 (1856) = **Senecio humillimus** Sch.Bip. ex Wedd.

Senecio humillimus* Sch.Bip. ex Wedd. var. β *vegetus* Wedd., Chloris Andina 1: 104 (1856) = **Senecio vegetus (Wedd.) Cabrera

Senecio hygrophilus Cuatrec., Colect. Bot. (Barcelona) 3: 274 (1953) = **Senecio burkartii** Cabrera

*?**Senecio icoglossus** DC. var. **araneosus** DC., Prodr. 6: 420 (1838). Type: '■ in Rio-Grande (h. Mus. imp. Bras. n. 901!) ... (v.s. in h. Mus. reg. Par.)'. Holotype: P.

Bolivia (?), Brazil. Although listed by Foster (1958: 217) this species was not listed for Bolivia by Cabrera (1985).

Senecio innovans* Klatt, Ann. K. K. Naturhist. Hofmus. Wien 9: 365 (1894) = **Senecio subulatus D. Don ex Hook. & Arn. var. **diversifolius** (Phil.) Cabrera

***Senecio jarae** Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 44 (1891). Type: [Argentina:] 'De Calalaste allatus. [Philippi, I-1885]' Holotype: SGO; isotypes: B†, LP. Pizarro (1960: 158) cited 2 collections, 44396 & 64548, in SGO.

Argentina, Bolivia (Chuquisaca, Oruro, Potosí, Tarija), Chile, Peru.

4000–4500 m.

Senecio jelskii Hieron., Bot. Jahrb. Syst. 36(5): 509 (1905) = **Pentacalia jelskii** (Hieron.) Cuatrec.

Senecio jodopappus Sch.Bip., Bonplandia 4(4): 51 (1856) = **Chersodoma jodopappa** (Sch.Bip.) Cabrera

Senecio jungasensis Britton, Bull. Torrey Bot. Club 19(9): 264 (1892) = **Dendrophorbium yungasense** (Britton) C. Jeffrey

*?**Senecio klattii** Greenm., Ann. Missouri Bot. Gard. 1(3): 281 (1914), nom. nov. pro *S. roseus* Klatt

Senecio roseus Klatt, Ann. K. K. Naturhist. Hofmus. 9: 366 (1894), non Sch.Bip. (1845). Type: 'Hab.: Peru, mis. Besser. Mus. bot. Berol.' Holotype: B†

Bolivia (?), Peru.

Note: Foster (1958: 217) listed Greenman's nom. nov. in his checklist. Neither Klatt's nor Greenman's names appear in Cabrera's treatment of the genus. It remains to be seen if the species is present in Bolivia.

***Senecio kosterae** Cabrera, Blumea 7(1): 201 (1952). Type: 'Hab.: An steinigen Abhängen zwischen Uyati und Totorá, 2600 m alt., April 1911, [Herzog] n. 2040 (Typus)'. Holotype: L; isotype: LP, S, Z (000003884).

Bolivia (Cochabamba).

2500–2600 m.

April.

Senecio krukoffii* Cuatrec., Fieldiana, Bot. 27(2): 51 (1951) = **Dendrophorbium krukoffii (Cuatrec.) C. Jeffrey

Senecio larecajensis Cabrera, Bol. Soc. Argent. Bot. 10(1): 32 (1962). Type: 'Bolivia. Prov. Larecaja, viciniis Sorata, inter Coocoo et Turibaque, in praeruptis Reg. Alp., leg. G. Mandon, 137, 6-XI-1860'. Holotype: K; isotype: P.

Bolivia (La Paz).

November.

***Senecio leuceria** Cabrera, *Blumea* 7(1): 202 (1952). Type: 'Hab.: An einem sonnigen Felsgrat bei Comarapa, 2400 m alt., April 1911, [Herzog] n. 1908 (Typus).' Holotype: L(950251461); isotype: LP (898994). Bolivia (Cochabamba, Santa Cruz). 2400 m. April.

Senecio liabifolius* Rusby, *Bull. New York Bot. Gard.* 4(14): 396 (1907) = **Dendrophorbium curvidens (Sch.Bip. ex Klatt) C. Jeffrey

Senecio loayzanus Cabrera, *Hickenia* 2(4): 19 (1984). Type: 'BOLIVIA. Depto. La Pa, Prov. Loayza; a 40 km SSE en línea recta desde La Paz. De La Paz 77 km hacia Sapaahaqui, 3550 m. Ladera con bosque arbustivo abierto. Leg. St. G. Beck No 6055, 18-I-1981'. Holotype: SI. Bolivia (La Paz). c. 3550 m. January.

Senecio loesneri Hieron., *Bot. Jahrb. Syst.* 36(5): 510 (1905) = **Aetheolaena loesneri** (Hieron.) B. Nord.

Senecio longilinguae* Cuatrec., *Fieldiana, Bot.* 27(2): 51 (1951) = **Dendrophorbium longilinguae (Cuatrec.) C. Jeffrey

Senecio mandonianus* Wedd., *Chloris Andina* 1: 228 (1857) = **Culcitium humile DC.

Senecio marinii Cabrera, *Darwiniana* 10: 590 (1954) = **Pentacalia marinii** (Cabrera) Cuatrec.

Senecio medullosus Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud. pro syn. (based on *Mandon* 147) = **Dendrophorbium medulosum** (Sch.Bip. ex Greenm.) C. Jeffrey

Senecio medullosus* Sch.Bip. ex Greenm., *Ann. Missouri Bot. Gard.* 10: 85 (1923) = **Dendrophorbium medulosum (Sch.Bip. ex Greenm.) C. Jeffrey

Senecio megapotamicus Buek, *Index Prodr.* 2: 6 (1840) = **Senecio brasiliensis** (Spreng.) Less. var. **tripartitus** (DC.) Baker

*?**Senecio melanolepis** DC., *Prodr.* 6: 424 (1838). Type: '■in Cordilleris Peruvianis et montibus Oronocensibus legit cl. Haenke.' Holotype: PR.

Senecio melanolepis DC. β *medius* DC., *Prodr.* 6: 424 (1838). Type: '■in vallibus Cordillerianis (v.s. in h. Haenke.)'. Holotype: PR.

Bolivia (?), Peru. Listed by Foster (1958: 217) but not by Cabrera (1985) for Bolivia.

Senecio miguelii* Cuatrec., *Fieldiana, Bot.* 27(2): 54 (1951) = **Pentacalia miguelii (Cuatrec.) Cuatrec.

Senecio modestus* Wedd., *Chloris Andina* 1: 105 (1856) = **Culcitium humile DC.

Senecio modestus Wedd. var. *candollii* (Wedd.) H. Beltrán & Galán de Mera, *Bot. Complutensis* 21: 104 (1996) = **Culcitium humile** DC.

Senecio multinervis Rusby, *Bull. New York Bot. Gard.* 4(14): 393 (1907), non Sch.Bip. ex Klatt (1886) =

Dendrophorbium ayopayense (Rusby) D. J. N. Hind

Senecio multinervis Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud. (based on *Mandon* 142) = **Dendrophorbium multinerve** (Sch.Bip. ex Klatt) C. Jeffrey

Senecio multinervis* Sch.Bip. ex Klatt, *Leopoldina* 24: 127 (1888) [Note: *Leopoldina* 23: 10 (1886) in separately paginate pre-print in K] = **Dendrophorbium multinerve (Sch.Bip. ex Klatt) C. Jeffrey

Senecio myrianthus* Klatt, *Leopoldina* 24: 127 (1888) [Note: *Leopoldina* 23: 10 (1886) in separately paginate pre-print in K] = **Dendrophorbium cabreræ (Cuatrec.) C. Jeffrey

Senecio neeanus Cuatrec., *Fieldiana, Bot.* 27(1): 44 (1950) = **Culcitium neaei** Sch.Bip. ex Wedd.

Senecio nutans Sch.Bip., *Bonplandia* 4(4): 51 (1856). Type: [Peru:] '[Lechler 1747]'. Holotype: P; isotypes: B†, G, GOET, K.

**Senecio graveolens* Wedd., *Chloris Andina* 1: 111 (1856). Type: 'Hab. BOLIVIE: département de La Paz, près de la source du Rio Uchumayo!, sur la route de Tacna à La Paz, à une élévation de 4360 mètres (*Pentland*). Holotype: P.

**Senecio psychrophilus* Wedd., *Chloris Andina* 1: 112 (1856). Type: 'Hab. BOLIVIE: fentes des rochers, au voisinage de la ville de Potosí! (d'Orbigny, n. 1383).' Holotype: P; isotype: G.

Senecio graveolens Wedd. var. *psiloachaenius* Cabrera, *Notas Mus. La Plata, Bot.* 1(No. 10): 395 (1936). Type: 'Argentina. – La Rioja: Cueva de Pérez, Sierra Famatina, leg. G. Hieronymus et G. Niederlein, n° 412, I-1879'. Type: BD.

Argentina, Bolivia (La Paz, Oruro, Potosí, Tarija), Chile, Peru.

Altiplano, Khewiñar Altiplánico occidental (Western Altiplano sclerophyllous seasonal evergreen woodland), Matorralies seriales orotrophicales altiplánico occidentales, Matorral oro-criorotropical de Lipez (Lipez high-andean xeromorphic scrub).

3000–5000 m.

September–June.

Vernacular names: CHACHACOMA, TOLA, TOLA HEMBRA (Cabrera, 1985: 193).

**Senecio oblanceolatus* Rusby, *Bull. New York Bot. Gard.* 4(14): 394 (1907), nom. illegit. non Rydb. (1900) =

Dendrophorbium medullosum (Sch.Bip. ex Greenm.) C. Jeffrey

Senecio octophyllus Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud. (based on *Mandon* 118) = ***Senecio octophyllus*** Sch.Bip. ex Rusby

****Senecio octophyllus*** Sch.Bip. ex Rusby, *Bull. New York Bot. Gard.* 4(14): 393 (1907). Types: '[Bolivia:] (Specimen without number; the same as *Lechler* 2092 from Peru.)'. Syntype: *Bang* s.n., NY (259316, marked as holotype). Isosyntype: *Lechler* 2092, K. Note: Cabrera (1985: 198) cited the *Bang* collection from NY as the holotype; the *Lechler* collection from Peru was considered to be another species, although clearly valid as a syntype!

Senecio octophyllus Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 531 (Feb. 1866), nom. nud. (based on *Mandon* 118).

Bolivia (La Paz), Peru.

3400–4500 m.

Senecio oronocensis* DC., *Prodr.* 6: 423 (1837) = *Pentacalia oronocensis*** (DC.) Cuatrec.

Senecio oxydon Phil., *Anales Univ. Chile* 114: 179 (1904) = ***Chersodoma candida*** Phil.

Senecio paludicola Steud., *Nom. ed.* 2, 2: 563 (1841) = ***Erechtites valerianifolia*** (Link ex Spreng.) Less. ex DC.

Senecio palustris Vell., *Fl. Flum. Icones* 8: tab. 110 (1831) = ***Erechtites valerianifolia*** (Link ex Spreng.) Less. ex DC. var. ***valerianifolia***

Senecio pampae* Lingelsh., *Repert. Spec. Nov. Regni Veg.* 8: 6 (1910) = *Senecio clivicolus*** Wedd. var. ***pampae*** (Lingelsh.) Cabrera

Senecio pampae* Lingelsh. var. *penicillatus* Lingelsh., *Repert. Spec. Nov. Regni Veg.* 8: 6 (1910) = *Senecio clivicolus*** Wedd. var. ***clivicolus***

Senecio pampeanus Cabrera, *Revista Mus. La Plata (N.S.) Bot.* 4: 303 (1941). Types: 'ARGENTINA. – Buenos Aires: Pellegrini, médanos fijos, leg. A. L. Cabrera, no 6963, 29-XI-1940'. Syntypes (as 'type'): 'LP, Cabr.', both now in LP; clearly lectotypification is required.

f. **pampeanus**

Bolivia (Cochabamba, Chuquisaca, Tarija).

2000–3500 m.

November.

f. **serratus** Cabrera, *Darwiniana* 26(1–4): 171 (1985). Type: 'Bolivia, Tarija, ruta Tarija a Villa Montes, A. Krapovickas et al. 18934.' Holotype: CTES; isotypes: LIL, LP.

Bolivia (Tarija).

Senecio pectioides* Rusby, *Bull. New York Bot. Gard.* 4(14): 395 (1907) = *Senecio boliviensis*** Sch.Bip. ex Klatt
Senecio pellitus A. Gray, *Proc. Amer. Acad. Arts* 5: 143 (1861) = ***Chersodoma antennaria*** (Wedd.) Cabrera

****Senecio pensilis*** Greenm., *Ann Missouri Bot. Gard.* 25(4): 813 (1938). Type: 'BOLIVIA: "Pelechuco," alt. 12000–14000 ft., March and May, 1865, R. Pearce, s.n.'. Holotype: K; isotype: BM, K. Note: Although Greeman

was quite specific about the location of the type, as 'Kew Hb., TYPE', it is quite clear that the protologue type citation is a combination of the two *Pearce* s.n. collections in K. One was collected in March 1865 (Pelucho/12-13000ft), the other in May (Andes of Pelucho 13-14000ft); the latter is the one on which Greenman's determinavit label indicates 'Type'.

Senecio albens Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud. (based on Mandon 120)

Bolivia (La Paz), Peru.

3800-4100 m.

March-May.

Senecio pentamerus* Cuatrec., Fieldiana, Bot. 27(2): 57 (1951) = **Paracalia pentamera (Cuatrec.) Cuatrec.

Senecio pentapterus Cabrera, Hickenia 1(53): 284 (1982). Type: 'BOLIVIA. Depto. Santa Cruz. Prov. Valle Grande: Valle Grande, 2.000 m s.m., leg. M. Cardénas 5296'. Holotype: LIL (533337).

Bolivia (Chuquisaca, Cochabamba, Santa Cruz, Tarija).

Unstable stony soils, roadsides.

2000-3000 m.

January-April.

***Senecio pentlandicus** DC., Prodr. 6: 421 (1838). Type: 'in republ. Boliviana Amer. austr. legit cl. Pentland. ... (v.s.)'. Holotype: G - according to Cabrera (1985: 166), but G-DC is more correct.

Senecio vallestris DC., Prodr. 6: 421 (1837). Type: 'ad Cordilleras Peruanas in vallibus legit cl. Haenke. ... (v.s. in h. Haenk. ab ill. de Sternberg miss.)'. Holotype: PR. Cabrera (1985: 166) noted that the holotype was in P; this is likely to be an isotype since Haenke's herbarium is in PR.

Bolivia (La Paz), Peru.

Puna Peruana.

3500-4200 m.

Senecio peregrinus Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 205 (1879) = **Dendrophorbium peregrinum** (Griseb.) C. Jeffrey

***Senecio pflanzii** (Perkins) Cuatrec., Fieldiana, Bot. 27(1): 44 (1950).

Senecio glareosus Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud. (based on Mandon 128).

Culcitium pflanzii Perkins, Bot. Jahrb. Syst. 49(2): 229 (1913). Types: 'Bolivien: Palca bei La Paz, schiefrieger Hang, 4000 m ü. M. (K. PFLANZ n. 235a. - Im April 1909 blühend); Takapaya, 3850 m ü. M. (K. PFLANZ n. 451. - Im April 1910 blühend)'. Syntypes: B†. Note: Cabrera (1985: 208) cited *Pflanz* 235a in B as the holotype, without mentioning *Pflanz* 451 at all.

Bolivia (La Paz), Peru.

4000-4200 m.

April.

Senecio phylloleptus Cuatrec., Collect. Bot. (Barcelona) 3(3): 272 (1953). Type: 'Perú, Dept. Arequipa, gravelly soil along stream-course, alt. 3,00-3,200 m. Shrub 0.6-0.8 m. tall. Flowers lemon-chrome. Collect. F. W. Pennell 13239.' Holotype: F (557695); isotypes: MO, NY (00259340).

var. **phylloleptus**

Senecio adenophyllus Meyen & Walp. var. *α angustifolius* Wedd., Chloris Andina 1: 112 (1856), nom. nud.

Senecio adenophyllus Meyen & Walp. var. *stipulata* Domke, Notizbl. Bot. Gart. Mus. Berlin-Dahlem 13(117): 246 (1936). Type: 'Peru: Arequipa, 8000-10000 ft. (blühend im April 1932 - Miss. D. B. Stafford n. D. 31'.

Holotype: K.

Bolivia (Oruro, Potosí), Peru.

Altiplano.

2000-4000 m.

April.

Note: The following specimens were cited against *Senecio adenophyllus* and the infraspecific taxa – all nomina nuda – ‘Hab. Pérou: sur la Cordillère de Tacora! entre Tacna et La Paz, h. 4000 mètres (*Meyen, Wedd.*); département de Cuzco! (*Gay*). – Bolivie: province de Carangas! (*d’Orbigny*, n. 1393); fentes des rochers de la quebrada de las lagunas, près de Potosí!, au niveau des neiges (*d’Orbigny*, n. 1406).’ Contrary to Cabrera’s note that the ‘variety’ has a holotype, nom. nud.’s cannot.

var. **pectinatus** Cabrera, *Notas Mus. La Plata, Bot.* 18(No. 89): 224 (1955). Type: ‘BOLIVIA. – Dep. Oruro, Prov. Cercado, Oruro, 3750 m s.m., leg. *E. Asplund*, 3200, 29-III-1921’. Holotype: S.

Bolivia (Oruro, Potosí).

3750–3900 m.

March.

The following paratypes were cited by Cabrera (1955: 224):

Oruro: Prov. Abaroa, Challapata, 3750 m s.m., leg. *E. Asplund* 3213, 30-III-1921 (S, US); Oruro, leg. *J. N. Rose*, 18932, 18-VIII-1914 (MO).

Potosí: Prov. Nor Lipez, Chiguana, 3900 m s.m., leg. *E. Asplund*, 3073, 22-III-1921 (S, US).

Senecio pinnatilobatus Sch.Bip., *Bonplandia* 4(4): 52 (1856). Type: [Peru:] ‘*Lechler 1774a*’, given by Cabrera (1985: 213) as: ‘Perú: prope Azangaro in saxosis, leg. *G. W. Lechler 1774a*, VI-1854’. Holotype: P; isotypes: B†, G, K, S.

Bolivia (La Paz), Peru.

4000–4500 m.

February–July.

***Senecio pongoensis** Cuatrec., *Fieldiana, Bot.* 27(2): 61 (1951). Type: ‘Bolivia: Pongo de Quisne 13,500 ft. alt., collect. July 13, 1921, *H. H. Rusby* 16’. Holotype: NY (00259350). Note: Cuatrecasas incorrectly termed what is today termed paratypes as cotypes (1951: 62), a term often reserved for syntypes.

Bolivia (La Paz).

3500–4100 m.

July.

***Senecio potosianus** Klatt, *Abh. Naturf. Ges. Halle* 15: 331 (1881). Type: ‘Crescit in Potosi, Bolivia, leg. *A. d’Orbigny* No. 1336.’ Holotype: P; isotypes: G, P, W. [Note: the description appears on p. 11 of the pre/re print in K]. de Candolle (1880: 388) noted that the *Compte de Franqueville*’s personal herbarium, of some 90,000 specimens, is now in P. Cabrera (1985: 200), probably unaware of this cited the holotype as in W, with isotypes in G and P.

**Senecio attenuatus* Sch.Bip. ex Rusby var. *microphyllus* Britton, *Bull. Torrey Bot. Club* 19(9): 264 (1892). Type: [Bolivia:] ‘Near La Paz, 10,000 ft. ([*Rusby*] 1691).’ Holotype: NY (00259113) – ex Columbia College, New York; isotype: NY (00259112) – ex College of Pharmacy Herbarium, US (00032549). In interpreting the status of the NY types I have used the list provided by Rusby (1893: 2) which indicates that the top set was in Columbia College, and the College of Pharmacy Herbarium, originally set 3, was only incorporated into NY in 1946.

**Senecio clavifolius* Rusby, *Mem. Torrey Bot. Club* 3(3): 64 (1893). Type: [Bolivia:] ‘Talca Chugiaguilla, 1890 ([*Bang*] 792).’ Holotype: NY(00259145); isotype: K, MO, NY(00259144), US (01404124).

Bolivia (La Paz, Oruro, Potosí, Tarija).

Altiplano, Tolillares (Altiplano xeromorphic thorn-scrub), Cardonales orotropicales semiáridos centro altiplánicos (Central Andean semiarid thorn and succulent scrub).

3800 m.

October–April.

Senecio praeruptorum Sch.Bip., *Bull. Soc. Bot. France* 12: 80 (1865); *Linnaea* 34(5): 530 (Feb. 1866), nom. nud. (based on *Mandon* 115) = ***Senecio praeruptorum** Sch.Bip. ex Klatt

***Senecio praeruptorum** Sch.Bip. ex Klatt, *Leopoldina* 23: 10 [1886](1887). Type: ‘Bolivia, Viciniis Sorata prope Lacatia in scopulosis graminosis leg. *G. Mandon*, no. 115.’ Note: Cabrera (1985: 122) selected a neotype for this name, *Mandon* 115, S; isoneotypes: G, K, LP, NY (00259352, 00259353, 00259354, 00259355), P, US (01706005). However, the Compositae collections in Klatt’s herbarium are considered to have been bought

from his daughter by B. L. Robinson and are now housed in GH (Solbrig, 1965: 190). This effectively means that the holotype material is in GH and Cabrera's 'neotypification' unnecessary. It is also quite clear that three of the 'duplicates' of this number in NY provide more detailed habitat and locality information: 00259353, 00259354: La Paz. Larecaja. Viciniic Sorata, Ericorquaya, Chilian, Mascaea, prope Lacatia, Lancha de Cochipata. In scopulosis, collium praerupte. Reg. subalpina. Alt. 3300–3600 m. April–8br. 1858–1861; 00259355: La Paz. Larecaja. Viciniic Sorata, Ericorquaya, [?.]. In scopulosis. collium praerupte. Reg. subalpina. Alt. 3400–3600 m. [?] 1858.' The fourth duplicate in NY (00259352) merely has a numbered label and lacks any locality or habitat information.

Senecio praeruptorum Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 530 (Feb. 1866), nom. nud. (based on Mandon 115).

Senecio praeruptorum Sch.Bip. ex Klatt, Leopoldina 24: 127 (1888). [Note: see comments in References as to relevant dates, and the date of the pre-prints.]

Bolivia (La Paz), Peru.

3000–4000 m.

March.

*?*Senecio prunifolius* Wedd., Chloris Andina 1: 102 (1856). Type: 'Hab. NOUVELLE-GRENADE: paramos de la province d'Ocaña, à la hauteur de 2600 à 3250 mètres (*Schlim*, exsicc., n° 447).' Bolivia (?). Listed by Foster (1958: 218) but not by Cabrera (1985) for Bolivia.

Senecio prunioides* Rusby, Bull. New York Bot. Gard. 4(14): 396 (1907) = **Pentacalia jelskii (Hieron.) Cuatrec.

Senecio psidiifolius* Rusby, Mem. Torrey Bot. Club 6(1): 66 (1896) = **Pentacalia psidiifolia (Rusby) Cuatrec.

Senecio psychrophilus* Wedd., Chloris Andina 1: 112 (1856) = **Senecio nutans Sch.Bip.

Senecio puchii Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 45 (1891). Type: 'Ramus cum speciminiibus *S. atacamensis* mixtus jacebat; dixi in memoriam orn. D. Anacleti Puche, oppidi Atacama rectoris tunc temporis quando iter ad Atacam feceram.' Holotype: ?SGO.

Argentina, Bolivia (Oruro, Potosí), Chile.

Puna Peruana, Sajama high-andean bunch-grassland, Lipez high andean tussock-like bunchgrassland (Pajonal criorotropical de los Lipez).

4000–5000 m.

February–April.

Senecio pulviniformis Hieron., Bot. Jahrb. Syst. 21(4): 359 (1896) = **Senecio humillimus** Sch.Bip. ex Wedd.

Senecio quinquelepis Hieron. ex Cabrera, Hickenia 2(4): 20 (1984). Type: 'BOLIVIA, Depto. Tarija, Prov. Mendez: Camaataqui, 2500 m, K. Fiebrig 3062, II-1904'. Holotype: K; isotypes: B†, G, MO, S.

Bolivia (Tarija).

2500 m.

February.

Senecio ramonii Cuatrec., Fieldiana, Bot. 27(2): 53 (1951) = **Pentacalia oronocensis** (DC.) Cuatrec.

*?**Senecio reicheanus** Cabrera, Lilloa 15: 403 (1949). Type: 'Chile: Tarapacá: Dep. Tarapacá, Cordillera del Cerro Japu, 3600 m s.m., leg. E. Werdermann, 1104, III-1926'. Holotype: LP; isotypes: GH, SI.

Bolivia (?), ? . Listed by Foster (1958: 218) but not by Cabrera (1985) for Bolivia.

Altiplano.

3600 m.

March.

***Senecio repens** DC., Prodr. 6: 423 (1838) [This was clearly a nom. nov. in *Senecio* for Kunth's *Cacalia humilis*.] [Type: [Ecuador:] 'in Peramo de Assuay in Andibus Quitensium alt. 1700 hex. *Cacalia humilis* H.B. et Kunth nov. gen. am. 4. p. 166 sed non est *Sen. humilis* Desf.']

Note: Cabrera (1955) included var. *rhizocephalus* (Turcz.) Cabrera, Notas Mus. La Plata, Bot. 18(No. 89): 226 (1955), based on *Senecio rhizocephalus* Turcz., Bull. Soc. Naturalistes Moscou 24(1): 210 (1851), nom. illegit., non A. Gray ex Wedd. (= *Senecio condementarius* Cabrera), a Peruvian taxon.

var. **macbridei** (Cuatrec.) Cabrera, Notas Mus. La Plata, Bot. 18(No. 89): 226 (1955).

Werneria macbridei Cuatrec., Collect. Bot. (Barcelona) 3(3): 294 (1953). Type: 'Perú: San José, moist grassy granitic slope, about 13,000 feet. Flowers golden yellow. Collected J. F. Macbride & Featherstone 1092.' Holotype: F (273574); isotype: US (1185949).

Senecio repens DC. var. *latifolia* Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 530 (Feb. 1866), nom. nud. (based on *Mandon* 112).

Bolivia (La Paz), Peru.

3500–4500 m.

***Senecio rhizomatus** Rusby, Mem. Torrey Bot. Club 6(1): 66 (1896). Types: [Bolivia:] 'Near snow-line, Mt. Tunari, 1891 ([*Bang*] 1050). Apparently the same is (1046) from the same locality.' Isosyntype: *Bang* 1046, K. Isosyntypes (*Bang* 1050): K, US × 2 (00050659 & 01418726). Note: There are two collections of *Bang* 1050 in NY; one, NY (259378) is considered the holotype, the other NY (259377) a type. Cabrera (1985: 119) noted simply that the holotype was in NY, with isotypes in K, MO, US – effectively providing first stage lectotypification – and noting that the 'paratype' (= syntype) (*Bang* 1045) was in 'NY, K, MO, UC'.

Senecio erosus Wedd., Chloris Andina 1: 228 (1857), non L.f. (1781). Type: 'Hab. BOLIVIE: Cordillères du département de la Paz (*Mandon*).' Note: This was based on *Mandon* 114, according to Cabrera (1985: 120).

Holotype: P; isotypes: B†, G, K, LP, NY (00259168), S. However, if the collecting label is to be believed then this collection was made in 'Febr.–8^{br} 1858'

**Senecio weddellii* Cabrera, Notas Prelim. Mus. La Plata 3: 122 (1934), nom. nov. pro *Senecio erosus* Wedd.

Bolivia (Cochabamba, La Paz), Peru.

Pastures on rocky soils, roadside gullies beneath cliffs.

3500–5000 m.

February–October.

***Senecio rudbeckiifolius** (as *rudbeckiaefolius*) Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 283 (1843). Type: 'Peruvia: Arequipa. (v.s.)'. Holotype: B†.

Senecio flagellisectus Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 191 (1874); Pl. Lorentz. : 143 (1874).

Types: [Argentina] 'Tucuman, in campis pr. Tafi. Catamarca, Vayas Altas supra convallem Granadillas pr. Belen frequens.' Syntype: *Lorentz* 399, GOET.

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Oruro, Potosí, Santa Cruz), Peru.

1000–2000 (–4000) m.

Vernacular names: AMAICHA (Cabrera, 1978); MAICHA (Cabrera, 1985: 174).

Senecio rufescens DC., Prodr. 6: 413 (1838), non (Humb. & Bonpl.) Cuatrec. (1950) = **Senecio austrorufescens** Cuatrec.

Senecio rufescens* (Humb. & Bonpl.) Cuatrec., Fieldiana, Bot. 27(1): 45 (1950) = **Culcitium rufescens Humb. & Bonpl.

Senecio sailapatensis* Cuatrec., Fieldiana, Bot. 27(2): 52 (1951) = **Pentacalia sailapatensis (Cuatrec.) Cuatrec.

Senecio salsus Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 190 (1874) = **Senecio subulatus** D. Don ex Hook. & Arn. var. **diversifolius** (Phil.) Cabrera

Senecio sandemanii Cuatrec., Brittonia 8(2): 189 (1956) = **Dendrophorbium multinerve** (Sch.Bip. ex Klatt) C. Jeffrey

Senecio schlechtendahlui Mart. ex Baker in Mart., Fl. Bras. 6(3): 322 (1884), nom. nud. pro syn. = **Senecio brasiliensis** (Spreng.) Less.

Senecio scorzonrifolius Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 282 (1843). Type: 'Peruvia: in planitie circa Tacorum, alt. 14–17,000 ped.' Holotype: B†.

Senecio armeriifolius Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 43 (1891). Type: [Chile: Antofagasta] 'Inter Aguas calientes et Socaire lectus. [*Philippi*, 1-II-1885]' Holotype: SGO. Pizarro (1960: 155) cited 2 collections, 44457, 64551, in SGO.

Argentina, Bolivia (Oruro, Potosí), Chile, Peru.

Dry soils on mountains, puna, Sajama high-andean bush-grassland.

3500–4900 m.

January–April.

*?*Senecio senecioides* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 177 (1898) = **Monticalia pulchella** (Kunth) C. Jeffrey
Senecio sepium Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud. (based
on Mandon 133) = **Senecio sepium** Sch.Bip. ex Rusby

***Senecio sepium** Sch.Bip. ex Rusby, Bull. New York Bot. Gard. 4(14): 394 (1907). Types: [Bolivia:] '[Bang]
(Specimen without number.) The same as Mandon 133.' [This is interpreted as *Bang* s.n. and Mandon 133 in
NY.] Syntypes: NY (see following note). Lectotype (selected by Cabrera, 1985: 151): Mandon 133, NY;
isolectotypes: G, K, LP, P, S. Note: Although Cabrera lectotypified this name it was effectively first stage
lectotypification since there are two duplicates of Mandon 133 in NY (00579073, 00579074); second stage
lectotypification is still required. Syntype (*Bang*, s.n.) NY (00259407).

Senecio sepium Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud. (based
on Mandon 133, p.p.). Note: Mandon 133 pp. was also considered to represent *Senecio sylvarum* Sch.Bip.,
nom. nud.; Cabrera's comments (Cabrera, 1985: 151) suggest that *S. sylvarum* is **Dendrophorbium**
cabrerae, q.v.

Bolivia (La Paz).

2600–3000 m.

***Senecio serratifolius** (Meyen & Walp.) Cuatrec., Fieldiana, Bot. 27(1): 45 (1950).

Culcitium serratifolium Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 278
(1843). Type: 'Peruvia: in planitie circa Tacoram, altitudine 14–17,000 pedum (v.s.)'. Holotype: B†.

Senecio cernuus Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 44 (1891), nom. illegit, non L. (1753). Type:
[Chile:] 'Prope Cebollar lectus. [Philippi, 1885]' Note: Pizarro (1960: 156) cited SGO 44453 & 64544; Cabrera
(1985: 120) gave the holotype citation as 'Cebollar 4200 m prope Ascotam, Febr. 1885' and noted an isotype
in LP.

Senecio cernuiflorus Cabrera, Notas Prelim. Mus. La Plata 3: 114 (1934), as nom. nov. pro. *S. cernuus* Phil.
(1891).

Argentina, Bolivia (La Paz, Potosí), Chile, Peru.

Amongst rock outcrops, stream margins and boggy areas, Pun0-type vegetation.

4000–5000 m.

February–March.

Note: Cabrera (1985: 120) placed *Senecio serratifolius* in *Senecio* sect. *Crassicephali*, the only single nodding
headed taxon in that section.

Senecio sessilis Vell., Fl. Flum. Icones 8: pl. 106 (1831), non Thunb. (1800) = *Senecio adamantinus* Bong.

***Senecio sinapoides** Rusby, Mem. Torrey Bot. Club 6(1): 65 (1896). Type: [Bolivia:] 'Turedon, 1891 ([Bang]
1135).' Holotype: NY(00259410); isotypes: F (163658), K, MO, NY(00259411), US (01403384).

Bolivia (Cochabamba, Chuquisaca, La Paz).

3500–4000 m.

**Senecio smithii* DC., Prodr. 6: 412 (1838). Type: '– ad Cap. Horn. Cineraria gigantea Smith exot. bot. 2. p. 11. t.
65.' Foster's (1958: 218) record of this species is based upon *Bang* 1969 which represents the next species.

Senecio smithioides Cabrera, Hickenia 2(4): 21 (1984). Type: 'BOLIVIA. Depto. La Paz, Prov. Nor Yungas,
3915 m s.m., leg. St. G. Beck 2836'. Holotype: SI.

Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí, Tarija).

Marshes and stream margins.

2000–4000 m.

November–December.

Vernacular name :LAMPAZA (Cabrera, 1985: 110).

Senecio socialis Wedd., Chloris Andina 1: 109 (1856) = **Senecio dryophyllus** Meyen & Walp.

Senecio soratae Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (1866), nom nud. (based on
Mandon 124) = **Senecio adenophullus** Meyen ex Walp. [Based on Greenman's inference in NY based on
Mandon 124]

Senecio spinosus DC., Prodr. 6: 420 (1837). Types: '■ in Peruvia legit cl. Née, et postea in Peruvianis Cordilleris cl. Haenke. ... (v.s.)'. Note: There is material of both these collections in G-DC, although the original material of the *Haenke* collection is in PR. Lectotype (selected by Cabrera, 1985: 191): *Née* – however this is cited for G, but should clearly be G-DC. Cabrera also cited a duplicate of the *Haenke* collection in P. Bolivia (La Paz), Peru.

Mountains and puna, 'pajonales empraizados altoandinas' and 'apjonales altoandinos edafoxerófilos de la Provincia puneño Peruana' [Peruvian puna Province altoandean edaphoxerophilous bunch-grassland – Navarro, 2002: 261].
3300–4500 m.

Senecio sprucei* Britton, Bull. Torrey Bot. Club 19(9): 265 (1892), non Klatt (1888) = **Pentacalia brittoniana (Hieron.) Cuatrec.

Senecio steinbachianus* Cuatrec., Fieldiana, Bot. 27(2): 55 (1951) = **Pentacalia epiphytica (Kuntze) Cuatrec.

***Senecio stylotrichus** Cabrera, Notas Mus. La Plata, Bot. 15(No. 75): 107 (1950). Type/s?: 'BOLIVIA. – Departamento de Santa Cruz: Cerro Hosana, 1300 m s. m., en barrancas húmedas, leg. José Steinbach, 3363, 11-VIII-1917'. Holotype: 'LIL., 6591 et 6592.'; isotype: US (01951363). Note: Freire & Iharlegui (2000: 352) noted that the holotype was LIL 65961, and the isotype LIL 65962, however, since Cabrera noted both collections in the protologue they might both be considered part of the holotype collection.

Lasiocephalus stylotrichus (Cabrera) Cuatrec., Phytologia 76(5): 404 (1994).

Bolivia (Santa Cruz).

Open scrub, sandstone hills.

1300–1400 m.

August–September.

Note: This species is somewhat incongruous left in *Senecio*. Whilst it might well be better placed in *Aetheolaena*, Cabrera's comments (Cabrera, 1985: 84) suggested that it would be somewhat premature to remove it from *Senecio*, or to place it in a new section.

Senecio subdecurrens Sch.Bip., Bonplandia 4(4): 55 (1856), nom. nud. (based on *Lechler* 2056) = **Senecio tephrosioides** Turcz.

Senecio subdecurrens* Sch.Bip. ex Wedd., Chloris Andina 1: 91 (1856) = **Senecio tephrosioides Turcz.

Senecio subglomerosus* Greenm., Ann. Missouri Bot. Gard. 10: 93 (1923) = **Pentacalia subglomerosa (Greenm.) Cuatrec.

Senecio submultinervis Cuatrec., Collect. Bot. (Barcelona) 3(3): 262 (1953) = **Dendrophorbium multinerve** (Sch.Bip. ex Klatt) C. Jeffrey

Senecio subulatus D. Don ex Hook. & Arn., J. Bot. (Hooker) 3: 330 (1841). Types: '[var.] *α. prostratus*; ... Frequent near Capiz, province of Mendoza. Nom. Vern. "Romerillo." *Dr. Gillies*. – [var.] *β. elatior*; ... El Posito, Prov. San Juan; *Dr. Gillies*. – [var.] *γ. erecta*; ... Port-Belgrave, entrance to Bahía Blanca, N. Patagonia; *Tweedie*. – [var.] *δ. macrantha*; ... Bahía Blanca, coast of Patagonia; *C. Darwin, Esq.*, (n. 351). A very variable plant assuredly; and we think we are correct in bringing the above several varieties under this species.' Which collection is of the typical variety is not stated.

var. **salsus** (Griseb.) Cabrera, Lilloa 15: 90 (1949).

Senecio diversifolius Phil., Anal. Univ. Nac. Chile 43: 495 (1873) 'non Wall.' as provided by Cabrera (1985) – Wallich's name was invalid. This raises the question of why Cabrera did not want to choose his earlier combination which is here chosen as valid. Type: 'El distinguido botánico español don Juan Isern halló esta especie en el paso de Uspallata.' Pizarro (1960: 157) cited: SGO 60684.

Senecio salsus Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 190 (1874); Pl. Lorentz.: 142 (1874). Types: 'Catamarca, frequens in campo de Arenal in salsis pr. Amaicha, fruticeta quoque formans in planitie alta pr. Laguna blanca.' Syntypes: *Lorentz* 413, 425, GOET.

Senecio innovans Klatt, Ann. K. K. Naturhist. Hofmus. Wien 9: 365 (1894). Type: 'Hab.: Bolivia, Miraflor de Potosi, leg. *d'Orbigny*, Nr. 1335.' Holotype: W; isotype: P. Note: There is a specimen, *d'Orbigny* s.n. s.dat. in NY (259203) which may be an isotype.

Senecio disparifolius Cabrera, Notas Prelim. Mus. La Plata 3: 116 (1934), as nom. nov. pro *Senecio diversifolius* Phil. according to Cabrera, but q.v. note above.

Senecio subulatus D. Don ex Hook. & Arn. var. *salsus* (Griseb.) Cabrera, Lilloa 15: 90 (1949).
Argentina, Bolivia (Potosí).

Senecio subulatus D. Don ex Hook. & Arn. var. *diversifolius* (Phil.) Cabrera, Notas Mus. La Plata, Bot. 1(No. 4):
110 (1935) = **Senecio subulatus** D. Don ex Hook. & Arn. var. **salsus** (Griseb.) Cabrera

Senecio subulatus D. Don ex Hook. & Arn. var. *salsus* (Griseb.) Cabrera, Lilloa 15: 90 (1949) = **Senecio
subulatus** D. Don ex Hook. & Arn. var. **salsus** (Griseb.) Cabrera

Senecio subvulgaris* Kuntze, Revis. Gen. Pl. 3(3): 178 (1898) = **Senecio dryophyllus Meyen & Walp.

Senecio sundtii Phil., Anales Univ. Chile 88: 7 (1894). Type: [Chile:] 'Ad. radium montis ignivomi extincti
"Volcan de Azufre" in deserto Atacama legit Franciscus San Roman, dixi in memoriam sociis ejus Laurentii
Sundt, norwegi.' Note: Pizarro cited the type material as SGO 44427 (Pizarro, 1960: 162).

Bolivia (Potosí), Chile.

Lípez high andean tussock-like bunchgrassland (Pajonal criorotropical de los Lípez).

4200–4900 m.

Note: Cabrera (1985) did not include this species, although Navarro (2002: 479) included it as part of the
Altiplano association around Laguna Colorada in the Lípez region, along with *Perezia atacamensis* (= **Perezia
purpurata**).

Senecio sylvarum Sch.Bip., Bull. Soc. Bot. France 12: (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud. (based on
Mandon 133, p.p.) = **Senecio herrerae** Cabrera

Senecio tabacifolius* Rusby, Bull. New York Bot. Gard. 4(14): 396 (1907) = **Dendrophorbium tabacifolium
(Rusby) C. Jeffrey

Senecio tablensis* Cabrera, Blumea 7(1): 203 (1950) = **Pentacalia tablensis (Cabrera) Cuatrec.

Senecio tarapacanus Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 42 (1891) = **Senecio dryophyllus** Meyen &
Walp.

Senecio tarijensis Cabrera, Hickenia 2(4): 23 (1984). Type: 'BOLIVIA. Depto. Tarija, Acueducto, 9 km al W de
Tarija, leg. A. Krapovickas, L. A. Mrojiniski et A. Fernandez 18850, 18-V-1971'. Holotype: LP (s.n.); isotype: CTES.
Bolivia (Tarija).

May.

Senecio tenuicaulis Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud.
(based on *Mandon* 127) = ***Senecio tenuicaulis** Sch.Bip. ex Klatt

***Senecio tenuicaulis** Sch.Bip. ex Klatt, Leopoldina 23: 11 [1886](1887). Type: 'Bolivia, Viciniis Sorata, ad
Lacatia, in rupium fissuris, Aug. – Nov. leg. G. Mandon No. 127.' Holotype: GH (12214); isotype: B†, GH
(12215), GOET, K, NY (00259432, 00259433, 00259434, 00259435), S.

Senecio tenuicaulis Sch.Bip., Bull. Soc. Bot. France 12: 80 (1865); Linnaea 34(5): 531 (Feb. 1866), nom. nud.
(based on *Mandon* 127).

Senecio tenuicaulis Sch.Bip. ex Klatt, Leopoldina 24: 128 (1888), nom. superfl.

Bolivia (La Paz), Peru.

3500–3900 m.

August–November.

***Senecio tephrosioides** Turcz., Bull. Soc. Naturalistes Moscou 24(2): 92 (1851). Type: [Ecuador:] 'In vulcano
Antisana. Jameson n. 846.' Holotype: ?KW; isotype: G.

Senecio subdecurrens Sch.Bip., Bonplandia 4(4): 55 (1856), nom. nud. (based on *Lechler* 2056).

**Senecio subdecurrens* Sch.Bip. ex Wedd., Chloris Andina 1: 109 (1856). Types: 'Hab. PÉROU: province de
Carabaya, au bord des ruisseaux des Cordillères! (*Lechler*, exsicc., n. 2056; *Wedd.*).' Lectotype (selected by
Cabrera, 1985: 125, as 'holotype'): *Lechler* 2056 – P; isolectotype: K.

Bolivia (Cochabamba, La Paz), Ecuador, Peru.

3500–4500 m.

Senecio trifurcifolius Hieron., Bot. Jahrb. Syst. 21(4): 358 (1896). Type: 'Peruvia: crescit in altiplanitie inter Tacora et Sajama alt. s. m. 4200–4300 m, ubi floret mense Decembri ([Stübel] coll. peruv. n. 105).' Holotype: B†. Cabrera (1985: 210) noted a 'clastotipo' in MO.
Bolivia (Oruro?), Chile, Peru.
Puna, Altiplano.
4000–5100 m.
October–December.

Senecio tripartitus DC., Prodr. 6: 418 (1838) = **Senecio brasiliensis** (Spreng.) Less. var. **tripartitus** (DC.) Baker
Senecio unduavianus* Cuatrec., Fieldiana, Bot. 27(2): 49 (1951) = **Dendrophorbium multinerve (Sch.Bip. ex Klatt) C. Jeffrey
Senecio valerianifolius Wolf, Index Sem. Hort. Berol. (1825), nom. nud. = **Erechtites valerianifolia** (Link ex Spreng.) Less. ex DC. var. **valerianifolia**
'*Senecio valerianifolius* Desf., Cat. Hort. Paris ed. 3: 178 (name in list), 403 (descr.) (1829)', nom. illegit. [See note under entry in *Erechtites*] = **Erechtites valerianifolia** (Wolf) DC. var. **valerianifolia**
Senecio valerianifolius Gardner, London J. Bot. 4: 127 (1845), nom. illegit. non Link ex Spreng. (1826) = **Erechtites valerianifolia** (Wolf) DC. var. **valerianifolia**
Senecio vallestris DC., Prodr. 6: 421 (1837) = **Senecio pentlandicus** DC.

Senecio vegetus (Wedd.) Cabrera, Notas Mus. La Plata, Bot. 18(No. 89): 221 (1955).

**Senecio humillimus* Sch.Bip. ex Wedd. var. β *vegetus* Wedd., Chloris Andina 1: 104 (1856). Type/s?: '[PÉROU: ...] Andes de Cuzco! (Gay). – BOLIVIE: pelouses arides des montagnes, autour de la ville de Potosi! (d'Orbigny, n^o. 1398; Wedd.)'. Note: Whilst Weddell certainly cited the Gay collections as specifically referable to var. β it is not clear whether the Bolivian material also referred to this variety. Cabrera (1985: 206) appeared to suggest that the Gay collection was the holotype of the variety, but did not indicate which of the other collections was holotypic material, or otherwise, of the other varieties.

Senecio vegetus (Wedd.) Cabrera var. *lobatus* Cabrera, Notas Mus. La Plata, Bot. 18(No. 89): 222 (1955). Type: 'BOLIVIA.– Dep. La Paz, Prov. Ingavi, Miriquiri, 4200 m s.m., leg. E. Asplund, 2866, 10-III-1921'. Holotype: S.
Bolivia (La Paz, Oruro), Peru.
3500–5000 m.
July–October.
La Paz: Prov. Larecaja, cerca de Sorata, leg. G. Mandon, 108, IV-1860 (S).

Senecio vegetus (Wedd.) Cabrera var. *lobatus* Cabrera, Notas Mus. La Plata, Bot. 18(No. 89): 221 (1955) = **Senecio vegetus** (Wedd.) Cabrera

Senecio violifolius Cabrera, Darwiniana 10(4): 577 (1954). Type: 'PERÚ. Dep. Lima, Prov. Yauyos: Huacracochoa, a 17 Km de Tupe, 4400 m s.m., leg. E. Cerrate et O. Tovar, 1222, 22-I-1952'. Holotype: LP.
Bolivia (La Paz), Peru.
4400–5100 m.
October–January.

***Senecio viridilacus** Cabrera, Blumea 7(1): 199 (1952). Type: 'Hab.: An fesigen Stellen eines Graskopfes am Kamm der Laguna Verde bei Comarapa, 2600 m alt., April 1911, [Herzog] n. 1943 (Typus)'. Holotype: L(950252315); isotypes: LP (77094, 898890), S, Z (000003998).
Bolivia (Santa Cruz).
2600–2700 m.
April.

Senecio viridis Phil., Anal. Mus. Nac.. Chile, Secc. Bot. 8: 43 (1891). Type: [Chile:] 'Prope Salinas in provincia Tarapacá.' Holotype: SGO; isotype: ?B (cf. Cabrera, 1949: 93)†.
Argentina, Bolivia (Potosí), Chile.
3000–4400 m.
Vernacular names: MOCORA, MOCORACA, MOCO-MOCO (Cabrera, 1985: 184).

***Senecio vulgaris** L., Sp. Pl. : 867 (1753). Type: 'Habitat in Europae, cultis, ruderatis, succulentis. †.'
Lectotype (selected by Jeffrey in Jarvis et al., 1993: 87): Herb. Clifford: 406, *Senecio* 1, sheet A (BM-000647048).
Native of Europe and widespread, and often weedy, in many areas.
Bolivia (Cochabamba, La Paz), Brazil, Peru, ...
Weed in potato fields.
0–4500 m.
Potentially flowering throughout the year.

Senecio weddellii* Cabrera, Notas Prelim. Mus. La Plata 3: 122 (1934) = **Senecio rhizomatus Rusby

Senecio wedglacialis Cuatrec., Fieldiana, Bot. 27(1): 45 (1950), as nom. nov. pro *Senecio glacialis* Wedd.

Senecio glacialis* Wedd., Chloris Andina 1: 113 (1856), non Sch.Bip. (1845) (= *Doronicum glaciale* (Wulfen) Nyman, according to Cuatrecasas (1950: 39), nec (Meyen & Walp.) Cuatrec. (1950: 44) (= **Culcitium humile DC.). [Type/s?: 'Hab. BOLIVIE: sur le mont Illampù!, dans la cordillère de Sorata, au-dessus de 4000 mètres, et jusque près du niveau des neiges perpétuelles (Wedd.).'] Cabrera (1985: 166) cited the lectotype as 'Bolivie Septentrionale (Province de Larecaja) Cordillere de Sorata M. Weddell 1851. Dernière plante ligneuse que l'on remarque dans l'ascension de la Cordillere' - P. Also noted was *Weddell* 4523 as a paratype, although this would have to be regarded as a syntype.

Bolivia (La Paz).

Rocky slopes.

3700–4500 m.

April–August.

Senecio werneroides Wedd., Chloris Andina 1: 128 (1856) = **Senecio breviscapus** DC.

**Senecio williamsii* Rusby, Bull. New York Bot. Gard. 8(No. 28): 134 (1934), nom. illegit. non Phil. (1894) =

Dendrophorbium cabrerianum (Greenm. & Cuatrec.) C. Jeffrey

Senecio yungasensis* Britton, Bull. Torrey Bot. Club 19(9): 264 (1892) = **Dendrophorbium yungasense (Britton) C. Jeffrey

*?**Senecio yurensis** Rusby, Bull. New York Bot. Gard. 8(No. 28): 133 (1912). Types: ' "Yura, Peru, 8400 ft., Aug. 10, 1901 ([R.S. Williams] No. 2565). No. 2533, from Arequipa, Peru, 7500 ft., Aug. 8, 1901, is the same, but a less slender, more contracted form, apparently from an arid locality.' Syntypes: NY. (*Williams* 2565 - NY 00259498).

Bolivia (?), Peru. Listed by Foster (1958: 218) but not recorded for Bolivia by Cabrera (1985).

2500–3500 m.

August.

Senecio zoellneri Marticorena & Quezada, Bol. Soc. Biol. Concepcion 48: 102 (1974), nom. nov. = **Culcitium albifolium** Zoellner

Senecio zongoensis Cabrera, Darwiniana, 26(1-4): 128 (1985) = **Dendrophorbium zongoense** (Cabrera) D. J. N. Hind

Seneciodes L. ex Post & Kuntze, Lex. Gen. Phan. 2: 515 (1903) = **Vernonia** Schreb.

Sergilus Gaertn., Fruct. Sem. Pl. 2: 409 (1791) = **Baccharis** L.

Seriola L., Sp. Pl., ed. 2, 2: 1139 (1763) = **Hypochaeris** L.

Seriola brasiliensis Less., Syn. Gen. Comp. : 131 (1832) = **Hypochaeris chillensis** (Kunth) Hieron.

Seriola brasiliensis Less. subvar. c. *hirsutula* Hook. & Arn., Companion Bot. Mag. 1(No. 1): 31 (1835) =

Hypochaeris chillensis (Kunth) Hieron.

Seriola tweediei Hook. & Arn., Companion Bot. Mag. 1(No. 1): 31 (1835) = **Hypochaeris chillensis** (Kunth) Hieron.

Seris Willd., Mag. Neuesten Entdeck. Gesamten Naturk. Ges. Naturf. Freunde Berlin 1: 139 (1807) = **Onoseris** Willd.

Seris acerifolia (Kunth) Kuntze, Revis. Gen. Pl. 1: 364 (1891) = **Onoseris acerifolia** Kunth

Seris adpressa [sic!](Hook.) Kuntze, Revis. Gen. Pl. 1: 364 (1891) = **Onoseris albicans** (D. Don) Ferreyra

Seris hastata (Wedd.) Kuntze, Revis. Gen. Pl. 1: 364 (1891) = **Onoseris hastata** Wedd.

Seris integrifolia (Less.) Kuntze, Revis. Gen. Pl. 1: 364 (1891) = **Onoseris albicans** (D. Don) Ferreyra

Seris reflexa (Hook.) Kuntze, Revis. Gen. Pl. 1: 364 (1891) = **Onoseris albicans** (D. Don) Ferreyra

Seris sagittatus Rusby, Mem. Torrey Bot. Club 6(1): 69 (1896) = **Onoseris sagittata** (Rusby) Rusby

Seris sensu Less., Linnaea 5(2): 253 (1830), p.p. = **Gochnatia** Kunth

Serpaea Gardner, London J. Bot. 7: 296 (1848) = **Dimerostemma** Cass.

Serpaea ovata Gardner, London J. Bot. 7: 296 (1848) = **Dimerostemma brasilianum** Cass.

Serratula L., Sp. Pl.: 816 (1753).

Serratula acutifolia Poir. in Lam., Encycl. 6: 554 (1805) = **Lucilia acutifolia** (Poir.) Cass.

Seruneum Rumpf ex Kuntze, Revis. Gen. Pl. 1: 364 (1891), nom. illegit. superfl. pro *Wedelia* Jacq. = **Wedelia** Jacq.

Seruneum brachycarpum (Baker) Kuntze, Revis. Gen. Pl. 1: 365 (1891), nom. illegit. = **Sphagneticola brachycarpa** (Baker) Pruski

Seruneum trilobatum (L.) Kuntze, Revis. Gen. Pl. 1: 365 (1891) = **Sphagneticola trilobata** (L.) Pruski

Siegesbeckia L., Sp. Pl. : 900 (1753).

Schkuhria Moench, Meth. : 566 (1794), nom. rej. non *Schkuhria* Roth. Type: *Schkuhria dichotoma* Moench, nom. illeg. = **Siegesbeckia flosculosa** L'Hér.

Limnogenneton Sch.Bip. ex Walp., Repert. 6: 146 (1846). Type: *Limnogenneton abyssinicum* Sch.Bip. ex Walp. = *Siegesbeckia abyssinicum* (Sch.Bip.) Oliv. & Hiern

Minyranthes Turcz., Bull. Soc. Imp. Naturalistes Moscou 24(1): 181 (1851). Type: *Minyranthes heterophylla* Turcz. = **Siegesbeckia orientalis** L.

Zandera D. L. Schulz, Haussknechtia 4: 32 (1988). Type: *Trigonospermum blakei* McVaugh & Lask. = *Siegesbeckia blakei* (McVaugh & Lask.) B. L. Turner

Lectotype (selected by Steudel, Nomencl. 1: 177, 1821): **Siegesbeckia orientalis** L.

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Schulz, D. L. (1987). Beitrag zur Sipplgliederung der Gattung *Siegesbeckia* L. (Asteraceae-Heliantheae-Melampodiinae) in Süd-amerika. Haussknechtia 3: 57-64.

Schulz, D. L. (1988). Beitrag zur Sipplgliederung der Gattung *Siegesbeckia* L. (Asteraceae - Heliantheae - Melampodiinae) in Mexiko und auf den Karibischen Inseln. Haussknechtia 4: 25-35.

Note: The following key is based upon the species known, or assumed, to be in Bolivia. A narrower view of *S. jorullensis* excludes the concept of *S. serrata*.

Key to species

- | | | |
|----|---|----------------------|
| 1. | Outer phyllaries stipitate glandular | 2 |
| | Outer phyllaries lacking stipitate glands | <i>S. orientalis</i> |
| 2. | Anthers yellow | 3 |
| | Anthers green | 4 |

3. Achenes 1.1–1.4 mm long; stipitate glands on phyllaries 0.1–0.2 mm long *S. agrestis*
 Achenes 2.5–4.5 mm long; when present, stipitate glands on phyllaries 0.4–0.6 mm long *S. orientalis*
4. Underside of leaves lacking glandular punctae; achenes 2–2.4 mm long; stipitate glands on phyllaries 0.6–0.7 mm long *S. jorullensis*
 Underside of leaves glandular-punctate; achenes 1.7–2 mm long; stipitate glands on phyllaries 0.3–0.5 mm long *S. serrata*

Siegesbeckia agrestis Poepp., Nov. Gen. Sp. Pl. 3: 45, tab. 256 (1843). 'Crescit in cultis Peruviae circum Cuchero. Februario florebat.'

Bolivia (?), Chile, Peru, Ecuador, Mexico. Note: Robinson (2006: 98) suggested that this species occurs from Mexico south to Chile – presumably occurring in Bolivia!

Pastures.

750–2000 (–2700) m.

October – February.

Siegesbeckia bogotensis D. L. Schulz, Haussknechtia 3: 59 (1987) = ***Siegesbeckia jorullensis*** Kunth

Siegesbeckia cordifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 222 (1818) =

Siegesbeckia jorullensis Kunth

Siegesbeckia droseroides Sweet, Hort. Brit. : 235 (Aug. 1826), nom. nud. = ***Siegesbeckia jorullensis*** Kunth

Siegesbeckia droseroides Sweet, Brit. Fl. Gard., ser. 1, 3: t. 203 (May 1827) = ***Siegesbeckia jorullensis*** Kunth

**Siegesbeckia flosculosa* L'Hérit., Stirp. Nov. : 37, t. 19 (1786). Note: Foster (1958: 218) cited this species for Bolivia, although it is not immediately clear on what collection/s, or reference, this is based. Humbles (1972) and Robinson (2006) only recorded the species for Ecuador and Peru.

Siegesbeckia jorullensis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 223 (1818). Type: 'Crescit in monte ignivomo Mexicano, Volcan de Jorullo, alt. 530 hex. ♯ Floret Septembri.' Holotype: P-Bonpl.

Siegesbeckia cordifolia Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 222 (1818). Type:

'Crescit in alta planitie Bogotensi, prope urbem Sanctæ Fidei, alt. 1370 hex. ♯ Floret Julio.' Holotype: P-Bonpl.

Siegesbeckia droseroides Sweet, Hort. Brit. : 235 (Aug. 1826), nom. nud. Note: Sweet's listing is tabular in form and considered invalid in the current Vienna Code (McNeill et al., 2006), which cited *Hortus Britannicus* ed. 3 as an example. However, the entry here refers to the *British Flower Garden* plate by Sweet, as the plate refers to *Hortus Britannicus*, suggesting that Sweet was writing them both at the same time, except one was published a while later.

Siegesbeckia droseroides Sweet, Brit. Fl. Gard., ser. 1, 3: t. 203 (May 1827). Type: 'The present plant is native of Mexico, ...; many plants of it were raised at the Nursery of Mr. Colville, in 1825, from seeds given him by Mrs. Manners Sutton, Lady of the Archbishop of Canterbury, who received them from Mexico; from one of those our drawing was made the following Autumn, when several of them flowered.' Holotype: unknown but probably CGE? or MV? where the types for cultivated material can be found.

Siegesbeckia melanolepis Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 534 (Feb. 1866). Type:

'[Mandon] 231' p.p. Holotype: P; isotypes: F (932518), GH (12363), NY (00259606, 00259607, 00259608), S, W.

Siegesbeckia bogotensis D.L.Schulz, Haussknechtia 3: 59 (1987). Type: 'Kolumbien: Cundinamarca, Bogotá,

Hänge unterhalb des Klosters Monserrate, auf steinigem Boden am Wegrand, 2500 m NN, 24.6.1985, G.K. MÜLLER, G. KREBS 11761'. Holotype: LZ; isotype: LZ.

Argentina, Bolivia (Santa Cruz), Chile, Colombia, Ecuador, Mexico.

Scrub, pasture, forst margins, montane forest.

2700–3500 m.

Probably flowering throughout the year.

Robinson (2006: 102) noted that his treatment was interpreted more broadly than in Schulz's (1987) treatment by sinking *S. bogotensis* and *S. cordifolia* into *S. jorullensis*, a slightly expanded concept adopted by Humbles (1972).

Siegesbeckia mandonii Sch.Bip., Bull. Bot. Soc. France 12: 81 (1865); Linnaea 34(5): 534 (Feb. 1866), nom. nud. (based on *Mandon 232*) = ***Siegesbeckia serrata*** DC.

Siegesbeckia melanolepis Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 534 (1865–66) =
***Siegesbeckia jorullensis* Kunth**

****Siegesbeckia orientalis* L.**, Sp. Pl. : 900 (1753). Type: 'Habitat in China, Media ad pagos. ♀.' Lectotype (selected by Stearn, Intr. Linnaeus' Sp. Pl. (Ray Soc. ed.): 47, 1957): [icon] '*Siegesbeckia* in Linnaeus, Hort. Cliff.: 412, t. 23 (1738).

Disturbed areas.

0–500 m.

Flowering throughout the year.

Note: Foster (1958: 218) cited this species for Bolivia based on *Bang* 466 cited in Rusby (1893: 58). Humbles (1972) stated that the species was only known definitely from Brazil in South America, but widespread elsewhere. The species is not reported by Robinson (2006) as occurring in Ecuador and, by inference, probably not Bolivia: it may well be referable to *S. jorullensis* or *S. serrata*). If *Siegesbeckia orientalis* is present the synonymy will clearly need expanding.

Siegesbeckia portoricensis Bertero ex DC., Prodr., 5: 546 (1836), nom. nud. pro syn. = ***Eleuthernathera ruderalis* (Sw.) Sch.Bip.**

***Siegesbeckia serrata* DC.**, Prodr. 5: 496 (1836). Types: '• in Chili legit cl. Chamisso et in Americâ austr. cl. Poeppig. *S. cordifolia* Poepp.! diar. 463. herb. n. 55 ... (v.s.)'. Syntypes: G-DC.

Siegesbeckia mandonii Sch.Bip., Bull. Bot. Soc. France 12: 81 (1865); Linnaea 34(5): 534 (Feb. 1866), nom. nud. (based on *Mandon* 232) [Strangely, Robinson (2006: 102) cited a type for this name – which, of course, can't have one!]

Siegesbeckia jorullensis sensu Humbles, Ciencia y Naturaleza 13(1& 2): 7 (1972) and, sensu Cabrera, Fl. Prov. Jujuy 10: 347 (1978), non Kunth.

Argentina, Bolivia (Cochabamba, La Paz), Chile, Ecuador, Peru.

Disturbed areas, montane forest, dry scrub, roadsides.

1500–3500 m.

Probably flowering throughout the year.

Silphium trilobatum L., Syst. Nat., ed. 10, 2: 1233 (1759) = ***Sphagneticola trilobata* (L.) Pruski**

Simblocline DC., Prodr. 5: 297 (1836) = ***Diplostephium* Kunth**

Simblocline haenkei DC., Prodr. 5: 297 (1836) = ***Diplostephium haenkei* (DC.) Wedd.**

***Simsia* Pers.**, Syn. Pl. 2: 478 (1807), non *Simsia* R.Br. (1810) [PROTEACEAE] (= *Stirlingia* Endl.)

Armania Bert. ex DC., Prodr. 5: 576 (1836). Type: *Armania fruticulosa* (Spreng.) Bert. ex DC. = *Simsia fruticulosa* (Spreng.) S. F. Blake

Barrattia A. Gray & Engelm. ex A. Gray, Proc. Amer. Acad. Arts 1: 48 (Dec. 1846 or Jan 1847). Type: *Barrattia calva* A. Gray & Engelm. ex A. Gray = *Simsia calva* (A. Gray & Engelm. ex A. Gray) A. Gray

Encelia Adans. sect. *Simsia* (Pers.) A. Gray, Proc. Amer. Acad. Arts 8: 656 (1873).

Lectotype (designated by Robinson & Brettell, 1972: 364): *Coreopsis amplexicaulis* Cav. = *Simsia amplexicaulis* (Cav.) Pers.

References

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Robinson, H. & R. D. Brettell. (1972). Studies in the Heliantheae (Asteraceae). II. A survey of the Mexican and Central American species of *Simsia*. Phytologia 24(5): 361–377.

Spooner, D. M. (1990). Revision of *Simsia* (Compositae-Heliantheae). Syst. Bot. Monogr. 30: 1–90.

Key to species

- Involucres urceolate, 10–16 mm tall × 9–15 mm diam.; ray florets 6–13 *S. dombeyana*
Involucres campanulate, 12–16 mm tall × 25–35 mm diam.; ray florets 12–25
S. foetida var. *panamensis*

Simsia dombeyana DC., Prodr. 5: 578 (1836). Type: ‘– in Amer. austr. verisim. in Peruvia legit *Dombey* [12]. ... (v.s. comm. à Mus. reg. Par.)’. Holotype: P; isotype: B†, G-DC, MPU, P, US (fragment, but s.n.).

**Encelia hirsuta* Kuntze, Revis. Gen. Pl. 3(3): 145 (1898). Type: ‘Argentina: Dique bei Cordoba und westliche Pampas 34°. Ausserdem gesehen im Berl. bot. Museum von Ascochinga in Sierra de Cordoba (*Lorentz*), auch aus Peru (*Dombey*) eine seltener Form mit wenigen Strahlblüten = f. *radiata*, und von Charthagen de Columbia (*Billberg*.). Syntypes: B†.’ Note: With the exception of the *Dombey* collection (see following forma) the remaining collections are considered syntypes. According to Wetter & Zanoni (1985: 330) there are two sheets of the Kuntze collection in NY, cited as ‘ARGENTINA. Dique bei Córdoba und westliche Pampas, 34°, Dec 1891, Kuntze s.n. (2 sheets).’ Lectotype (selected by Spooner, 1990: 59): US (701505); isolectotypes: GH (6573 – fragment ex US), NY (00168355, 00168356), US (701506).

Encelia hirsuta Kuntze f. *radiata* Kuntze, Revis. Gen. Pl. 3(3): 145 (1898). Types: ‘... auch aus Peru (*Dombey*) eine seltener Form mit wenigen Strahlblüten = f. *radiata*, ...’ Holotype: B†; isotypes: G-DC, MPU, P, US (fragment of P material, but s.n.). Note: Robinson (2006: 105) noted this collection as ‘*Dombey* 12’, the type of de Candolle’s name, yet apparently cited differing isotypes – ‘G-DC, GH, MO, NY, TEX, P, frag. US.’, having previously noted photographs of the holotype in ‘CM, GH, TEX’, and of the isotype in ‘GH, MO, NY, TEX’.

Simsia hirsuta (Kuntze) S. F. Blake, Proc. Amer. Acad. Arts 49: 389 (1913).

Argentina, Bolivia (La Paz, Tarija), Brazil, Ecuador, Peru.

Roadsides, disturbed ground, sandy soils.

40–2100 m.

Flowering throughout the year but predominantly December–May.

Tarija: Wood 15920 (K).

Simsia foetida (Cav.) S. F. Blake var. ***panamensis*** (H. Rob. & Brettell) Spooner, Syst. Bot. Monogr. 30: 72 (1990).

Simsia panamensis H. Rob. & Brettell, Phytologia 24(5): 372 (1972). Type: ‘PANAMA: Panama: Bella Vista, “Sirvulaca,” brushy field; herb 4–8 ft., abundant, rays yellow, Nov. 28, 1923, Standley 25386’. Holotype: US (01216446).

Panama, Venezuela, ?Bolivia (Santa Cruz, Tarija).

Open areas in tropical deciduous forest, roadsides.

0–500 m.

November–April.

Note: According to Spooner (1990: 73) the Bolivian material may well represent a new taxon but since material was limited he preferred to recognize it as the variety of *S. foetida*, although differing in some characters. The following two collections were cited by Spooner: SANTA CRUZ: between Charagua & Izozog, Cárdenas 2666 (US).–TARIJA: Fortín Crevaux, Fries 1645 (US).

Smallanthus MacKenzie in Small, Man. Southeast. Fl. : 1406 (1933).

Type: *Osteospermum uvedalia* L. = *Smallanthus uvedalia* (L.) Mackenzie

References

Grau, A. & Rea, J. (1997). Yacon. *Smallanthus sonchifolius* (Poepp. & Endl.) H. Robinson. In: M. Hermann & J. Heller (eds), Andean roots and tubers: Ahipha, arracacha, maca and yacon. Promoting the conservation and use of underutilized and neglected crops. Vol. 21. Institute of Plant Genetics and Crop Plant Research, Gatersleben/International Plant Genetic Resources Institute, Rome, Italy. pp. 199–242.

Robinson, H. (1978). Re-establishment of the genus *Smallanthus*. Phytologia 39(1): 47–53.

Robinson, H. (2006). *Smallanthus*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(2): 190(6). Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 108–116.

Wells, J. R. (1965). A taxonomic study of *Polymnia* (Compositae). *Brittonia* 17(2): 144–159.

Key to species

1. Ray florets biseriate *S. connatus*
Ray florets uniseriate 2
2. (1) Margins of paleae surrounding ray florets involute, elongated into point, stipitate-glandular below 3
Margins of paleae surrounding ray florets flat, apex of paleae acute or acuminate but not into aristate point, if glandular glands sessile or nearly so 4
3. (2) Disc florets ≤ 15 ; ray corollas c. 5–6 mm long; phyllaries ≤ 10 mm long *S. siegesbeckius*
Disc florets ≥ 30 ; ray corollas c. 10 mm long; phyllaries usually > 10 mm long *S. riparius*
4. (2) Herbs to c. 2 m tall; leaves lobed; phyllaries 15 mm long or less, up to 8 mm wide; pedicels glandular pubescent *S. sonchifolius*
Shrubs to 5 m tall; leaves entire; phyllaries 3–7 mm long and 2–5 mm wide; pedicels puberulent, eglandular 5
5. (4) Leaves densely tomentose beneath; phyllaries c. 3 mm long, 2 mm wide, glabrous; ray florets 10–15 *S. parviceps*
Leaves glabrous or puberulous beneath; phyllaries 7 mm long, 5 mm wide, puberulous or minutely glandular; ray florets c. 10 *S. glabratus*

Smallanthus connatus (Spreng.) H. Rob., *Phytologia* 39(1): 49 (1978).

Gymnolomia connata Spreng., *Syst. Veg.* 3: 610 (1826). Type: 'Brasil. *Sello*.'

Polymnia silphioides DC., *Prodr.* 5: 516 (1836). Type: '– in Brasiliã prov. Rio-Grande (h. Mus. imp. Bras. n. 885)'. Holotype: G-DC; isotype: P.

Polymnia macroscypha Baker in Mart., *Fl. Bras.* 6(3): 158 (1884). Types: 'Habitat in pascuis et ruderalis Brasiliae, in prov. Minas Geraës ad Caldas: *Regnell* I. n. 195 ex parte!, *Lindberg* n. 5!; praeterea: *Weir* n. 505!' Note: Wells (1965: 149) noted simply 'Isotype, F!' without noting which of the collections cited by Baker this was.

Polymnia silphioides DC. var. *perennis* Bettfr., *Fl. Argent.* 2: 116 (1900). Type: 'Palermo, San Isidro.'

Bettfreund's herbarium and types are listed as 'B, SI' in TL II. It is probable that the holotype is in SI.

Polymnia andrei Arechav., *Ann. Mus. Nac. Montevideo* 2, 1: 35 (1905). Type: 'Vive en parajes frescos herbosos, orillas de selvas etc. Los ejemplares del Herbario proceden de Tacuarembó, como la dejamos dicho al principio. Florece por los meses de noviembre y diciembre.' Wells (1965) cited simply 'Type, W'. However, it more than likely that the type collections are in Uruguay in MVM.

Polymnia connata (Spreng.) S. F. Blake, *Contr. U. S. Natl. Herb.* 26: 238 (1930).

Argentina, Bolivia (Tarija), Brazil, Paraguay, Uruguay.

Damp thicket margins, roadsides, moist subtropical forest.

400–2200 m.

December–May.

Robinson (1978: 49), like Wells (1965: 149), did not cite Bolivia in the distribution of this species. Grau & Rea (1997: 205), although noting the species was widespread, only indicated 'southeastern Brazil, Paraguay, Uruguay and eastern Argentina'.

Smallanthus glabratus (DC.) H. Rob., *Phytologia* 39(1): 49 (1978).

**Polymnia glabrata* DC., *Prodr.* 5: 515 (1836). Type: '■ in Chile legit cl. *Haenke*. ... (v.s. in h. *Haenke* à cl. de Sternberg comm.)'. Holotype: PR; isotype: G-DC. Foster (1958: 216) recorded this species for Bolivia, under *Polymnia*, however, it is only previously known from Chile and Peru. Although Robinson (1978: 49) cited Chile, Ecuador and Peru, he later (2006: 109–110) indicated that material referable to this taxon was either *S. fruticosus* (Benth.) H. Rob. or *S. pyramidalis* (Triana) H. Rob. – neither of which are known from Bolivia. Wells (1965: 156–158) treated four species in the '*Polymnia glabrata* complex', and it is likely that material referable to this name by Foster is actually *Smallanthus parviceps*. Determination of Wood 13021 suggests that this taxon is indeed present in Bolivia.

Bolivia (La Paz), Chile, Peru.
Yungas, steep-sided valleys, waste ground near cultivated areas.
1300 m.
January–February.

Smallanthus parviceps (S. F. Blake) H. Rob., *Phytologia* 39(1): 51 (1978).

Polymnia parviceps S. F. Blake, *Contr. U.S. Natl. Herb.* 22: 604 (1924). Type: '... collected at Torontoy, in the Urubamba Valley, Peru, altitude about 2,400 meters, May 20, 1915, by O. F. Cook and G. B. Gilbert (no. 818).'

Holotype: US (603981).

Bolivia (La Paz), Peru.

Woodland margins.

2400–3000 m.

March–May.

Vernacular name: YARITA (Blake, 1924: 605).

Smallanthus riparius (Kunth) H. Rob., *Phytologia* 39(1): 51 (1978).

Polymnia riparia Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 222 (1818). Type: [Colombia:] 'Crescit in Regno Novo-Granatensi, ad ripam fluminis Magdalenæ, inter Cascajo et Angostura de Carare. ■Floret Majo.' [*Humboldt & Bonpland 'Bonpl. mss.* 1640. prope Cascajo, Rio Magdalena. Maj. 1801'] Holotype: P-Bonpl.

Bolivia (La Paz, Oruro), Colombia, Ecuador, Guatemala, Peru, Venezuela. Robinson (2006: 115) suggested only Colombia and Ecuador, in contrast to his earlier account (Robinson, 1978: 51) with a far wider range. However, Grau & Rea (1997: 206) suggested that the species was widespread – 'from southern Mexico to northern Bolivia'.

Smallanthus siegesbeckius (DC.) H. Rob., *Phytologia* 39(1): 51 (1978).

**Polymnia siegesbeckia* DC., *Prodr.* 5: 516 (1836). Type: '– in Brasiliã circa Rio-Janeiro legit cl. Gaudichaud. ... (v.s. comm. à cl. inv.)'. Holotype: G-DC.

Bolivia (La Paz, Santa Cruz), Brazil, Paraguay, Peru.

Roadside ditches.

1660 m.

March–April.

Smallanthus sonchifolius (Poepp.) H. Rob., *Phytologia* 39(1): 51 (1978).

Polymnia sonchifolia Poepp., *Nov. Gen. Sp. Pl.* 3: 47, tab. 254 (1843). Type: 'Crescit in montibus calcareis herbis Peruviae orientalis ad Cassapi. Januario florebat.'

Helianthus esculentus Warsz. ex Otto & Dietr. *Allg. Gartenz.* (Otto & Dietrich) 20(No. 37): 293 (1852), nom. illegit., later homonym, non Rottb. (1778). Type: [Bolivia:] '... in der Landessprache Jaccon gennant, ...' [*Warszewicz s.n., s. dat.*] Waszewicz clearly collected this taxon in the Sorata area of La Paz, before June 1852. The top set may well have been deposited in B. Note: Whilst not mentioned by Robinson (2006: 115), it is quite likely that this name belongs in synonymy here, especially because of the reference to the common name - Jaccon.

**Polymnia edulis* Wedd., *Ann. Sci. Nat. Bot., Ser.* 4, 7: 114 (1857). Type: [Colombia:] 'Sponte crescit prope Quetame, in declivitate orientali Andium Bogotensium, ad altitudinem 2000 metr. (*Triana*); colitur in regione subtropica Peruviae et Novae Granatae, ubi, teste cl. Triana, nuncupatur Jiquima et Jiquimilla.'

Holotype: P.
Bolivia (Cochabamba, La Paz, Tarija), Colombia, Ecuador, Peru.

Widely cultivated.

–2800 m.

Vernacular names: JICAMA, LLACON, LYACON (Robinson, 2006), ARICOMA, YACÓN (Cárdenas, 1948), JACCON.

Sobryea Pers., *Syn.* 2: 473 (1807), orth. var. of *Sobryea* Ruiz & Pav. = **Enydra** Lour.

Sobryea Ruiz & Pav., *Prodr.* : 109 (1794) = **Enydra** Lour.

Sobreyra oblonga Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 197 (1798) = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera,

Sobreyra sessilifolia Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 197 (1798) = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera

Solenotheca Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 371 (1841) = **Tagetes** L.

Solenotheca tenella Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 371 (1841) = **Tagetes multiflora** Kunth

Solidago L., Sp. Pl. (1753) & Gen. Pl. (1754).

Type: *Solidago virgaurea* L.

Solidago aliena Spreng. ex Baker in Mart., Fl. Bras. 6(3): 9 (1882), nom. nud. pro syn. = **Leptostelma tweediei** (Hook. & Arn.) D. J. N. Hind & G. L. Nesom

Solidago bonariensis D. Don ex Baker in Mart., Fl. Bras. 6(3): 11 (1882), nom. nud. pro syn. = **Solidago chilensis** Meyen

Solidago chilensis Meyen, Reise um die Erde 1: 311 (1834). Type: not cited. [Walper in Observat. Bot.: 261 (1843) cited 'Chile: Cordillera de S. Fernando. (v.s.)'] Holotype: B†.

**Solidago polyglossa* DC., Prodr. 5: 332 (1836). Type: '■ in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 860 missa.)'. Holotype: P; isotype: G-DC (two leaves and an inflorescence side-branch).

**Solidago microglossa* DC., Prodr. 5: 332 (1836). Type/s?: '■ in Brasiliae parte dictâ Banda orientale legit cl. Bacle. ... (v.s. comm. à cl. Bacle.)'. Note: there are two identically labelled *Bacle* collections in G-DC, each with two flowering stems attached.

Solidago microglossa DC. var. β *megapotamica* DC., Prodr. 5: 332 (1836). Types: ' in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. miss. sub. n. 846, 854 et 857.)'. Syntypes: P.

Solidago marginella DC., Prodr. 5: 332 (1836). Type: '■ in Brasiliae parte dictâ Banda orientale legit cl. Bacle. ... v.s. comm. à cl. Bacle.)'. Holotype: G-DC.

Solidago marginella DC. [var.] β *sublanceolata* DC., Prodr. 5: 332 (1836). Type: ■ in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 870 miss.)'. Holotype: P.

Solidago linearifolia DC., Prodr. 5: 341 (1836). Type: ' – in campis Chilensibus dictis Pampas olim legit cl. Née. (v.s.)'. Holotype: G-DC.

Solidago linearifolia DC. var. β ? *poepigii* DC., Prodr. 5: 341 (1836). Type: ' – in Amer. austr. legit cl. *Poeppig* et ex ejus coll. recepi sub n. CCXVII sine loci designatione. An spec. propr.? (v.s.)'. Holotype: G-DC.

Solidago odora Ait. [as '*Soldiagio odora* Willd.'] [unranked] α *glabriuscula* Hook. & Arn., Companion Bot. Mag. 2(No. 14): 45 (1836). Types: '*S. Bonariensis*. Don, MSS. Buenos Ayres; Laguenilla, near Mendoza, *Dr. Gillies* [see note below referring to *Gillies* 145!]; Chili, *Cuming* (n. 68). *Bridges*.' Syntypes: K; isosyntype: *Cuming* 68, ex herb. Benthamianum – K. Note: I have been unable to find any material at K labelled '*S. bonariensis*' by Don. *Gillies* 147 (marked Don 30 on the label) is mounted together with *Gillies* 149 and one other unnumbered collection. Marked in pencil on the sheet the unnumbered collection is marked ' γ ', *Gillies* 149 is marked ' α '.

Solidago odora Ait. [as '*Soldiagio odora* Willd.'] [unranked] β *scabra* Hook. & Arn., Companion Bot. Mag., 2(No. 14): 45 (1836). Type: 'Monte Video, *Tweedie*.' Holotype: K.

Solidago odora Ait. [as '*Soldiagio odora* Willd.'] [unranked] γ *glabra* Hook. & Arn., Companion Bot. Mag., 2(No. 14): 45 (1836). Types: '*S. repens*. Don, MSS. – Mendoza and banks of the Rio Uspallata, *Dr. Gillies*; Buenos Ayres, Maldonado, and N. Patagonia, *Tweedie*; Chili, *Mr. Cruikshanks*; Sta. Cruz of Buenos Ayres, *C. Darwin, Esq.* (n. 354).' Syntypes: K, although '*Darwin* 345' has not yet been located – the number is actually Henslow's numbering for Darwin's collections. Porter (1989: 73) incorrectly assumed that there was a 'holotype' for this taxon, for which there clearly couldn't be. He was unable to find this Darwin collection; it is quite possible that this is mounted with another collection on some other sheet elsewhere in K. Note: There is no material at K marked as '*S. repens*' as suggested by Hooker & Arnott (1835: 45). Don's annotation '*S. radicans* sp. nov.', on the label of *Gillies* 145 (the label is also marked Don 32), may well denote this material. However, the label on this sheet indicates the collection is from Laguenilla, Mendoza, and may in fact represent material cited under α *glabriuscula*, q.v.

Solidago coquimbana Phil., *Linnaea* 33(2): 138 (1864). Type: 'In Andibus Illapelinis loco dicto „la Cortadera” legit orn. Volckmann.' Note: there are two possible isotypes of this material at K, although neither has any indication of the collector on the label; both are ex herb. Philippi.

Solidago vulneraria Mart. ex Baker in Mart., Fl. Bras. 6(3): 10 (1882), nom. nud. pro syn.

Solidago nitidula Mart. ex Baker in Mart., Fl. Bras. 6(3): 10 (1882), nom. nud. pro syn.

Solidago microglossa DC. var. *linearifolia* (DC.) Baker in Mart., Fl. Bras. 6(3): 10 (1882).

Solidago bonariensis D. Don ex Baker in Mart., Fl. Bras. 6(3): 11 (1882), nom. nud. pro syn.

Solidago repens D. Don ex Baker in Mart., Fl. Bras. 6(3): 11 (1882), nom. nud. pro syn.

Solidago linearifolia DC. var. *brachypoda* Speg., Revista Fac. Agron Veter. La Plata 3(No. 32 & 33): 610 (1897).

Type: 'Hab. In sylvis editoribus secus Rio Carren-leofú.' Note: Katinas et al. (2001: 61) noted that probable original material of this collection was 'Chubut, 1889, C. Moyano (LPS 17288)'. Holotype: LP (transferred from LPS).

Argentina, Bolivia (Bení, Cochabamba, La Paz, Santa Cruz), Brazil, Chile, Paraguay, Uruguay.

Disturbed ground, roadsides, old cultivated areas, stony ground, grassy roadside banks.

0–2500 m.

February–March.

Vernacular names: PUNTA ADE LANZA, ROMERILLO AMARILLO, SAUCILLO, VARA AMARILLO, VARA DE ORO, VIGAUREA, YERBA DE SANTA MARÍA, YUYO DE SAN JUAN (Freire et al., 2006).

Note: Reference is sometimes made to '*Solidago odora* Hook. & Arn., Companion Bot. Mag. 2(No. 14): 45 (1836), p.p.' yet no such name was validated at all in this reference. The trail of this name, via Willdenow's ed. 4 of *Species Plantarum* (3(3): 2061) leads to Aiton's description of the plant in *Hortus Kewensis* 3: 214 (1789).

Most, if not all of the following names can most probably be added to the synonymy of this species as all appear to variants of *S. chilensis*, some from the same locality:

Solidago laxiflora Phil., *Anales Univ. Chile* 87: 427 (1894). Type: 'Propre oppidum San Francisco del Monte in prov. santiago ab orn. Lautaro Navarro lecta.' Note: Pizarro (1960: 163) cited only one collection in SGO, 65146.

Solidago floribunda Phil., *Anales Univ. Chile* 87: 430 (1894). Type: 'In provincia Coquimbo ad Ovalle etc. legitur.' Note: Pizarro (1960: 163) cited only one collection in SGO, 65153.

Solidago recta Phil., *Anales Univ. Chile* 87: 431 (1894). Type: 'Locum ubi lecta est ignoro.' Note: Pizarro (1960: 163) cited only one collection in SGO, 65148.

Solidago araucana Phil., *Anales Univ. Chile* 87: 431 (1894). Type: 'In prsedio Renaico haud procul a Negrete Martio 1886 legi.' Note: Pizarro (1960: 163) did not cite any collections against this name in SGO.

Solidago valdiviana Phil., *Anales Univ. Chile* 87: 431 (1894). Type: 'In provincia Valdivia habitat.' Note: Pizarro (1960: 163) cited only one collection in SGO, 44981.

Solidago parviflora Phil., *Anales Univ. Chile* 87: 432 (1894). Type: 'Ad lacum Pirihoaico Andium Valdiviae legit nepos Otto Philippi Februario 1887.' Note: Pizarro (1960: 163) cited only one collection in SGO, 65145.

Solidago micrantha Phil., *Anales Univ. Chile* 87: 432 (1894). Type: 'Ad lacum Puyehue in provincia Valdivia legit ornat. David Cueto.' Note: Pizarro (1960: 163) did not cite any collections in SGO.

Note: Cabrera (1971: 50) has provided enough distinctions that the Chilean *S. patagonica* Phil. can be retained as a separate species.

Solidago coquimba Phil., *Linnaea* 33(2): 138 (1864-65) = **Solidago chilensis** Meyen

Solidago linearifolia DC., Prodr. 5: 341 (1836) = **Solidago chilensis** Meyen

Solidago linearifolia DC. var. *brachypoda* Speg., Revista Fac. Agron Veter. La Plata 3: 610 (1897) = **Solidago chilensis** Meyen

Solidago marginella DC., Prodr. 5: 332 (1836) = **Solidago chilensis** Meyen

Solidago marginella DC. [var.] β *sublanceolata* DC., Prodr. 5: 332 (1836) = **Solidago chilensis** Meyen

Solidago microglossa* DC., Prodr. 5: 332 (1836) = **Solidago chilensis Meyen

Solidago microglossa DC. var. β *megapotamica* DC., Prodr. 5: 332 (1836) = **Solidago chilensis** Meyen

Solidago microglossa DC. var. *linearifolia* (DC.) Baker in Mart., Fl. Bras. 6(3): 10 (1882) = **Solidago chilensis** Meyen

Solidago nitidula Mart. ex Baker in Mart., Fl. Bras. 6(3): 10 (1882), nom. nud. pro syn. = **Solidago chilensis** Meyen

Solidago odora Hook. & Arn., Companion Bot. Mag. 2(No. 14): 45 (1836), pp. = **Solidago chilensis** Meyen

Solidago odora Ait. [as '*Soldiago odora* Willd.'] [unranked] α *glabriuscula* Hook. & Arn., Companion Bot. Mag. 2(No. 14): 45 (1836) = **Solidago chilensis** Meyen
Solidago odora Ait. [as '*Soldiago odora* Willd.'] [unranked] β *scabra* Hook. & Arn., Companion Bot. Mag., 2(No. 14): 45 (1836) = **Solidago chilensis** Meyen
Solidago odora Ait. [as '*Soldiago odora* Willd.'] [unranked] γ *glabra* Hook. & Arn., Companion Bot. Mag., 2(No. 14): 45 (1836) = **Solidago chilensis** Meyen
Solidago polyglossa* DC., Prodr. 5: 332 (1836) = **Solidago chilensis Meyen
Solidago repens D. Don ex Baker in Mart., Fl. Bras. 6(3): 11 (1882), nom. nud. pro syn. = **Solidago chilensis** Meyen
Solidago vulneraria Mart. ex Baker in Mart., Fl. Bras. 6(3): 10 (1882), nom. nud. pro syn. = **Solidago chilensis** Meyen

Soliva Ruiz & Pav., Fl. Peruv. Chil. Prodr. : (1794).

Gymnostyles Juss., Ann. Mus. Nat. Hist. Paris 4: 258 (1804). Type: not stated.

Lectotype (selected by Rydberg, N. Amer. Fl. 34: 287, 1916): *Soliva sessilis* Ruiz & Pav.

References

Ariza Espinar, L. (1997). *Soliva*. In: Tribu VII. Anthemideae. 280. Asteraceae, parte 7. Flora Fanerogámica Argentina. Fasc. 46. Programa PROFLOTA (CONICET), Córdoba. pp. 1–35. [24–28]

Cabrera, A. L. (1949). Sinopsis del género *Soliva* (*Compositae*). Notas Mus La Plata, Bot. 14(No. 70): 123–139.

Note: Some authors have proposed *Soliva pterosperma* (Juss.) Less. as the species present in La Paz.

Soliva aphanes Sch.Bip., Bonplandia 4(4): 51 (1856) = **Soliva stolonifera** (Brot.) Sweet

Soliva lusitanica (Spreng.) Less., Syn. Gen. Comp. : 268 (1832) = **Soliva stolonifera** (Brot.) Sweet

Soliva mexicana DC., Prodr. 6: 143 (1838) = **Cotula mexicana** (DC.) Cabrera

Soliva minuta (L.f.) Sweet, Hort. Brit. ed. 2 : 317 (1830) = **Cotula mexicana** (DC.) Cabrera

Soliva pedicellata Ruiz & Pav., Fl. Peruv. Chil. Prodr. : 113 (1794) = **Cotula mexicana** (DC.) Cabrera

Soliva pedunculata Ruiz & Pav. ex Steud., Nomen. Bot., ed. 2, 2: 609 (1841), nom. superfl. illegit. (based on '*Gymnostyles peruviana*') = **Cotula mexicana** (DC.) Cabrera

Soliva pygmaea Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 238 (1818) = **Cotula mexicana** (DC.) Cabrera

Soliva stolonifera (Brot.) Loudon, Hort. Brit.: 364 (1830), comb. superfl. = **Soliva stolonifera** (Brot.) Sweet

Soliva stolonifera (Brot.) Sweet, Hort. Brit. : 243 (1827).

Hippia stolonifera Brot., Fl. Lusit. 1: 372, Pl. 61, f. 2. (Nov. 1804). Type: 'Habitat frequens in humescentibus, ad vias, et inter viarum petras, circa Conimbricam, Olisiponem, et alibi. Flor. hyeme et vere. Ann.' Type material possibly in LISU. Note: Brotero, and other authors, mention this name from Brotero's *Phytographia Lusitaniae Selectior*, p. 14 (1800); it is possible the name should date from then. This particular work (the first fascicle had only been published) was withdrawn, and largely destroyed, by Brotero to be republished in 1816–27. In this later version *Hippia stolonifera* appears on p. 79, tab. 73, f. II & III.

Gymnostyles stolonifera (Brot.) Juss. ex Brot., Phytogr. Lusit. Select.: 79 (1816), pro syn.

Gymnostyles lusitanica Spreng., Syst. Veg. 3: 500 (1826), nom. illegit. based on *Hippia stolonifera* Brot.

Soliva lusitanica (Spreng.) Less., Syn. Gen. Comp. : 268 (1832).

Soliva stolonifera (Brot.) Loudon, Hort. Brit.: 364 (1830), comb. superfl.

Gymnostyles stolonifera (Brot.) Juss. ex DC., Prodr. 6: 143 (1838), nom. nud. pro syn.

Gymnostyles stolonifera (Brot.) Juss. ex Steud., Nomencl. Bot., ed. 2, 1: 713 (1840), nom. nud. pro syn.

Soliva aphanes Sch.Bip., Bonplandia 4(4): 51 (1856). Type: [Peru:] '[Lechler] 1782' [Incolis: Masteursa. In ipsa urbe Ozangaro. Im.] Holotype: ?P.

Soliva urbica Phil., Linnaea 29: 7 (1857). Type/s: [Chile:] 'Frequens in plateis, domnum areis Höfen (!), rarius in hortis urbis Santiago.' Note: The name is applied to this entity on p. 7, although the beginning of the description is on p. 6. This name is not mentioned by Pizarro (1960: 163), and the location of any type material is unknown.

Gymnostyles stolonifera (Brot.) Tutin, Bot. J. Linn. Soc. 70(1): 18 (1975), comb. superfl.

Argentina, Bolivia (La Paz), Chile, Peru (apparently introduced), Uruguay, USA. Also known from France, Portugal, Madeira and Spain (Canary Islands).

Note: Several references incorrectly provide the basionym author's abbreviation as 'Broth.' which is for Brotherus (1849–1929!). There would appear to be an element of confusion as to what should be included within the synonymy of this taxon (Cabrera, 1949; Ariza Espinar, 1997; etc., etc.). Cabrera (1949: 126) was clear in his key how the taxa could be distinguished. However, examination of the fruiting material of the type of *S. acaulis* would suggest that this actually has caducous hairs, since most of the heads are obviously pubescent and only the outer achenes appear to have lost their hairs; the achenes do not look conspicuously 2-spined, rather shouldered, suggesting, as some authors have, that this belongs under the synonymy of *S. anthemifolia* (Juss.) R. Br. ex Less. This might well be true for Jussieu's concept of *Gymnostyles nasturtiifolia*. *Soliva aphanes*, contrary to Cabrera's indication of the name being 'nom. nud.' (Cabrera, 1949: 51, p. 54 cited only the collection!), was provided with clear diagnostic characters.

Traditionally, *S. stolonifera* would be recognized by a glabrous achene apex with two divergent spines. The following synonyms have been removed from the traditional synonymy of *S. stolonifera* since all possess long hairs on the achene apex, a feature amply illustrated in Jussieu's plate:

Gymnostyles nasturtiifolia Juss., Ann. Mus. Nat. Hist. Paris 4: 262, tab. 61, f. 2 (1804). [Type: 'Ex Bonariâ. Car. ex siccâ in herb. Commers.' Holotype: P.] Note: Jussieu (1804) described the genus *Gymnostyles* and in it placed three species. The accompanying plate, Pl. 61, shows *G. nasturtiifolia* in fig. 2, but clearly showing achenes with a long-pilose apex. I would argue that the name could be cited as 'nom. illegit. pro *Hippia minuta* L.f. (cited in synonymy)' even though in the present checklist it is clear that *Hippia minuta* is a synonym of *Cotula mexicana* (DC.) Cabrera, although the figures in Jussieu (1804) do not agree with the *Mutis* material at all.

Soliva nasturtiifolia (Juss.) DC., Prodr. 6: 142 (1838).

Soliva acaulis [sub *araulis* !] Hook. & Arn., J. Bot. (Hooker) 3: 326 (1841). Type: 'Buenos Ayres. Tweedie.' Holotype: K; isotype: K.

Soliva anthemifolia (Juss.) R.Br. ex Less. var. *acaulis* (Hook. & Arn.) Baker in Mart., Fl. Bras. 6(3): 296 (1884).

Note: Baker's combination was actually published as '*Soliva anthemidifolia* R.Br.'

Soliva urbica Phil., Linnaea 29: 7 (1857) = ***Soliva stolonifera*** (Brot.) Sweet

Sonchus L., Sp. Pl. (1753) & Gen. Pl. (1754).

Lectotype (selected by Britton & Brown, Ill. Fl. N. U. S., ed. 2, 3: 316, 1913): ***Sonchus oleraceus*** L.

Key to species

| | |
|--|---------------------|
| Upper leaves acute with acute auricles; achenes slightly compressed, wingless, usually rugose; ligules usually a pale yellow | <i>S. oleraceus</i> |
| Upper leaves with rounded auricles; achenes strongly compressed, winged, usually smooth; ligules usually a golden yellow | <i>S. asper</i> |

Sonchus xæmulus Merino, Broteria, sér. Bot. 14: 36 (1916) = ***Sonchus asper*** (L.) Vill.

Sonchus agrestis Swartz, Prodr. : 110 (1788) = ***Erechtites hieraciifolia*** (L.) Raf. ex DC. var. ***cacalioides*** (Fisch. ex Spreng.) Griseb.

Sonchus angustissimus H. Lindb., Acta Soc. Sci. Fenn. n.s. B 1(2): 169 (1932), nom. illegit., non Hook. f. (1864) = ***Sonchus oleraceus*** L.

****Sonchus asper*** (L.) Vill., Hist. Pl. Dauphin. 3: 158 (1789).

Sonchus oleraceus L. var. *asper* L., Sp. Pl. : 794 (1753). Type: not cited. Lectotype (selected by Boulos in Jarvis & Turland, 1998: 368): Herb. Burser VI: 14 (UPS).

Sonchus spinosus Lam., Fl. Fr. 2: 86 (1778). Type: 'Cette plante croît dans les lieux incultes & stériles. ■' Holotype: P-LA

Sonchus carolinianus Walter, Fl. Carol. : 192 (1788). Type: not cited.

Sonchus glaber Thunb., Prodr. Pl. Cap. : 139 (1794). Type: not cited.

Sonchus fallax Wallr., Annus Bot. : 98 (1815). Type: 'In iisdem cum priori locis, sed minus frequens.' [= *S. oleraceus* 'In agris, cultis oleraceis uberrime.'

Sonchus umbellifer Thunb., Fl. Cap. : 614 (1823). Type: not cited.

Sonchus spinulosus Bigelow, Fl. Bost., ed. 2 : 290 (1824). Type: 'Prickly Sea Sonchus. ... Salt marches.-August.'

Sonchus cuspidatus Blume, Bijdr. Fl. Ned. Ind. 13 de - 17 de stuck : 888 (1825). Type: 'Crescit: ad catarractas fluvii Tjikundul in montosis Gede./Floret: omni tempore.'

Sonchus ferox Wall., nom. nud. (based on Wallich Cat. Num. 3248 (1828-32).

Sonchus australis Hort. ex Colla, Herb. Pedemon. 3: 531 (1834), non Hort. ex G. Trevir. (1818)(= *Sonchus oleraceus* L.). Type: '= H. Erf: ex hb: BIROLI. ... (Partria?)'

Sonchus umbellatus E. Mey. ex DC., Prodr. 7: 185 (1838), nom. nud. pro syn.

Sonchus infestus Peopp. ex DC., Prodr. 7: 185 (1838), nom. nud. pro syn.

Sonchus eryngioides DC., Prodr. 7: 185 (1838). Type: ■? in Ins. Mauritii legit cl. Bouton. ... v. s. comm. à cl. inv.)'
Holotype: G-DC.

Sonchus fallax Walh [sic!]=[*S. fallax* Wallr.] * [unranked] *decipiens* De Not., Repert. Fl. Ligust. : 289 (1844).
Type: 'In arvis, ruderatis vulgaris.'

Sonchus nymannii Tineo & Guss., Fl. Sic. Syn. 2(2): 860 (1844). Types: 'In argillosis humentibus cultis, vel herbosis submontosis; Vicari lungo la strada regia Alia (*Tin. Nym. Guss.*). Aprili, Majo. [4]'

Sonchus glaucescens Jord., Observ. Pl. Nouv. 5: 75 (1847). Type: 'Il croît sur les rochers maritimes, aux îles d'Hyères, à Portquerolle, et à S^{te}-Marguerite près Toulon. Je l'ai récolté dans ces localités où il fleurit en mai.'

Sonchus crocifolius Hort. ex Sch.Bip. in Webb & Berthelot, Hist. Nat. Il. Canar. 3(2): 449 (1849-1850), nom. nud.

Sonchus graecus Reut. ex Weiss, Verh. Zool.-Bot. Ges. Wien 19: 45 (1869). Type: 'in hort. Genev. = *S. glaucescens* Jord. var. *lusca* Boiss. herb. teste Reuter. Syra. April, Mai.'

Sonchus borderi Gand., Fl. Lyonn. : 140 (1875). Types: 'Rhône: vignes à Arnas, et ailleurs dans le Beaujolais; retrouvé dans les Pyrénées (Bordère de Gèdre).' Syntypes: ?LY.

Sonchus asper (L.) Vill. [var.] β *sulphureus* Boiss., Fl. Or. 3: 796 (1875). Type: 'S. sulphureus Boiss. in Bal. exs./Hab. in rupibus maritimis Ponti Lazici prope Rhizé (*Bal!*).'
Holotype: G.

Sonchus asper (L.) Vill. ssp. *glaucescens* (Jord.) Ball, J. Linn. Soc., Bot. 16: 548 (1878).

Sonchus glaucescens Jord. ssp. *krilikii* Rouy, Fl. Fr. 9: 203 (1905). Type: 'Hab.- Corse: champs à Ajaccio (*Kralik* in h. R., sine nomine); à rechercher.' Holotype: ?LY.

Sonchus glaucescens Jord. ssp. *giganteus* Shuttlew. ex Rouy, Fl. Fr. 9: 203 (1905). Types: 'Hab. -Var: Larroque-Broussane, rocher du vallon, près les barrages de S^{te} Eulalie (*Shuttleworth*; la Farlède, dans les bois-taillis des pentes du Coudon (*Albert* in h. R.). Syntypes: ?LY.

Sonchus xamulus Merino, Broteria, sér. Bot. 14: 36 (1916). Type: 'Cum parentibus ad Salcidos. ... Vive en terrenos frescos cultivados de Salcidos, Portevendra, asociada a sus padres; pero predominando los caracteres del *S. asper* Hill.'

Sonchus viridis Zenari, Nuov. Giorn. Bot. Ital. n.s. 31: 14 (1924). Type: Two forms were described, a typicus, b. subintegrifolius. No specific types were cited, but the followign paragraph reads 'Ebbi semi da Montpellier sub. n. *S. asper* Hill, non osservai esemplari di erbaria, è ben vero però che nel, secco questa entità si distingue difficilmente ...'

Sonchus decipiens (De Not.) Zenari, Nov. Giorn. Bot. Ital. n.s. 31: 15 (1924).

Sonchus asper (L.) Hill ssp. *nymanii* (Tineo & Guss.) Hegi, Ill. Fl. Mittel-Europa 6(2): 1110 (1929).

Sonchus eryngiifolius Sosn. in Schchian, Not. Syst. Geogr. Inst. Bot. Tbilis (15): 71 (1949). [Not seen!]

Sonchus tibesticus Quézel, Bull. Soc. Hist. Nat. Afr. Nord. 50: 31, fig. 2B (1959). Types: 'Les échantillons de source d'Armayan dans l'Enneri Areum récoltés à nouveau par de Mire en 1956 appartiennent, comme nous l'avons indiqué à l'espèce Biponti./Il n'en est pas de même pour ceux qui proviennent de la région de Tarso Yéga (Tarso Yéga, Modra).' Syntypes: ?

Argentina, Bolivia (La Paz), Brazil, Ecuador, Peru, etc. Native of Europe. Widespread as a weed in temperate and cool-temperate regions throughout the world.

Roadsides, disturbed ground, cultivated areas.

0-3000 m.

January-February.

Vernacular name: CERRAJA (Freire et al., 2006).

Sonchus asper Hall. ex Gaertn., Meyer & Schreb., Fl. Wett. 3: 125 (1801), non *asper* (L.) Hill (1769) = **Sonchus oleraceus** L.

Sonchus asper (L.) Vill. ssp. *glaucescens* (Jord.) Ball, J. Linn. Soc., Bot. 16: 548 (1878) = **Sonchus asper** (L.) Vill.

Sonchus asper (L.) Hill ssp. *nymanii* (Tineo & Guss.) Hegi, Ill. Fl. Mittel-Europa 6(2): 1110 (1929) = **Sonchus asper** (L.) Vill.

Sonchus asper (L.) Vill. [var.] β *sulphureus* Boiss., Fl. Or. 3: 796 (1875) = **Sonchus asper** (L.) Vill.

Sonchus australis Hort. ex G. Trevir., Ind. Sem. Hort. Vratisl. : 6 (1818) = **Sonchus oleraceus** L.

Sonchus australis Hort. ex Colla, Herb. Pedemon. 3: 531 (1834), non Hort. ex G. Trevir. (1818) = **Sonchus asper** (L.) Vill.

Sonchus bipinnatifidus (Guss.) Zenari, Nuov. Giorn. Bot. Ital., n. s. 31: 9 (1924) = **Sonchus oleraceus** L.

Sonchus brasiliensis Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 293 (1843) = **Erechtites hieraciifolia** (L.) Raf. ex DC. var. **cacalioides** (Fisch. ex Spreng.) Griseb.

Sonchus borderi Gand., Fl. Lyonn. : 140 (1875) = **Sonchus asper** (L.) Vill.

Sonchus carolinianus Walter, Fl. Carol. : 192 (1788) = **Sonchus asper** (L.) Vill.

Sonchus ciliatus Lam., Fl. Fr. 2: 87 (1778) = **Sonchus oleraceus** L.

Sonchus crocifolius Hort. ex Sch.Bip. in Webb & Berthelot, Hist. Nat. Il. Canar. 3(2): 449 (1849-1850), nom. nud. = **Sonchus asper** (L.) Vill.

Sonchus cuspidatus Blume, Bijdr. Fl. Ned. Ind. 13 de - 17 de stuck : 888 (1825) = **Sonchus asper** (L.) Vill.

Sonchus decipiens (De Not.) Zenari, Nov. Giorn. Bot. Ital. n.s. 31: 15 (1924) = **Sonchus asper** (L.) Vill.

Sonchus eryngiifolius Sosn. in Schchian, Not. Syst. Geogr. Inst. Bot. Tbilis (15): 71 (1949) = **Sonchus asper** (L.) Vill.

Sonchus eryngioides DC., Prodr. 7: 185 (1838) = **Sonchus asper** (L.) Vill.

Sonchus erythropappus Meyen & Walp., Nov. Actorum Acad. Caes.-Leop. Nat. Cur. 19, Suppl. 1: 293 (1843) = **Erechtites valerianifolia** (Link ex Spreng.) Less. ex DC. var. **valerianifolia**

Sonchus fabrae Sennen, Bol. Soc. Iber. 1929, 28: 114 (1930) = **Sonchus oleraceus** L.

Sonchus fallax Wallr., Annus Bot. : 98 (1815) = **Sonchus asper** (L.) Vill.

Sonchus fallax Walh [sic!]=[*S. fallax* Wallr.] * [unranked] *decipiens* De Not., Repert. Fl. Ligust. : 289 (1844) = **Sonchus asper** (L.) Vill.

Sonchus ferox Wall., nom. nud. (based on Wallich Cat. Num. 3248 (1828-32) = **Sonchus asper** (L.) Vill.

Sonchus glaber Gilib., Fl. Lituania 1: 242 (1782), nom. illegit., nom. rej. = **Sonchus oleraceus** L.

Sonchus glaber Thunb., Prodr. Pl. Cap. : 139 (1794) = **Sonchus asper** (L.) Vill.

Sonchus glaucescens Jord., Observ. Pl. Nouv. 5: 75 (1847) = **Sonchus asper** (L.) Vill.

Sonchus glaucescens Jord. ssp. *giganteus* Shuttlew. ex Rouy, Fl. Fr. 9: 203 (1905) = **Sonchus asper** (L.) Vill.

Sonchus glaucescens Jord. spp. *krilikii* Rouy, Fl. Fr. 9: 203 (1905) = **Sonchus asper** (L.) Vill.

Sonchus gracilis Phil., Anal. Univ. Chile 87: 325 (1894) = **Sonchus oleraceus** L.

Sonchus graecus Reut. ex Weiss, Verh. Zool.-Bot. Ges. Wien 19: 45 (1869) = **Sonchus asper** (L.) Vill.

Sonchus infestus Peopp. ex DC., Prodr. 7: 185 (1838), nom. nud. pro syn. = **Sonchus asper** (L.) Vill.

Sonchus lacerus Willd., Sp. Pl. 3: 1513 (1803) = **Sonchus oleraceus** L.

Sonchus laevis (L.) Vill., Hist. Pl. Dauph. 3: 158 (1789) = **Sonchus oleraceus** L.

Sonchus longifolius G. Trevir., Ind. Sem. Hort. Vratisl. : 6 (1818) = **Sonchus oleraceus** L.

Sonchus macrotus Fenzl, Flora 27: 312 (1844), nom. nud. = **Sonchus oleraceus** L.

Sonchus nymannii Tineo & Guss., Fl. Sic. Syn. 2(2): 860 (1844) = **Sonchus asper** (L.) Vill.

Sonchus occidentalis Spreng., Neue Entdeck. 2: 143 (1821) = **Erechtites hieraciifolia** (L.) Raf. ex DC. var. **cacalioides** (Fisch. ex Spreng.) Griseb.

***Sonchus oleraceus** L., Sp. Pl. : 794 (1753). Type: 'Habitat in Europae cultis. ♀.' Lectotype (selected by Boulos, Bot. Not. 126: 174, 1973): Herb. Linn. No. 949.6 (LINN).

Sonchus oleraceus L. var. *laevis* L., Sp. Pl.: 794 (1753). Type: Lectotype (selected by Boulos in Jarvis & Turland, 1998: 368): Herb. Burser VI: 16, UPS.

Sonchus ciliatus Lam., Fl. Fr. 2: 87 (1778). Type: 'Cette plant croît dans les jardins & les lieux cultivés ■ elle est adoucissante & très-apéritive.' Holotype: P-LA.

Sonchus glaber Gilib., Fl. Lituania 1: 242 (1782), nom. illegit., nom. rej.

Sonchus laevis (L.) Vill., Hist. Pl. Dauph. 3: 158 (1789).

Sonchus umbellifer Thunb., Prodr. Pl. Cap. 2 (= pars posterior): 139 (1800). Type: not cited.

Sonchus asper Hall. ex Gaertn., Meyer & Schreb., Fl. Wett. 3: 125 (1801), non *asper* (L.) Hill (1769). Type: not cited. However, this entity was equated with '*Sonchus oleraceus asper* Linn.'

Sonchus lacerus Willd., Sp. Pl. 3: 1513 (1803). Type: 'Habitat - - - - ■ (v. v).'

Sonchus longifolius G. Trevir., Ind. Sem. Hort. Vratisl. : 6 (1818). Type: not cited. Note: The seed was sent as *S. australis* - see following name.

- Sonchus australis* Hort. ex G. Trevir., Ind. Sem. Hort. Vratisl. : 6 (1818), nom. nud. pro syn.
- Sonchus sondaicus* Blume, Bijdr. Fl. Ned. Ind. 13 de – 17 de stuck: 888 (1825). Type: 'Crescit: in montosis locis humidis./Floret: toto anno.'
- Sonchus roseus* Besser ex Spreng., Syst. Veg. 3: 651 (1826). Type: 'Podolia.'
- Sonchus parviflorus* Lej. ex Reichb., Fl. Germ. Excurs. 274 (1830). Type: 'Non vidi. – Bei Verviers nach *Lejeune*.'
- Sonchus zacinthoides* DC., Prodr. 7: 184 (1838). Types: [South Africa:] '... ad Cap. Bonae-Spei legit cl. Drege.'
- Note: De Candolle listed two unnamed varieties as 'α' and 'β', both referring to material as '(v. s. comm. à cl. inv.)'. Syntypes: G-DC.
- Sonchus royleanus* DC., Prodr. 7: 184 (1838). Type: [India:] '... in Ind. orient. legit cl. Royle et mecum comm. ... (v. s.)' Holotype: G-DC.
- Sonchus reversus* E. Mey. ex DC., Prodr. 7: 186 (1838). Type: [South Africa:] '... in prom. Bonae-Spei ad Nieuwevelde legit cl. Drege! ... v. s. comm. à cl. inv.' Holotype: G-DC.
- Sonchus reversus* E. Mey. ex DC. var. *glabratus* DC., Prodr. 7: 186 (1838). Type: '... in prom. Bonae-Spei territorio cesso legit cl. Ecklon! ... (v. s. comm. à cl. inv.)' Holotype: G-DC.
- Sonchus macrotus* Fenzl, Flora 27: 312 (1844), nom. nud.
- Sonchus schmidianus* C. Koch, Append. Sp. Nov. Ind. Sem. Hort. Berol. : 12 (1853). Type: '... *Sonchus ciliatus* Wight ic. pl. Ind. orient. t. 1141./[Citing two unranked taxa] α *genuinus*/ β *Wightianus*./Nonnullis annis praeterlapsis haec species allata est e montibus Indiae orientalis Nilgerri (anglice Neelgherry) i.e. coerules a cl. Schmid, missionaria de re herbaria indica bene merito.' Note: There is no evidence that herbarium material of these taxa was preserved.
- Sonchus schimperii* A. Braun & Bouché, Append. Sp. Nov. Ind. Sem. Hort. Berol. : 1 (1857). Type: 'Semina ex Abyssinca misit W. Schimper anno 1856'. Note: There is no evidence a specimen of this plant was preserved.
- Sonchus rivularis* Phil., Linnaea 30: 194 (1859). Type: [Chile:] 'In glareosis fluminis Mapocho prope Santiago inveni.' Holotype: SGO (65257).
- Sonchus oleraceus* L. a. *integrifolia* Wallr. ex Schur, Enum. Pl. Transs. : 371 (1866). Type: 'Wallr. sched. 432. ... Die Var. a et b auf Aeckern bei Hermannstadt, c bei Klausenburg. Jul.'
- Sonchus oleraceus* L. b. *triangularis* Wallr. ex Schur, Enum. Pl. Transs. : 371 (1866). Type: 'Wallr. sched. 432. ... Die Var. a et b auf Aeckern bei Hermannstadt, c bei Klausenburg. Jul.'
- Sonchus oleraceus* L. c. *lacer* (1866), nom. illegit. (citing *S. lacerus* Willd. in synonymy). Based on 'Wallr. sched. 432. ... Die Var. a et b auf Aeckern bei Hermannstadt, c bei Klausenburg. Jul.'
- Sonchus tenerrimus* Schur, Enum. Pl. Transs. : 371 (1866), non L. (1753), nom. nud.
- Sonchus pallescens* Pancic, Elench. Pl. Vasc. Crna Gora : 55 (1875). Type: 'Hab. in cultis et ad sepes prope Cetinje. Flor. Julio.'
- Sonchus gracilis* Phil., Anal. Univ. Chile 87: 325 (1894). Type: 'Los deserto Atacama, et quidem in valle San Andres invenit Gustavo Flühmann.' Holotype: SGO (65262).
- Sonchus oleraceus* L. β *asper* L. b. *runcinatus* Fiori, Fl. Anal. d'Ital. 3(2): 417 (1904). Type: Not cited. 'Frequente'.
- Sonchus bipinnatifidus* (Guss.) Zenari, Nuov. Giorn. Bot. Ital., n. s. 31: 9 (1924).
- Sonchus runcinatus* (Fiori) Zenari, Nuov. Giorn. Bot. Ital., n. s. 31: 11 (1924).
- Sonchus fabrae* Sennen, Bol. Soc. Iber. Sci Nat. 1929, 28: 114 (1930). Types: 'No. 566. ... = *S. lacerus* in sched., non Willd. ... Hab.-Gérone: Figueras et Llers, olivettes, champs; Barcelone sur plusieurs points par les coteaux.' Syntypes: ?BC.
- Sonchus oleraceus* L. ssp. *angustissimus* H. Lindb., [Itin. Med.] Acta Soc. Sci. Fenn. n.s. B 1(2): 169 (1932). Type: 'M.[orocco], Atlas major, in convalle fluminis Raraïa, in declivi calcareo juxta rivulum exsiccatum prope pagum Asni, c. 1.240 m.' Holotype: ? Note: In Boulos this is marked as 'nom. illegit., non Hook. f. (1864)', clearly in ignorance of the fact that Lindberg described it quite clearly as a subspecies.
- Sonchus spinulifolius* Sennen & Mauricio, Cat. Fl. Rif. Or. : 72 (1933), nom. nud.
- A native of Europe and north Africa, now a pantropical weed. Widespread in tropical Africa, etc. Bolivia (Cochabamba).
- Roadsides, disturbed ground, cultivated areas.
- 0–3000 m.
- Flowering throughout the year.
- Vernacular name: CERRAJA (Cabrera, 1978; Freire et al., 2006).
- Sonchus oleraceus* L. ssp. *angustissimus* H. Lindb., [Itin. Med.] Acta Soc. Sci. Fenn. n.s. B 1(2): 169 (1932) = **Sonchus oleraceus** L.

Sonchus oleraceus L. var. *asper* L., Sp. Pl. : 794 (1753) = **Sonchus asper** (L.) Vill.
Sonchus oleraceus L. β *asper* L. b. *runcinatus* Fiori, Fl. Anal. d'Ital. 3(2): 417 (1904) = **Sonchus oleraceus** L.
Sonchus oleraceus L. a. *integrifolia* Wallr. ex Schur, Enum. Pl. Transs. : 371 (1866) = **Sonchus oleraceus** L.
Sonchus oleraceus L. c. *lacer* (1866), nom. illegit. = **Sonchus oleraceus** L.
Sonchus oleraceus L. var. *laevis* L., Sp. Pl.: 794 (1753) = **Sonchus asper** (L.) Vill.
Sonchus oleraceus L. b. *triangularis* Wallr. ex Schur, Enum. Pl. Transs. : 371 (1866) = **Sonchus oleraceus** L.
Sonchus pallescens Pancic, Elench. Crna Gora : 55 (1875) = **Sonchus oleraceus** L.
Sonchus parviflorus Lej. ex Reichb., Fl. Germ. Excurs. 274 (1830) = **Sonchus oleraceus** L.
Sonchus reversus E. Mey. ex DC., Prodr. 7: 186 (1838) = **Sonchus oleraceus** L.
Sonchus reversus E. Mey. ex DC. var. *glabratus* DC., Prodr. 7: 186 (1838) = **Sonchus oleraceus** L.
Sonchus rivularis Phil., Linnaea 30: 194 (1859) = **Sonchus oleraceus** L.
Sonchus roseus Besser ex Spreng., Syst. 3: 651 (1826) = **Sonchus oleraceus** L.
Sonchus royleanus DC., Prodr. 7: 184 (1838) = **Sonchus oleraceus** L.
Sonchus runcinatus (Fiori) Zenari, Nuov. Giorn. Bot. Ital., n. s. 31: 11 (1924) = **Sonchus oleraceus** L.
Sonchus schimperii A. Braun & Bouché, App. Sem. Hort. Berol. : 1 (1857) = **Sonchus oleraceus** L.
Sonchus schmidianus C. Koch, Append. Sp. No. Ind. Sem. Hort. Berol. : 12 (1853) = **Sonchus oleraceus** L.
Sonchus spinosus Lam., Fl. Fr. 2: 86 (1778) = **Sonchus asper** (L.) Vill.
Sonchus spinulifolius Sennen & Mauricio, Cat. Fl. Rif. Or. : 72 (1933) = **Sonchus oleraceus** L.
Sonchus spinulosus Bigelow, Fl. Bost., ed. 2 : 290 (1824) = **Sonchus asper** (L.) Vill.
Sonchus sundaicus Blume, Bijdr. Fl. Ned. Ind: 888 (1825) = **Sonchus oleraceus** L.
Sonchus tenerrimus Schur, Enum. Pl. Transs. : 371 (1866), non L. (1753) = **Sonchus oleraceus** L.
Sonchus tibesticus Quézel, Bull. Soc. Hist. Nat. Afr. Nord. 50: 31, fig. 2B (1959) = **Sonchus asper** (L.) Vill.
Sonchus umbellatus E. Mey. ex DC., Prodr. 7: 185 (1838), nom. nud. pro syn. = **Sonchus asper** (L.) Vill.
Sonchus umbellifer Thunb., Prodr. Pl. Cap. 2 (= pars posterior): 139 (1800) = **Sonchus oleraceus** L.
Sonchus viridis Zenari, Nuov. Giorn. Bot. Ital. n.s. 31: 14 (1924) = **Sonchus asper** (L.) Vill.
Sonchus zacinthoides DC., Prodr. 7: 184 (1838) = **Sonchus oleraceus** L.

Spadacantha cinerariifolia Pohl ex Baker in Mart., Fl. Bras. 6(3): 9 (1882), nom. nud. pro syn. = **Leptostelma tweediei** (Hook. & Arn.) D. J. N. Hind & G. L. Nesom

Spadonia Less., Syn. Gen. Comp. : 99 (1832), p.p. = **Gochnatia** Kunth
Spadonia polymorpha Less., Syn. Gen. Compos. : 101 (1832), nom. nov. pro *Baccharis tomentosa* Thunb. =
Gochnatia polymorpha (Less.) Cabrera
Spadonia polymorpha Less. [var.] α *ceanothifolia* Less., Syn. Gen. Compos. : 102 (1832) = **Gochnatia polymorpha**
 (Less.) Cabrera
Spadonia polymorpha Less. [var.] β *elaeagnifolia* Less., Syn. Gen. Compos. : 102 (1832) = **Gochnatia polymorpha**
 (Less.) Cabrera
Spadonia polymorpha Less. [var.] γ *obtusifolia* Less., Syn. Gen. Compos. : 102 (1832) = **Gochnatia polymorpha**
 (Less.) Cabrera
Spadonia polymorpha Less. [var.] δ *populifolia* Less., Syn. Gen. Compos. : 102 (1832) = **Gochnatia polymorpha**
 (Less.) Cabrera

Sparganophorus Vaill. ex Crantz, Inst. 1: 261 (1873) = **Struchium** P.Br.
Sparganophorus africanus (Beauverd) Steud., Nom. Bot. 1: 801 (1821) = **Struchium sparganophorum** (L.)
 Kuntze
Sparganophorus fasciatus Lam. ex Poir., Encycl. 7: 302 (1806) = **Struchium sparganophorum** (L.) Kuntze
Sparganophorus fasciculatus Steud., Nom. Bot. 1: 801 (1821), orth. var. of *Sparganophorus fasciatus* Lam. ex Poir.
 = **Struchium sparganophorum** (L.) Kuntze
Sparganophorus fuscatus Steud., Nom. Bot., ed. 2, 2: 614 (1841), orth. var. of *Sparganophorus fsciatu*s Lam. ex
 Poir. = **Struchium sparganophorum** (L.) Kuntze
Sparganophorus obtusifolius Lag., Gen. Sp. Pl. : 25 (1816) = **Ageratum conyzoides** L.
Sparganophorus sparganophorus (L.) C. Jeffrey, Kew Bull. 43(): 272 (1988), comb. illegit. taut. = **Struchium**
sparganophorum (L.) Kuntze
Sparganophorus struchium Pers., Syn. Pl. 2: 398 (1807) = **Struchium sparganophorum** (L.) Kuntze

Sparganophorus vaillantii Crantz, Inst.1: 261 (1766), nom. illegit. superfl., based on *Ethulia sparganophorus* L. =
Struchium sparganophorum (L.) Kuntze
Sparganophorus vaillantii Crantz var. *longifolius* Griseb., Cat. Pl. Cub. : 143 (1866) = **Struchium
sparganophorum** (L.) Kuntze

Sphaereupatorium (O. Hoffm.) Kuntze ex B. L. Rob., Contr. Gray Herb. N.s. 61: 24 (1920).
Eupatorium L. sect. *Sphaereupatorium* O. Hoffm. In Engl. & Prantl, Nat. Pflanzenfam. Nachtr. 1: 322 (1897).

Type: *Eupatorium hoffmannii* Kuntze = **Sphaereupatorium scandens** (Gardner) R. M. King & H. Rob.

Reference

Robinson, B. L. (1920). The proper status of *Sphaereupatorium*. In: I. Further diagnoses and notes on tropical American Eupatorieae. Contr. Gray Herb. 61: 23–25.

**Sphaereupatorium hoffmannii* (Kuntze) B. L. Rob., Contr. Gray Herb. n.s. 61: 25 (1920) = **Sphaereupatorium
scandens** (Gardner) R. M. King & H. Rob.

Sphaereupatorium scandens (Gardner) R. M. King & H. Rob., Phytologia 53: 392 (1983).

Conoclinium scandens Gardner, London J. Bot. 6: 437 (1847). Types: 'HAB. Dry bushy places between Arrayas and San Domingos, Province of Goyaz. May, 1840.' [Gardner] 4231 & 4231 (bis.).

Eupatorium sphaerocephalum Sch.Bip., Linnaea 30: 182 (1859/1860), nom. nud.

Eupatorium poterioides Sch.Bip., Linnaea 30: 182 (1858/1860), nom. nud.

Eupatorium sphaerocephalum Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 317 (1876), nom. nov. pro *Conoclinium
scandens* Gardner

Eupatorium hoffmannii Kuntze, Revis. Gen. Pl. 3(3): 147 (1898). Type: 'Bolivia: Provinz Ost-Velasco 200 m.'
['BOLIVIA. Provinz Ost-Velasco, 200 m, Jul 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 330].
Holotype: NY (00169033).

**Sphaereupatorium hoffmannii* (Kuntze) B. L. Rob., Contr. Gray Herb. n.s. 61: 25 (1920).

Sphaereupatorium sphaerocephalum (Sch.Bip. ex Baker) R. M. King & H. Rob., Phytologia 49: 6 (1981).
Bolivia (Santa Cruz), Brazil.

Sphaereupatorium sphaerocephalum (Sch.Bip. ex Baker) R. M. King & H. Rob., Phytologia 49: 6 (1981) =
Sphaereupatorium scandens (Gardner) R. M. King & H. Rob.

Sphaeroclinium Sch.Bip., Tanacet.: 20 (1844) = **Cotula** L.

Sphagneticola O. Hoffm., Notizbl. Königl. Bot. Gart. Berlin-Dahlem 3(No. 22): 36 (1900).

Wedelia Jacq. sect. *Stemmodon* Griseb., Fl. Brit. W. I. : 371 (1861). Type: not designated.

Thelechitonia Cuatrec., Bull. Soc. Bot. France 101(5–6): 242 (1954). Type: *Thelechitonia muricata* Cuatrec. =

Sphagneticola brachycarpa (Baker) Pruski

Complaya Strother, Syst. Bot. Monogr. 33: 10 (1991). Type: *Silphium trilobatum* (L.) Strother = **Sphagneticola
trilobata** (L.) Pruski

Type: *Sphagneticola ulei* O. Hoffm. = **Sphagneticola trilobata** (L.) Pruski

References

Cuatrecasas, J. (1954). Nouvelles Composées de l'Amérique du Sud. Bull. Soc. Bot. France 101(5–6): 242–246.

Hoffmann, O. (1900). *Sphagneticola*, novum genus Compositarum-Helianthoidearum-Coreopsidearum.
Notizbl. Königl. Bot. Gart. Berlin-Dahlem 3(No. 22): 36.

Pruski, J. F. (1996). Compositae of the Guayana Highland. XI. *Tuberculocarpus* gen. nov. and some other
Ecliptinae (Heliantheae). Novon 6(4): 404–418.

Robinson, H. (2006). *Sphagneticola*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(2): 190(6).
Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section
for Botany, Riksmuseum, Stockholm. pp. 116–122.

Robinson, H. & J. Cuatrecasas. (1992). *Thelechitonía* Cuatrecasas, an older name for *Complaya* Strother (Ecliptinae-Heliantheae-Asteraceae). *Phylogia* 72(2): 141–143.

Key to species

- Leaves unlobed; plants decumbent; stem and leaves strigose, sometimes densely so
S. brachycarpa
- Leaves usually 3-lobed, although sometimes several are unlobed; plants procumbent; stem
and leaves puberulent to strigose
S. trilobata

Sphagneticola brachycarpa (Baker) Pruski, *Novon* 6(4): (1996).

?*Wedelia paludosa* var. *γ villosa* Baker in Mart., Fl. Bras. 6(3): 181 (1884). Type: 'in Guiana britannica ad fluv. Essequibo et Rapununi: *Appun* n. 2508!' Holotype: location unknown.

Wedelia brachycarpa Baker in Mart., Fl. Bras. 6(3): 181 (1884). Type: 'Habitat in Paraguay, ad margines humidus Rio Paraguay ad Asomption: *Balansa* n. 855!' Holotype: K.

Seruneum brachycarpum (Baker) Kuntze, Revis. Gen. Pl. 1: 365 (1891), nom. illegit.

Stemmodontia brachycarpa (Baker) Morong, Ann. New York Sci. 7: 147 (1893).

?*Wedelia brasiliensis* (Spreng.) S. F. Blake var. *villosa* (Baker) S. F. Blake, J. Wash. Acad. Sci. 21: 332 (1954).

Thelechitonía muricata Cuatrec., Bull. Soc. Bot. France 101: 242 (1954). Type: 'Colombia, Llanos Orientales, rio Casanare, Esmeralda, 130 met. alt. sabana humeda, 19-X-1938 colect. J. Cuatrecasas 3902'. Holotype: F (1328388); isotype: F (1328786).

Thelechitonía brachycarpa (Baker) H. Rob. & Cuatrec., *Phytologia* 72(): 142 (1992).

Argentina, Bolivia (?), Brazil, Colombia, Guyana, Paraguay, Venezuela (Guyana and in the Llanos).
Riversides.
100–600 m.

Sphagneticola trilobata (L.) Pruski, Mem. New York Bot. Gard. 78: 114 (17 Dec. 1996).

Silphium trilobatum L., Syst. Nat., ed. 10, 2: 1233 (1759). Type: 'Habitat in America.' Lectotype (selected by Howard, Fl. Lesser Antilles 6: 616, 1989): [icon] 'Buphthalmum caule repente' in Plumier in Burman, Pl. Amer. : 97, t. 107, f. 2 (1757).

Buphthalmum repens Lam., Encycl. 1: 515 (1783). Type: 'Cette plante croît dans l'Amérique méridionale.', as for *Silphium trilobatum* L.

Buphthalmum procumbens Desf., Tabl. Mus. Hist. Nat. 1: 106 (1804), nom. nud.

Wedelia crenata Rich. in Pers., Syn. Pl. 2: 490 (1807). Type: 'Hab. in Guadeloupae arenosis.'

Wedelia carnosa Rich. in Pers., Syn. Pl. 2: 490 (1807), nom. illegit. superfl. incl. *Silphium trilobatum* L.

Polymnia crenata (Rich.) Poir., Encycl. Suppl. 4: 482 (1816).

Polymnia carnosa (Rich.) Poir., Encycl. Suppl. 4: 482 (1816), comb. illeg.

Buphthalmum strigosum Spreng., Neue Entd. 2: 140 (1821). Type: 'E Brasilia. *Otto*.' Holotype: P. Note: Pruski (1996: 412) suggested, incorrectly, that the type was collected by 'Sello'.

Acmella spilantheidoides Cass., Dict. Sci. Nat. 24: 329 (1822), nom. nud. based on *Buphthalmum procumbens* Desf.

Acmella brasiliensis Spreng., Syst. Veg., ed. 16, 3: 592 (1826), nom. illeg. superfl. incl. *Buphthalmum strigosum* Spreng.

Wedelia carnosa Rich. [var.] *β triloba* Rich. ex DC., Prodr. 5: 538 (1836). Type: '– Habeo ex ins. Cubâ fol. lobis ferè acuminatis et ex Guadalupâ fol. lobis obtusis. An. diversae? (v.s.)'. Syntypes: G-DC. Note: there are two collections in G-DC, one an *Ossa* collection the other by *Perrottet*.

Wedelia paludosa DC., Prodr. 5: 538 (1836). Type: '• ad margines paludum in Brasiliâ circa Rio-de-Janeiro legit cl. Lund [611]. ... (v.s.)'. Holotype: G-DC.

Wedelia paludicola Poepp., Nov. Gen. Sp. Pl. 3: 50 (1843). Type: 'Crescit in paludibus subsalsis Cubae ad Matanzas. Decembre florebat.' Holotype: W.

Wedelia triloba (Rich. ex DC.) Bello, Apuntes Fl. Puerto-Rico 1: 285 (1881).

Wedelia pilosa Baker in Mart., Fl. Bras. 6(3): 181 (1884). Type: 'Habitat in prov. Minas Geraës in paludibus ad Lagoa Santa: *Warming!*' Holotype: K.

Verbesina carnosa (Rich.) G.Maza, Periant. : 274 (1890), nom. illeg.

Seruneum trilobatum (L.) Kuntze, Revis. Gen. Pl. 1: 365 (1891).

Wedelia trilobata (L.) Hitchc., Rep. Missouri Bot. Gard. 4: 99 (1893).

Sphagneticola ulei O. Hoffm., Notizbl. Königl. Bot. Gart. Berlin-Dahlem 3(No. 22): 36 (1900). Type: 'Brasilia: Rio de Janeiro, in Sümpfen (*Ule* [3914]).' Holotype: B†; isotype: GOET. Lectotype (selected by Pruski, 1996): isotype: HBG.

Stemmodontia carnosa (Rich.) Cook & Collins, Contr. US Natl. Herb. 8: 244 (1903), comb. illeg.

Stemmodontia trilobata (L.) Small, Fl. SE US : 1262, 1340 (1903).

Wedelia brasiliensis (Spreng.) S. F. Blake, Contr. US Natl. Herb., 26: 250 (1930), comb. illegit.

Complaya trilobata (L.) Strother, Syst. Bot. Monogr. 33: 14 (1991).

Thelechitonia trilobata (L.) H. Rob. & Cuatrec., Phytologia 72: 142 (1992).

Argentina, Bolivia (?), Brazil, Colombia, Ecuador, Guayana, Mexico, USA, West Indies. Widely naturalized in Australia, Malaysia and on many Pacific Islands. Sometimes cultivated.

Disturbed areas, grassland, roadsides [stabilized dunes and beaches].

0–1200 m.

Probably flowering sporadically throughout the year.

Note: Sometimes this combination is cited as in 'Novon 6(4): 412 (27th Dec. 1996)' although the account for the *Flora of St. John* was published just over a week earlier.

Sphagneticola ulei O. Hoffm., Notizbl. Königl. Bot. Gart. Berlin-Dahlem 3(No. 22): 36 (1900) = **Sphagneticola trilobata** (L.) Pruski

Spilanthes Jacq. sect. *Salivaria* DC., Prodr. 5: 624 (1836), pro parte. = **Spilanthes** Jacq.

Spilanthes Jacq., Enum. Pl. Carib. : 8 (1760).

Spilanthes Jacq. sect. *Salivaria* DC., Prodr. 5: 624 (1836), pro parte.

Ceratocephalus Kuntze, Revis. Gen. Pl. 1: 326 (1891), pro parte, nom. superfl.

Type: *Spilanthes urens* Jacq.

References

Jansen, R. K. (1981). Systematics of *Spilanthes* (Compositae: Heliantheae). Syst. Bot. 6: 231–257.

Robinson, H. (2006). *Spilanthes*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(2): 190(6). Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 122–124.

Note: The widely misapplied name '*Spilanthes acmella* L.' was used by Foster (1958). In the sense now widely accepted this refers to *Blainvillea*, whose presence in Bolivia has been verified.

Spilanthes acmella (L.) Murr., Syst. Veg. ed. 13 : 610 (1774) = **Blainvillea acmella** (L.) Philipson

Spilanthes acmella L. var. β *uliginosa* Baker in Mart., Fl. Bras. 6(3): 233 (1884) = **Acmella uliginosa** (Sw.) Cass.

Spilanthes americana (L.f.) ? var. *parvula* B. L. Rob. f. *lanitecta* A. H. Moore, Proc. Amer. Acad. Arts 42: 547 (1907) = **Acmella repens** (Walter) Rich.

Spilanthes arrayana Gardner, London J. Bot. 7: 408 (1848) = **Acmella brachyglossa** Cass.

Spilanthes barinensis Aristeg., Fl. Venez. 10: 613 (1964) = **Spilanthes nervosa** Chodat

Spilanthes beccabunga DC., Prodr. 5: 622 (1836) = **Acmella repens** (Walter) Rich.

Spilanthes beccabunga DC. var. *parvula* B. L. Rob., Proc. Amer. Acad. Arts 27: 176 (1892) = **Acmella repens** (Walter) Rich.

Spilanthes caespitosa DC., Prodr. 5: 622 (1836) = **Acmella brachyglossa** Cass.

Spilanthes charitopsis A. H. Moore, Bot. Jahrb. Syst. 45(4): 427 (1911) = **Acmella uliginosa** (Sw.) Cass.

Spilanthes ciliata Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 163 (1818) = **Acmella ciliata** (Kunth) Cass.

Spilanthes ciliata var. *diffusa* (Poepp.) A. H. Moore, Proc. Amer. Acad. Arts 42: 539 (1907) = **Acmella repens** (Walter) Rich.

Spilanthes cocuyensis Cuatrec., Revista Acad. Colomb. Ci. Exact. 9: 247 (1954) = **Acmella repens** (Walter) Rich.

Spilanthes debilis Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 165 (1818) = **Acmella radicans** (Jacq.) R. K. Jansen var. **debilis** (Kunth) R. K. Jansen

Spilanthes diffusa Poepp., Nov. Gen. Sp. Pl. 3: 50 (1843) = **Acmella repens** (Walter) Rich.

Spilanthes disciformis B. L. Rob., Proc. Amer. Acad. Arts 27: 176 (1893) = **Acmella repens** (Walter) Rich.
Spilanthes disciformis B. L. Rob. var. *phaneractis* Greenm., Proc. Amer. Acad. Arts 39: 108 (1903) = **Acmella repens** (Walter) Rich.
Spilanthes ecliptoides Gardner, London J. Bot. 7: 407 (1848) = **Jaegeria hirta** (Lag.) Less.
Spilanthes eggersii Hieron., Bot. Jahrb. Syst. 28(5): 608 (1901) = **Acmella brachyglossa** Cass.
Spilanthes fimbriata Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 163 (1818) = **Acmella ciliata** (Kunth) Cass.
Spilanthes guatemalensis Vatk. ex J. D. Smith, Enum. Pl. Guat. 1: 23 (1889), nom. nud. pro syn. = **Melampodium divaricatum** (Rich. in Pers.) DC.
Spilanthes iabadicensis A. H. Moore, Proc. Amer. Acad. Arts 42: 542 (1907) = **Acmella uliginosa** (Sw.) Cass.
Spilanthes karvinskiana DC., Prodr. 5: 623 (1836) = **Jaegeria hirta** (Lag.) Less.
Spilanthes lateraliflora Klatt, Bot. Jahrb. Syst. 8: 43 (1887) = **Acmella repens** (Walter) Rich.
Spilanthes lehmanniana Klatt, Bot. Jahrb. Syst. 8: 43 (1887) = **Acmella repens** (Walter) Rich.
Spilanthes limonica A. H. Moore, Proc. Amer. Acad. Arts 42: 541 (1907) = **Acmella brachyglossa** Cass.
Spilanthes lundii DC., Prodr. 5: 622 (1836) = **Acmella uliginosa** (Sw.) Cass.
Spilanthes mandonii Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 529 (Feb. 1866) = **Acmella radicans** (Jacq.) R. K. Jansen var. **debilis** (Kunth) R. K. Jansen
Spilanthes mariannae DC., Prodr. 5: 623 (1836) = **Jaegeria hirta** (Lag.) Less.
Spilanthes mauritiana (L.C. Rich.) DC., Prodr. 5: 625 (1836) = **Blainvillea acmella** (L.) Philipson
Spilanthes melampodioides Gardner, London J. Bot. 7: 407 (1848) = **Acmella ciliata** (Kunth) Cass.
Spilanthes mellisifolia Salisb., Prodr. : 186 (1796), nom. superfl., based on *V. acmella* L. = **Blainvillea acmella** (L.) Philipson

Spilanthes nervosa Chodat, Bull. Herb. Boissier, ser. 2, 3(8): 724 (1903). Types: [Paraguay:] 'Suffrutex 0,1-0,4, petala alba, in campis in regione cursus superioris fluminis Apa, Dec., [Hassler] n. 8274 et 8067.' Lectotype (selected by Jansen, 1981: 249): *Hassler* 8274 - G; isolectotypes: BM, F (932532), GH (12643), K, MICH, MO, MPU, NY (00260007), S, W.
Spilanthes urens Jacq var. *nervosa* (Chodat) Hassl., Repert. Spec. Nov. Regni Veg. 14: 278 (1916).
Spilanthes urens Jacq. f. *lanea* A. H. Moore, Proc. Amer. Acad. Arts 42: 529 (1907). Type: 'Brasilia: Minas Geraës: E. Warming, Lagoa Santa, Oct. 27, 1863'. Holotype: NY (00260010); isotype: S.
Spilanthes urens Jacq. f. *ciliatifolia* Hassl., Repert. Spec. Nov. Regni Veg. 14: 279 (1916). Types: 'Paraguay: In campis siccis Punta Porá flor. mens. Dec., *Hassler* [= *Rojas*] no. 9914a; in campis arenosis Nu verá flor. mens. Nov. *Hassler* no. 11426.' Syntypes: G. Lectotype (selected by Jansen, 1981: 249): *Hassler* [= *Rojas*] 9914a - G.
Spilanthes barinensis Aristeg., Fl. Venez. 10: 613 (1964). Type: [Venezuela:] 'sabanas de Ciudad Bolivia (Pedraza), Edo. Barinas, Venezuela (L. Aristeguieta 1606, enero 1953).' Holotype: VEN; isotype: NY (00260003).
Bolivia (Santa Cruz), Brazil, Colombia, Paraguay, Peru, Venezuela.
Damp grassy areas, stream and river margins, damp roadsides, sandy soils.
50-1000 m.
September-March.

Spilanthes nitidus La Llave & Lex., Nov. Veg. Descr. 1: 28 (1824) = **Salmea scandens** (L.) DC.
Spilanthes ocyimifolia* (Lam.) A. H. Moore f. *radiifera* A. H. Moore, Proc. Amer. Acad. Arts 42: 533 (1907) = **Acmella brachyglossa Cass.
Spilanthes oppositifolia (Lam.) D'Arcy, Ann. Missouri Bot. Gard. 62(4): 1143 (1975)[1976], comb. illegit. = **Heliopsis buphthalmoides** (Jacq.) Dunal
Spilanthes orizabaensis Sch.Bip. ex Klatt, Leopoldina 23: 145 (1887) = **Acmella repens** (Walter) Rich.
Spilanthes phaneractis (Greenm.) A. H. Moore, Proc. Amer. Acad. Arts 42: 543 (1907) = **Acmella repens** (Walter) Rich.
Spilanthes poeppigii DC., Prodr. 5: 622 (1836) = **Acmella ciliata** (Kunth) Cass.
Spilanthes popayanensis Hieron., Bot. Jahrb. Syst. 28(5): 610 (1901) = **Acmella ciliata** (Kunth) Cass.
Spilanthes salzmännii DC., Prodr. 5: 623 (1836) = **Acmella uliginosa** (Sw.) Cass.
Spilanthes sartorii Sch.Bip. ex Klatt, Leopoldina 23: 145 (1887), nom. nud. pro syn. = **Heliopsis buphthalmoides** (Jacq.) Dunal
Spilanthes sessilifolia Hemsl., Biol. Centr. Amer. Bot. 2: 193 (1881) = **Jaegeria hirta** (Lag.) Less.
Spilanthes subhirsuta DC., Prodr. 5: 622 (1836) = **Acmella repens** (Walter) Rich.

- Spilanthes tenella* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 165 (1818) = **Acmella radicans** (Jacq.) R. K. Jansen var. **debilis** (Kunth) R. K. Jansen
- Spilanthes uliginosa* Sw., Nov. Gen. Sp. Pl. Prodr. : 110 (1788) = **Acmella uliginosa** (Sw.) Cass.
- Spilanthes uliginosa* Sw. var. *discoidea* Aristeg., Fl. Venez. 10: 616 (1964) = **Acmella uliginosa** (Sw.) Cass.
- Spilanthes urens* Jacq. f. *ciliatifolia* Hassl., Repert. Spec. Nov. Regni Veg. 14: 279 (1916) = **Spilanthes nervosa** Chodat
- Spilanthes urens* Jacq. f. *lanea* A. H. Moore, Proc. Amer. Acad. Arts 42: 529 (1907) = **Spilanthes nervosa** Chodat
- Spilanthes urens* Jacq var. *nervosa* (Chodat) Hassl., Repert. Spec. Nov. Regni Veg. 14: 278 (1916) = **Spilanthes nervosa** Chodat
- Spirochaeta* Turcz., Bull. Soc. Naturalistes Moscou 24(1): 166 (1851) = **Elephantopus** L.
- Spirochaeta funckii* Turcz., Bull. Soc. Imp. Naturalistes Moscou 24(1): 167 (1851) = **Elephantopus spiralis** (Less.) Clonts
- Spiripodium* F. Muell., Fragm. 1: 33 (1858-59) = **Pluchea** Cass.
- Spixia* Schrank, Pl. Rar. Hort. Monac. : tab. 80 (1819) = **Centratherum** Cass.
- Spixia violacea* Schrank, Pl. Rar. Hort. Monac. : t. 80 (1819) = **Centratherum punctatum** Cass. ssp. **punctatum**
- Staehelina solodaginoides* Willd. ex Less., Linnaea 4(2): 281 (1829), nom. nud. pro syn. = **Vernonia scorpioides** (Lam.) Pers.
- Starkea* Willd., Sp.Pl. 3: 2216 (1804) = **Liabum** Adans.
- Stematella* Wedd. ex Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865), nom. nud. = **Galinsoga** Ruiz & Pav.
- Stematella congesta* Wedd. ex O. Hoffm., Natürl. Pflanzenfam. 4(5): 231 (1890) = **Galinsoga mandonii** Sch.Bip.
- Stemmatella* Wedd. ex Benth. & Hook. f. Gen. Pl. 2: 193, 359, 360 (1873) = **Galinsoga** Ruiz & Pav.
- Stemmatella lehmannii* Hieron., Bot. Jahrb. Syst. 28(5): 602 (1901) = **Galinsoga quadriradiata** Ruiz & Pav.
- Stemmatella sodiroi* Hieron., Bot. Jahrb. Syst. 28(5): 601 (1901) = **Galinsoga quadriradiata** Ruiz & Pav.
- Stemmatella urticifolia* (Kunth) O. Hoffm. ex Hieron. Bot. Jahrb. Syst. 28(5): 603 (1901) = **Galinsoga quadriradiata** Ruiz & Pav.
- Stemmatella urticifolia* (Kunth) O. Hoffm. ex Hieron. var. *eglandulosa* Hieron., Bot. Jahrb. Syst. 36(5): 487 (1905) = **Galinsoga quadriradiata** Ruiz & Pav.
- Stemmodontia* Cass., Bull. Sci. Soc. Philom. Paris 1817: 11 (1817) = **Wedelia** Jacq.
- Stemmodontia brachycarpa* (Baker) Morong, Ann. New York Sci. 7: 147 (1893) = **Sphagneticola brachycarpa** (L.) Pruski
- Stemmodontia carnosa* (Rich.) Cook & Collins, Contr. US Natl. Herb. 8: 244 (1903), comb. illeg. = **Sphagneticola trilobata** (L.) Pruski
- **Stemmodontia* [as *Stemmodontia*] *elongata* Rusby, Mem. Torrey Bot. Club, 3(3): 58 (1893) = **Heliopsis buphthalmoides** (Jacq.) Dunal
- Stemmodontia trilobata* (L.) Small, Fl. SE US : 1262, 1340 (1903) = **Sphagneticola trilobata** (L.) Pruski
- Stenactis* Cass., Dict. Sci. Nat. 37: 485 (1825) = **Erigeron** L.
- Stenocarpha* S. F. Blake, Bull. Misc. Inform. 1915: 348 (1915) = **Galinsoga** Ruiz & Pav.
- Stenocephalum* Sch.Bip., Jahresber. Pollichia 20-21: 385 (1863)[30 March 1864] = **Vernonia** Schreb.
- Stenocephalum apiculatum* (Mart. ex DC.) Sch.Bip., Jahresber. Pollichia 20-21: 387 (1863)[30 March 1864] = **Vernonia apiculata** Mart. ex DC.

Stenocephalum brevifolium (DC.) Sch.Bip., Jahresber. Pollichia 20-21: 387 (1863)[30 March 1864] = **Vernonia megapotamica** Spreng.
Stenocephalum hexanthum Sch.Bip., Jahresber. Pollichia 20-21: 390 (1863)[30 March 1864] = **Vernonia megapotamica** Spreng.
Stenocephalum megapotamicum (Spreng.) Sch.Bip., Jahresber. Pollichia 20-21: 388 (1863)[30 March 1864] = **Vernonia megapotamica** Spreng.
Stenocephalum melanotrichum (DC.) Sch.Bip., Jahresber. Pollichia 20-21: 388 (1863)[30 March 1864] = **Vernonia megapotamica** Spreng.
Stenocephalum monticola (Mart. ex DC.) Sch.Bip., Jahresber. Pollichia 20-21: 386 (1863)[30 March 1864] = **Vernonia monticola** Mart. ex DC.
Stenocephalum penicillatum Sch.Bip., Jahresber. Pollichia 20-21: 389 (1863)[30 March 1864] = **Vernonia megapotamica** Spreng.

Stephananthus Lehm., Sem. Hort. Bot. Hamburg : 14, 18 (1826) = **Baccharis** L.
Stephananthus junceus Lehm., Ind. Sem. Hort. Hamb. 18 (1826) = **Baccharis juncea** (Cass.) Desf.

Stenophyllum Sch.Bip. ex Benth. & Hook.f., Gen. Pl. 2: 391 (1873), [cited by Robinson (2006: 75) as 'nom. superfl.', although no such name was proposed by Bentham & Hooker f.!] = **Calea** L.

Stevia Cav., Icon. 4: 32 (1797).

Lectotype (selected by Pfeiffer, Nom. 2: 1284, 1874): *Stevia salicifolia* Cav. Note: King & Robinson (1987) cited *Stevia serrata* Cav. as the lectotype.

References

King, R. M. & H. Robinson. (1982). Studies in the Eupatorieae (Asteraceae). CCXIV. New species of *Chromolaena* and *Stevia* from Bolivia. Phytologia 51(3): 172-178.

Robinson, B. L. (1930). Observations on the genus *Stevia*. Contr. Gray Herb. n.s. 90: 36-58, pl. 1.

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Robinson, B. L. (1930). The stevias of Paraguay. Contr. Gray Herb. n.s. 90: 79-90.

Robinson, B. L. (1931). The stevias of Ecuador. Contr. Gray Herb. n.s. 96: 43-49.

Robinson, B. L. (1932). Records preliminary to a general treatment of the Eupatorieae - X. Contr. Gray Herb. n.s. 100: 3-19.

Robinson, B. L. (1932). II. The stevias of Peru. Contr. Gray Herb. n.s. 100: 20-36.

Robinson, B. L. (1932). III. The stevias of Bolivia. Contr. Gray Herb. n.s. 100: 36-69.

Note: Robinson's key (Robinson, 1932) provides a useful starter to identification but some 10 additional taxa need to be added for completeness.

Stevia amplexicaulis Beauverd ex Herzog, Pflanzenw. Bolivischen Anden : 144 (1923), nom. nud., non Hassler (1912) = ?**Stevia stuebelii** Hieron.

Stevia bangii Beauverd ex Herzog, Pflanzenw. Bolivischen Anden : 228 (1923), nom. nud., non Rusby (1895) = **Stevia tarijensis** Hieron.

***Stevia bangii** Rusby, Mem. Torrey Bot. Club 4(3): 209 (1895). Types: [Bolivia:] '[Bang] 86' ... Published as "*Stevia compacta* Benth.?" is STEVIA BANGII sp. n. ... = Rusby's 1613, ...' Syntypes: GH, MO, NY, US. Rusby 1613 also in F?. Isosyntype (*Bang* 86): NY (00260151, 00260152), US (01068163).

**Stevia tapacariensis* Hieron., Bot. Jahrb. Syst. 22(4-5): 734 (1897). Type: 'Bolivia: am Rio Tapacari bei 3000 m über Meer (O. KUNTZE, 12. März 1892).' Holotype: ?B†; isotype: ?NY.

**Stevia bangii* Rusby var. β *dyscrita* B. L. Rob., Contr. Gray Herb. 100: 3 (1932). Type: 'BOLIVIA: near the city of La Paz, alt. 3750 m., Dr. Otto Buchtien, nos. 186 in part'. Holotype: GH (12823); isotype: NY (00260153). Bolivia (Cochabamba, La Paz, Oruro).

3000–4000 m.

March.

Robinson (1932) also cited the following paratypes: [BOLIVIA: *Buchtien*] 3017 (NY, US); 3018 'at least in large part' (US); 3019 (NY, US); 'on stony hills above La Paz, alt. 3700-3800 m., *Pennell*, no. 14,255' (GH, NY); 'on hills, same locality, alt. 4000 m., *Mandon*, no. 246 bis' (GH, NY).

Stevia bangii* Rusby var. β *dyscrita* B. L. Rob., Contr. Gray Herb. 100: 3 (1932) = **Stevia bangii Rusby

Stevia beckii R. M. King & H. Rob., Phytologia 51(3): 173 (1982). Type: 'BOLIVIA: Santa Cruz: Prov. Florida, Santa Cruz 110 kms. havia Cochabamba. 1550-1650 m. Vegetación alrededor de las ruinas de Samaipata. Hierba - 80 cm., flor rosada. 23.3.1981. *St. G. Beck 6777'*. Holotype: US (02926134); isotype: LPB.

Bolivia (Santa Cruz).

Disturbed areas, woodland margin.

1500–1650 m.

March–April.

***Stevia benderi** Perkins, Bot. Jahrb. Syst. 49(2): 221 (1913). Type: 'Bolivien: Quechisla, 20°30' südl. Breite, 66°20' westl. Länge, 3450-3500 m ü. M. (C. BENDER n. 24. Im März 1909 blühend).' Holotype: B†.

**Stevia benderi* Perkins var. *cardenasii* B. L. Rob., Contr. Gray Herb. 104: 7 (1934). Type: 'BOLIVIA: Dept. Potosí: near Betanzos, alt. 3800 m., *Cárdenas*, nos. 479 (Gr.) and 480 (TYPE, Gr.)'. Holotype: GH (12804).

Bolivia (Potosí).

3450–3800 m.

March.

Stevia benderi* Perkins var. *cardenasii* B. L. Rob., Contr. Gray Herb. 104: 7 (1934) = *Stevia benderi** Perkins

***Stevia bermejensis** Hieron., Bot. Jahrb. Syst. 40(3): 361 (1908). Type: 'Bolivia: habitat prope Toldos haud procul a pago Bermejo, alt. s. m. 1800 m, in declivibus campestribus (K. FIEBRIG n. 2326; 3. m. Dec. 1903).' Holotype: B†. Note: Robinson (1932: 55) noted that this material was actually collected in Argentina (at Toldos), across the country boundary with Bolivia, 'and the presence of the plant within the boundaries of Bolivia so probable, ...'.

Argentina, Bolivia (?Tarija).

Grassland.

1800 m.

November–December.

Stevia boliviensis Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865), nom. nud. (based on *Mandon* 242) = **Stevia boliviensis** Sch.Bip. ex Rusby

***Stevia boliviensis** Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 3(3): 51 (1893). Type: [Bolivia:] 'Yungas, 1890 ([*Bang*] 260).' Holotype: NY (00260157); isotypes: NY (00260155, 00260158).

Stevia boliviensis Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865), nom. nud. (based on *Mandon* 242).

**Stevia brevipapposa* Hieron., Bot. Jahrb. Syst. 22(4–5): 718 (1897). Type: 'Bolivien: bei Cochabamba (*O. KUNTZE*, 26. März 1892).' Holotype: B†.

**Stevia schultzii* Hieron., Bot. Jahrb. Syst. 22(4–5): 721 (1897). Types: '[Argentina:] Tucuman: auf der Cuesta de Siambon in der Sierra de tucuman (*LOR.*, 18 März 1872, n. 507). Bolivia: bei Iminipi Meilipaya etc. in der Umgebung des Soratá in der Provinz Larecaja bei 2650–3300 m Höhe (*MANDON*, Jan.-April 1859, n. 242).' Syntypes: GOET. Isosyntypes (*Mandon* 242): F (972062), NY (00260156).

Stevia nepetifolia [as *nepetaefolia*] Beauverd ex Herzog, Pflanzenw. Bolivischen Anden : 143, 144, 146 (1923), nom. nud., non Kunth (1818).

Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz).

1200–3800 m.

January–April.

Britton (1891) cited 'Yungas, 4,000 ft. ([*Rusby*] 1614); Unduavi, 8,000 ft. ([*Rusby*] 1615).'

Stevia breviaristata Hook. & Arn., Companion Bot. Mag. 1(No. 8): 238 (1836). Type: 'Woods of Tucuman, plentiful, *Tweedie*.'

Stevia lorentzii Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 164 (1874); Pl. Lorentz. : 116 (1874). Type: [Argentina:] 'Tucuman, ubi constituit praecipue vegetationem suffruticosam in pratis montanis pr. Siambon. [Lorentz]' Holotype: GOET (6208).

Stevia pubigera Hieron., Bot. Jahrb. Syst. 22(4–5): 720 (1897). Types: [Argentina:] 'Salta: bei Yacone auf montanen Wiesen in den Vorbergen des Nevado del Castillo (LOR. u. HIERON., März 1873, n. 320, schwächer behaarte Form von GRISEBACH als *St. breviaristata* Hook. Arn. bestimmt) und bei Los Potreros am Fuss des Nevado del Castillo (LOR. u. HIERON., 24. März 1873, n. 151; stärker behaarte Form von GRISEBACH als *St. alpina* Griseb. bestimmt; 18. März 1873, n. 175^b, schwach behaarte Form).' Syntypes: B†, GOET (*Lorentz & Hieronymus* 151 – GOET 1189; *Lorentz & Hieronymus* 320 – GOET 1188).

Argentina, Bolivia (?), Paraguay. Note: Cabrera (1978: 78–79) noted this species from northeast Argentina and southern Bolivia, however, Robinson (1932) indicated this name, sensu Hieronymus in Kuntze (1898), as a synonym of *S. boliviensis*, but not the complete synonymy as suggested by Cabrera (1978: 78) indicated above. (Cabrera (1996: 288) noted a *Rojas* collection, from 'Carandaity', in the disputed territory with Paraguay.

500–3000 m.

January–April.

Stevia brevipapposa* Hieron., Bot. Jahrb. Syst. 22(4–5): 718 (1897) = *Stevia boliviensis*** Sch.Bip. ex Rusby

****Stevia bridgesii*** Rusby, Bull. New York Bot. Gard. 4(14): 377 (1907). Type: [Bolivia:] '([Bang] No. 2047.) The same collected by Bridges. Near *S. compacta* Benth., and near *Mandon* 244' Isosytype (*Bang* 2047): NY (00269159, 00260160), US (01417337).

Bolivia (Cochabamba).

****Stevia calderillensis*** Hieron., Bot. Jahrb. Syst. 40(3): 356 (1908). Type: 'Bolivia: habitat prope Calderillo, alt. s. m. 3400 m, in declivibus rupestribus (K. FIEBRIG n. 2959; 10. m. Jan. 1904).' Holotype: B†.

Bolivia (?Tarija).

Rocky slopes.

3400 m.

January.

****Stevia camachensis*** Hieron., Bot. Jahrb. Syst. 40(3): 359 (1908). Type: 'Bolivia: habitat prope Camacho in parte australi reipublicae (K. FIEBRIG n. 2868^a pro parte; anno 1904 coll.)' Holotype: B†; isotypes: GH (12813, 12814), GOET, S, US (01541340).

Argentina, Bolivia (Tarija).

Alpine pasture.

3000–3500 m.

March.

Note: A species also confused with *S. chamaedrys* according to Cabrera (1978: 78).

****Stevia cardiatica*** Perkins, Bot. Jahrb. Syst. 49(2): 222 (1913). Type: 'Bolivien: Quechisla, 20°30' südl. Breite, 66°20' westl. Länge, 3425 m ü. M. Schieferboden (C. BENDER n. 22. – Im März 1909 blühend).' Holotype: B†.

Bolivia (Potosí).

Slate slopes.

3400–3500 m.

March.

Vernacular name: JUSOATIJAENA (Perkins, 1913: 222).

****Stevia chacoensis*** R. E. Fr., Arkiv Bot. 5(13): 7 (1906). Type: 'Bolivia: Gran Chaco, ad Tatarenda, loco aperta in silva densa [17/3 02; FR. 1388]'. Holotype: S; isotypes: GH (fragment), US (01055393).

Bolivia (Santa Cruz).

March.

***Stevia chamaedrys** Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 167 (March-April 1879), Symb. Fl. Argent. : 167 (1879). Type: 'S.: in radice m. Nevado del Castillo.' Holotype: B; isotype: GH (fragment).
Stevia nevadensis Hieron., Bot. Jahrb. Syst. 22(4-5): 729 (1897). Type: [Argentina] 'Salta: am Wege von Los Potrereros auf den Nevado del Castillo (LOR. u. Hieron., 19-23. März 1873).' Holotype: B†.
Argentina, Bolivia (?Tarija).
Alpine pastures.
2000-4000 m.
January-March.

Stevia clausenii Sch.Bip. ex Baker var. *boliviensis* Hieron., Bot. Jahrb. Syst. 22(4-5): 723 (1897) = **Stevia urticifolia** Billb. var. **boliviensis** (Hieron.) B. L. Rob.

***Stevia clivicola** B. L. Rob., Contr. Gray Herb. 100: 4 (1932). Type: 'BOLIVIA: La Paz: Prov. Larecaja: temperate region in the neighborhood of Sorata, alt. 3000 m., on the Loma de Canalloquenchan between Laripata and Tani, May 1859, Mandon, no. 243 in part'. Holotype: GH (12820).
Bolivia (La Paz).
3000 m.
May.

***Stevia cochabambensis** Hieron., Bot. Jahrb. Syst. 22(4-5): 726 (1897). Type: 'Bolivien: bei Cochabamba c. 3000 m ü. M. (O. KUNTZE, 26. März 1892).' Holotype: ?B†; ?isotype: NY (00260162).
Bolivia (Cochabamba, La Paz).
3000 m.
March-April.

Note: Britton (1891) cited '*Stevia compacta* Benth. ... 'Near La Paz, 11,000 ft. ([Rusby] 1613).', although, in referring to this material, Robinson (1932: 65) suggested it was equivalent to *Stevia bangii*.

***Stevia copiosa** J. Koster, Blumea 5(3): 645 (1945). Type: 'Hab. in der Dornbuschsteppe zwischen Pulquina arriba und Comarapa, 1900 m alt., April 1911, Bl. hellrosa, [Herzog] n. 1800.' Holotype: L(944202491); isotype: S.
Bolivia (Santa Cruz).
1900 m.
April.

***Stevia discolor** B. L. Rob., Contr. Gray Herb. 100: 5 (1932). Type: 'BOLIVIA: Prov. Larecaja: "Viciniis Sorata, Iminapi, Milipaya, &c. in silvulis, dumosis, &c., Reg. temp., 2650-3300 m. Jan.-April, 1859," Mandon, no. 242 pro parte'. Holotype: GH (12827); isotype: B†.
Bolivia (La Paz).
2650-3000 m.
January-April.

Note: Robinson (1932: 5) indicated that 'From the label it is clear that material distributed under this number came from several different stations'. Some of the material of Mandon 242 includes *S. boliviensis*.

***Stevia eclipses** B. L. Rob., Contr. Gray Herb. 96: 5 (1931). Type: 'BOLIVIA. Dept. Tarija; Pinos near Tarija, alt. 2300 m., Mar. 10, 1904, K. Fiebrig, no. 3126'. Holotype: GH (12829); isotypes: B†, F (520494), G, S, US (01473177).
Bolivia (Tarija).
2300 m.
February-March.

***Stevia elatior** Kunth var. **austrina** B. L. Rob., Contr. Gray Herb. 96: 7 (1931). Type: 'BOLIVIA: Dept. Santa Cruz: Sierra de Santa Cruz, 1600 m., May, 1892, Dr. O. Kuntze'. Holotype: NY (00260168); isotype: US (00702162).
Bolivia (Santa Cruz).
1600 m.

May.

***Stevia fiebrigii** Hieron., Bot. Jahrb. Syst. 40(3): 365 (1908). Type: 'BOLIVIA: habitat prope Toldos haud procul a pago Bermejo, alt. s. m. 1800 m in declivibus humidis graminosis (K. FIEBRIG n. 2330a; 3. m. Decemb. 1903).' Holotype: B†.

var. **fiebrigii**

Argentina, Bolivia (Tarija). The other two varieties (var. *jujuiensis* Cabrera and var. *vattuonei* (Hicken) Cabrera) are known only from Argentina.

Margins and clearings of scrub woodland.

1800–2500 m.

November–December.

***Stevia filipes** Rusby, Bull. New York Bot. Gard. 8(No. 28): 126 (1912). Type: [Bolivia:] ' "Hills near Apolo, 6000 ft. alt., Feb. 20, 1902" ([R.S. Williams] No. 124).' Holotype: NY (00260171); isotype: US (01541354). Bolivia (La Paz).

1800 m.

February–March.

***Stevia fruticosa** Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 167 (March–April 1879), Symb. Fl. Argent. : 167 (1879). Type: 'O.: Tarija, Cuesta del Tambo.' Holotype: *Lorentz & Hieronymus* 876, GOET. Argentina, Bolivia (?Tarija).

***Stevia galeopsidifolia** Hieron., Bot. Jahrb. Syst. 22(4–5): 719 (1897). Type: 'Bolivien: bei Tunari (O. KUNTZE, 4. Mai 1892).' Holotype: B†; isotype: NY (00260172).

Bolivia (Cochabamba).

April–May.

***Stevia glanduloso-pubescens** Hieron., Bot. Jahrb. Syst. 40(3): 360 (1908). Type: 'Bolivia: in parte australi loco accuratis non indicato (K. FIEBRIG n. 3486; 10. m. Jan. 1904).' Holotype: B†.

Bolivia (Chuquisaca, ?Tarija).

2480 m.

December–January.

***Stevia glomerata** Hieron., Bot. Jahrb. Syst. 40(3): 357 (1908). Type: 'Bolivia: habitat in parte australi reipublicae prope Camacho (K. FIEBRIG n. 2868^a pro parte; anno 1904).' Holotype: B†.

Bolivia (?).

Stevia grandidentata Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on *Mandon* 245) = **Stevia soratensis** Hieron.

Stevia grandidentata* Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 6(1): 55 (1896) = **Stevia soratensis Hieron.

Stevia grandidentata Sch.Bip. ex Hieron., Bot. Jahrb. Syst. 22(4–5): 714 (1897), nom. illegit. superf. = **Stevia soratensis** Hieron.

Stevia grandidentata Sch.Bip. var. *subglandulosa* Hieron., Bot. Jahrb. Syst. 22(4–5): 798 (1897) = **Stevia soratensis** Hieron. var. **subglandulosa** (Hieron.) B. L. Rob.

Stevia haenkeana DC. var. (cf. Schultz Bipontinus 1865, 1865–66) which Robinson (1932: 66) could not confirm; the species itself is Mexican.

Stevia humilis* Hieron., Bot. Jahrb. Syst. 22(4–5): 730 (1897) = **Stevia obovata Rusby

***Stevia kuhnioides** [Rusby ex] B. L. Rob., Contr. Gray Herb. 96: 7 (1931). Type: 'BOLIVIA: Cordillera Real, on the road from Okara to Ancoma, alt. about 3350m., Apr. 29, 1926, G. H. H. Tate, no. 870'. Holotype: NY (00260181); isotype: NY (00260182).

Bolivia (La Paz).

3350 m.

April–May.

Note: Robinson (1931: 8) noted Tate's collection was made as part of the Ladew Expedition, and was 'rather imperfect'.

***Stevia kuntzei** Hieron., Bot. Jahrb. Syst. 22(4–5): 733 (1897). Type: 'Bolivien: bei Tunari 3000 m über Meer (O. KUNTZE, April, Mai 1892).' Holotype: ?B; isotype: NY (00260183)(Note: The NY specimen suggests this is a possible holotype, although this is doubtful considering Hieronymus' introduction (Hieronymus, 1897: 672–673)).

Bolivia (Cochabamba).

3000 m.

April–May.

Stevia lorentzii Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 164 (1874); Pl. Lorentz. : 116 (1874) = **Stevia breviaristata** Hook. & Arn.

Stevia macbridei B. L. Rob., Contr. Gray Herb. 96: 9 (1931). Type: 'PERU: Dept. Huanaco: on "grass-shrub slope," Mito, alt. about 2750 m., July 8–22, 1922, Macbride & Featherstone, no. 1613'. Holotype: F (518117); isotype: GH (12853).

Argentina, Bolivia (?), Peru.

Grassland, scrub.

2000–4000 m.

July.

Stevia mandonii Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 246) = **Stevia mandonii** Sch.Bip. ex B. L. Rob.

***Stevia mandonii** Sch.Bip. ex B. L. Rob., Contr. Gray Herb. 77: 6 (1926). Type: 'BOLIVIA: Department of La Paz: Prov. Larecaja, on hills of the alpine region near Ancohuma in the neighbourhood of Sorata, alt. 3800 m., Mar.–Apr. 1860, Mandon, no. 246'. Holotype: K; isotypes: GH (12825 – ex Herb. Klatt, 12856) q.v. comments in protologue (Robinson, 1926: 6) pertaining to isotype in GH; isotypes: NY × 3 (00260186, 00260187, 00260188, 00260189 – ex coll. num.). Note: The citation of the holotype in K is drawn from the protologue preamble. Robinson cited three other collections when he provided the Latin diagnosis after the preamble – *Fiebrig* 3416, *Pennell* 13372 and *Weberbauer* 431.

Stevia mandonii Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 246).

Bolivia (La Paz, ?Tarija), Peru.

Clay slopes, limestone hills.

3500–4000 m.

March–April

Note: Robinson (1926: 7) also cited one paratype from Bolivia: 'Department of Tarija (?) at Escayache, alt. 3500 m., *Fiebrig*, no. 3416 (Gr).'

***Stevia melancholica** B. L. Rob., Contr. Gray Herb. 90: 15 (1930). Type: 'BOLIVIA: without stated locality, 1847, *Bridges*'. Holotype: BM.
Bolivia (?).

***Stevia mercedensis** Hieron., Bot. Jahrb. Syst. 22(4–5): 735 (1897). Type: [Argentina:] 'Catamarca: bei La Merced (LOR. u. HIERON., 2. Dec. 1872).' Holotype: B†.

Argentina, Bolivia (Tarija).

2440–2747 m.

December–April.

*? **Stevia mercedensis** Hieron. var. β **glanditecta** B. L. Rob., Contr. Gray Herb. 90: 16 (1930). Types: 'Argentina: Prov. Tucumán: El Molle, Amaicha, *Castillon*, no. 3122 (Gr.); El Chorro a las Arcas. Dept. of Trancas, alt. 2200 m., *Schreiter*, no. 5688 (Gr.). Prov. Jujuy: among stones on mountain slopes, Tilcara, *Venturi*, no. 4868 (Gr., Mo).' Syntypes: GH (*Castillón* 3122 – 12863, *Schreiter* 5688 –A- 12860, GH- 12862, *Venturi* 4868 – 12861); isosyntype (*Venturi* 4868): MO (960051).

Stevia micropappa Sch.Bip., Bull. Soc. Bot. Fr. 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 245, ?p.p.) = **Stevia soratensis** Hieron.

***Stevia neglecta** Rusby, Mem. Torrey Bot. Club 4(3): 209 (1895). Type: [Bolivia:] '[Bang] 611 ... Published as "*Stevia stenocephala* Sch.Bip.?' is STEVIA NEGLECTA sp. n.' Holotype: NY (00260191); isotypes: F (163494), GH (12865), ?MO, NY (00260192), US (01068160).

Bolivia (La Paz).

3050 m.

Stevia nepetifolia (as *nepetaefolia*) Beauverd ex Herzog, Pflanzenw. Bolivischen Anden : 143, 144, 146 (1923), nom. nud., non Kunth (1818) = **Stevia boliviensis** Sch.Bip. ex Griseb.

Stevia nevadensis Hieron., Bot. Jahrb. Syst. 22(4-5): 729 (1897) = **Stevia chamaedrys** Griseb.

***Stevia obovata** Rusby, Mem. Torrey Bot. Club 6(1): 55 (1896). Types: [Bolivia:] 'Vic. Cochabamba, 1891 ([Bang] 1027). The same as *Spruce's* 5042, etc. although the corollas of the latter are smaller.' Isosyntypes (Bang 1027): F (163623), GH (12866, 12867), MO (131189), NY (00260193, 00260194), US (01417341), Z (000003928).

**Stevia humilis* Hieron., Bot. Jahrb. Syst. 22(4-5): 730 (1897). Type: 'Bolivien: bei 4000 m (O. KUNTZE, 13-21. April 1892).' Holotype: B†; isotype: US (00702163).

Bolivia (Cochabamba).

3600-4000 m.

April.

*?**Stevia obovata** Rusby var. **aristifera** B. L. Rob., Contr. Gray Herb 90: 17 (1930). Type: 'BOLIVIA; Cochabamba: Prov. Chapare: grassy places near Aduana, Coloni, alt. 2800 m., Jan. 18, 1929, *Steinbach*, no. 8831'. Holotype: GH (12868); isotypes: ?MO, NY (00260195).

Bolivia (Cochabamba).

2800 m.

January.

***Stevia pauciflora** J. Koster, Blumea 6(1): 266 (1948). Type: [Bolivia:] 'Hab.: an trockenen, felsigen Abhängen im Caipipendithal, 1000 m alt.; Dez. 1910, [*Herzog*] n. 1228.' Holotype: L(944202398).

Bolivia (?).

1000 m.

December.

Stevia potosiensis R. M. King & H. Rob., Phytologia 51(3): 173 (1982). Type: 'BOLIVIA: Potosí: Prov. Bustillos, uncia 22 km hacia Pocoata. 3800 m. Ladera rocosa con Cactus columnares, Hierba - 40 cm, hojas pelosas, corola morada. 6.3.1981. *St. G. Beck* 6153'. Holotype: US (02926158); isotype: LPB.

Bolivia (Potosí).

Dry, rocky slopes.

3800 m.

February-March.

Stevia pubigera Hieron., Bot. Jahrb. Syst. 22(4-5): 720 (1897) = **Stevia breviaristata** Hook. & Arn.

***Stevia reclinata** Rusby, Bull. New York Bot. Gard. 8: 127 (1912). Type: [Bolivia:] ' "Three ft. high, with white flowers. Near Apolo, 5800 ft. alt., July 25, 1902" ([R.S. Williams] No. 1468).' Holotype: NY (00260201); isotypes: UC (946382), US (01541355).

Bolivia (La Paz).

1750 m.

July-August.

***Stevia samaipatensis** B. L. Rob., Contr. Gray Herb. 96: 15 (1931). Type: 'BOLIVIA: Dept. Santa Cruz: Prov. Vallegrande: Samaipata, alt. 2000 m., 16 Mar. 1920, *J. Steinbach*, no. 3761'. Holotype: B†; isotype: GH (12892 - fragment of holotype with photograph).

Bolivia (Santa Cruz).

Ancient clearings and deforested areas on eroded soils in *Podocarpus parlatorei* forest, Boliviano-Tucumano montane pastures.

2000–3050 m.

January–March.

***Stevia santacruzensis** Hieron., Bot. Jahrb. Syst. 22(4–5): 731 (1897). Type: 'Bolivien: bei Santa Cruz um 2600 m (O. KUNTZE, Mai 1892).' Holotype: ?B†; ?isotype: NY (00260206).

Bolivia (Santa Cruz).

2600 m.

May.

***Stevia sarensis** B. L. Rob., Contr. Gray Herb. 100: 9 (1932). Type: 'BOLIVIA: Department Santa Cruz: Province Sara: in clearing, Buena Vista, alt. 450 m., Apr. 7, 1925, Steinbach, no. 7048'. Holotype: GH (12897); isotypes: B, F (563964), G, GH (12894, 12895 – fragment), K, MO, NY (00260207).

**Stevia sarensis* B. L. Rob. var. β *dissiticeps* B. L. Rob., Contr. Gray Herb. 100: 10 (1932). Type: 'BOLIVIA: Dept. Santa Cruz: Prov. Cercado: in clearings, Bañado del Piray, alt. 450 m., July 16, 1924, Steinbach, no. 6248'.

Holotype: B; isotypes: GH (12896 – fragment of holotype, 12898).

Bolivia (Santa Cruz).

Clearings in woodland.

450–800 m.

November–July.

Robinson (1932) also cited the following paratypes: [BOLIVIA:] 'Buena Vista, alt. 500 m., July 4, 1924, Steinbach, no. 6117' (B, K, G); 'clearings, Buena Vista, alt. 450 m., Mar. 1915, Steinbach, no. 1143' (B); 'low woods, Buena Vista, alt. 800 m., Dec. 9, 1920, Steinbach, no. 5169 p.p. (hb. Osten).'

Stevia schreiteri B. L. Rob., Contr. Gray Herb. 90: 19 (1930). Type: 'ARGENTINA: Salta: Dept. Orán: Zanja Honda, alt. 600 m., Schreiter, no. 3637'. Holotype: GH (12899); isotype: LP.

Argentina, Bolivia (?).

600 m.

Stevia schultzi* Hieron., Bot. Jahrb. Syst. 22(4–5): 721 (1897) = **Stevia boliviensis Sch.Bip. ex Griseb.

***Stevia setifera** Rusby ex B. L. Rob., Contr. Gray Herb. 100: 10 (1932). Type: 'BOLIVIA: Dep. Larecaja: Prov. Murillo: dry hillside, Pongo, alt. about 3500 m., Dr. O. E. White, no. 168'. Holotype: NY (00269209); isotypes: ?F, GH (12901).

Bolivia (La Paz, Oruro).

High-montane forest.

1680–3900 m.

September–October.

***Stevia soratensis** Hieron., Bot. Jahrb. Syst. 28(5): 560 (1901), nom. nov. pro *Stevia grandidentata* Sch.Bip. ex Hieron. non Klatt (1884).

Stevia grandidentata Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 245).

Stevia micropappa Sch.Bip., Bull. Soc. Bot. Fr. 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 245, ?p.p.)

Stevia stenocephala Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on Mandon 245, ?p.p.)

**Stevia grandidentata* Sch.Bip. ex Rusby, Mem. Torr. Bot. Club 6: 55 (1896). Types: 'Vic. Cochabamba, 1891 ([Bang] 1149). Exactly the same as Mandon's no. 245.' Isosyntype (Bang 1149): GH (12902, 12903, 12905), GOET, NY (00260173, 00260174), US (00044097). Isosyntype (Mandon 245): NY (00260175 – a fragment in a capsule and mounted with 00260173!).

Stevia grandidentata Sch.Bip. ex Hieron., Bot. Jahrb. Syst. 22(4–5): 714 (1897), nom. illegit. superfl. [Type: 'Bolivia: auf dem Berge Quincourca, in der Nähe des Sorata bei 2700 m Höhe über Meer (MANDON, 5. Mai 1859, n. 245).']

Stevia soratensis Hieron., Bot. Jahrb. Syst. 40(3): 356 (1908), nom. illegit. superfl. as nom. nov. pro *S. grandidentata* Sch.Bip. ex Hieron.
Bolivia (La Paz), Peru.
Scrub, copses.
2300–4000 m.
April–May.

Stevia soratensis Hieron., Bot. Jahrb. Syst. 40(3): 356 (1908), nom. illegit. superfl. as nom. nov. pro *S. grandidentata* Sch.Bip. ex Hieron. = ***Stevia soratensis*** Hieron.

****Stevia soratensis*** Hieron. var. γ ***mecoyensis*** B. L. Rob., Contr. Gray Herb. 100: 11 (1932). Type: 'BOLIVIA: Dept. Tarija: Red Hills, Mecoya, alt. 2745–3050 m., April 1864, Pearce'. Holotype: K; isotype: GH (12904 – fragment of holotype with photograph of holotype).
Bolivia (Tarija).
2745–3050 m.
April.

****Stevia soratensis*** Hieron. var. ***subeglandulosa*** (Hieron.) B. L. Rob., Contr. Gray Herb. 96: 15 (1931).
Stevia grandidentata Sch.Bip. ex Hieron. var. *subeglandulosa* Hieron., Bot. Jahrb. Syst. 22(4–5): 798 (1897). Type: '[Vic. Cochabamba, 1891] Rusby 1149'. For type material see *Stevia grandidentata* Sch.Bip. ex Rusby. The GOET collection being the 'holotype' of this variety.
Bolivia (Cochabamba, La Paz).
2300–2650 m.

Robinson (1931) noted that Hieronymus, having noticed his variety was of a homonymic species name. He renamed the species as *Stevia soratensis*, but also failed to transfer the variety. Robinson (1931: 15–16) considered he had provided the 'correct nomenclatural status', failing to note Hieronymus' combination was perfectly valid.

Stevia stenocephala Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud.
(based on Mandon 245, p.p.) = ***Stevia soratensis*** Hieron.

****Stevia stuebelii*** Hieron., Bot. Jahrb. Syst. 21(4): 328 (1896). Type: 'Bolivia: crescit supra Taca in valle Yungas, ubi floret mense Decembri ([*Stübel*] coll. bol. n. 52d).' Holotype: B†; isotype: GH (12906 – fragment of holotype).
Stevia amplexicaulis Beauverd ex Herzog, Pflanzenw. Bolivischen Anden : 144 (1923), nom. nud., non Hassler (1912)
Bolivia (La Paz, Santa Cruz). Note: Herzog's discussion would place his collection at El Fuerte, Samaipata. 2200 m.

Stevia tapacariensis* Hieron., Bot. Jahrb. Syst. 22(4–5): 734 (1897) = *Stevia bangii*** Rusby

****Stevia tarijensis*** Hieron., Bot. Jahrb. Syst. 40(3): 362 (1908). Type: 'Bolivia: habitat ad rupes in jugis montium Cuesta Vieja prope Yesera in orientem versus ab urbe Tarija, alt. s. m. 3000 m (K. FIEBRIG n. 2647; 23. m. Jan. 1904).' Holotype: B†; isotypes: GH (12908, 12909), S, US (01157813).
Stevia bangii Beauverd ex Herzog, Pflanzenw. Bolivischen Anden : 228 (1923), nom. nud., non Rusby (1895).
Argentina, Bolivia (Tarija).
Puna.
3000–4000 m.
January–February.

Note: Cabrera (1978: 70) noted that this species was very similar to the polymorphic *S. chamaedrys*, as well as sometimes confused with *S. minor*, an Argentinean species.

****Stevia totoensis*** B. L. Rob., Contr. Gray Herb. 96: 16 (1931). Type: 'BOLIVIA: Dept. Cochabamba: Prov. Totora: Bucona, alt. 3000 m., Mar. 28, 1920, J. Steinbach, no. 3953'. Holotype: B†; isotype: GH (12911 – fragment of holotype with photograph).

Bolivia (Cochabamba).
3000 m.
March–April.

****Stevia triaristata*** Hieron., Bot. Jahrb. Syst. 40(3): 358 (1908). Type: 'Bolivia: specimen collectum est in parte australi reipublicae loco accuratius non indicato (FIEBRIG n. 3541; 31. m. Mart. 1904).' Holotype: B†; isotype: GH (12912 – fragment of holotype with photograph).
Bolivia (?Tarija).
March–April.

****Stevia tunariensis*** Hieron., Bot. Jahrb. Syst. 22(4–5): 713 (1897). Type: 'Bolivien: bei Tunari um 3000 m Höhe über Meer (O. Kuntze, April, Mai 1892).' Holotype: B†; ?isotype: NY (00260210).
Bolivia (Cochabamba).
3000 m.
April–May.

Stevia urticifolia [as *urticaefolia*] Billb. in Thunb., Pl. Bras. 1: 13 (1817). Type: [Brazil:] 'Crescit in montibus circa Villam Ricam.' Holotype: UPS-THUNB. Note: Sheet 18877 in the Thunberg Herbarium has Herb. Westin written at the top of the sheet. Additional script reads 'Villa Rica. Brasilus. Westin./in Montibus. Augusto. Freyreys.', suggesting that Freyreys was the collector.
Bolivia (?), Brazil, Peru. [Note: Apparently, according to Robinson (1932: 44), the typical variety has not been found in Bolivia.]
1000–3000 m.

****Stevia urticifolia*** Billb. var. ***boliviensis*** (Hieron.) B. L. Rob., Contr. Gray Herb. 100: 44 (1932).
Stevia clausenii var. *boliviensis* Hieron., Bot. Jahrb. Syst. 22(4–5): 723 (1897). Type: 'Bolivien: an nicht genauer angegebenen Orte (O. KUNTZE. 13/21. April 1892).' Holotype: B†; isotype: GH (12818 – fragment of holotype), NY (00260161).
Bolivia (Cochabamba).

****Stevia urticifolia*** Billb. var. ***pallidiflora*** B. L. Rob., Contr. Gray Herb. 96: 16 (1931). Type: 'BOLIVIA: without stated locality, but probably from the Yungas region, Bang, no. 2877'. Syntypes: GH (12913), NY (00260211, 00260212), US (01418837).
Bolivia (La Paz).

****Stevia vaccinioides*** J. Koster, Blumea 5(3): 646 (1945). Type: 'Hab.: an Felsen des "Fuerte" bei Samaipata, circa 1900 m alt., März 1911, Bl. weiss, [Herzog] n. 1770.' Holotype: L; isotype: S.
Bolivia (Santa Cruz).
1900 m.
March.

Stevia yaconensis Hieron., Bot. Jahrb. Syst. 22(4–5): 724 (1897). Type: [Argentina] 'Salta: auf Wiesen der montanen Region bei der Estancia Yacone am Fuß des Nevado del Castillo (LOR. u. HIERON., März 1873) und in der Quebrada de San Lorenzo unweit der Stadt Salta (LOR. u. HIERON., März 1873, n. 539).' Syntypes: B†. Isosyntype (Lorentz & Hieronymus 539): GH (12916 – fragment of holotype and 2 type photographs).
Argentina, Bolivia (? Tarija).
Represented only by the following variety:

****Stevia yaconensis*** Hieron. var. ***subeglandulosa*** Hieron., Bot. Jahrb. Syst. 40(3): 366 (1908). Type: 'Bolivia: in declivibus graminosis prope Toldos haud procul a pago Bermejo, alt. s. m. 1800 m (K. FIEBRIG n. 2330; 3. m. Dec. 1903).' Holotype: B†.
Argentina, Bolivia (? Tarija).
Woodland, 'bosques de aliso' [= *Tessaria integrifolia*].
1000–2200 m.
November–December (–May).

Stilpnopappus Mart. ex DC., Prodr. 5: (1836).

Stilpnopappus aquaticus (Poepp.) M. O. Dillon, Fieldiana, Bot. n.s. 1: 44 (1982) = **Xiphochaeta aquatica** Poepp.

Stilpnopappus glomeratus Gardner, London J. Bot. 6: 423 (1847) = **Strophopappus glomeratus** (Gardner) R. L. Esteves

Stilpnopappus pohlii Baker in Mart., Fl. Bras. 6(2): 139 (1873) = **Strophopappus pohlii** (Baker) R. L. Esteves

Stilpnopappus sellowianus Krasch., Not. Syst. Herb. Petrop. 3: 158 (1922) = **Strophopappus speciosus** (Less.) R. L. Esteves

Stilpnopappus patulus Mart., Flora 24(2), Beibl.: 109 (1841) = **Strophopappus speciosus** (Less.) R. L. Esteves

Stilpnopappus sellowianus Krasch., Not. Syst. Herb. Petrop. 3: 158 (1922) = **Strophopappus speciosus** (Less.) R. L. Esteves

Stilpnopappus speciosus (Less.), Baker in Mart., Fl. Bras. 6(2): 138 (1873) = **Strophopappus speciosus** (Less.) R. L. Esteves

Stilpnopappus viridis Benth. ex Baker in Mart., Fl. Bras. 6(2): 137 (1873), nom. illegit. superfl. pro **Xiphochaeta aquatica** Poepp. = **Xiphochaeta aquatica** Poepp.

Stomatanthus R. M. King & H. Rob., Phytologia 19(): 430 (1970).

Type: *Eupatorium africanum* Oliv. & Hiern = *Stomatanthus africanum* (Oliv. & Hiern) R. M. King & H. Rob.

Stomatanthus dentatus (Gardner) H. Rob., Phytologia 20(): 336 (1970).

**Eupatorium dentatum* Gardner, London J. Bot. 6: 443 (1847). Type: 'HAB. Dry upland grassy Campos near Villa de Arrayas, Province of Goyaz. March, 1840.' [Gardner] 3833. This was recorded in Foster's list (Foster, 1958: 208), and by Robinson (1920), although R. M. King & H. Robinson (1987) did not record the species, or any other, for Bolivia. Material will have to be checked carefully. Types: BM, K, NY (00168943, 00168944).

Eupatorium tetranthum Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 337 (1876), nom. nud. pro syn.

Bolivia (Santa Cruz), Brazil.

Stomatanthus trigonus (Gardner) H. Rob., Phytologia 20(): 337 (1970).

Eupatorium trigonum Gardner, London J. Bot. 6: 446 (1847). Type: 'HAB. Upland campos, Mission of Duro, Province of Goyaz. Oct. 1839.' [Gardner] 3270. Types: BM, K, NY (00169249, 00169250, 00169251).

Bolivia (Santa Cruz), Brazil.

Rocky soils in open grassland.

500 m.

October–December

Strongylosperma Less., Syn. Gen. Compositae: 261 (1832) = **Cotula** L.

Strongylosperma australe (Sieber ex Spreng.) Less., Syn. Gen. Compositae : 261 (1832) = **Cotula australis** (Sieber ex Spreng.) Hook. f.

Strophopappus DC., Prodr. 5: 75 (1836).

Type: **Strophopappus bicolor** DC.

References

Carrizo, T. T., Mendonça, C. B. F., Esteves, R. L. & V. Gonçalves-Esteves. (2005). Palinotaxonomia de espécies de *Stilpnopappus* Mart. ex DC. e *Strophopappus* DC. (Compositae). Hoehnea 32(2): 259–268.

Esteves, R. L. (1994). Restabelecimento do gênero *Strophopappus* Mart. ex DC. (Compositae-Vernonieae). I. Bradea 6(32): 274–279.

Esteves, R. L. (2003). Redelimitação de *Stilpnopappus* Mart. ex DC. (Vernonieae-Asteraceae). Bradea 9(14): 77–92.

Key to species

1. Stems simple below; plants often forming broad clumps; capitula 10–12-flowered; leaf surface bullate; leaf apices subacute *S. pohlii*

- Poorly- to well-branched shrubs; plants erect shrubs; capitula 5–10 flowered; leaves flat, leaf apices obtuse 2
2. Capitula medium sized, 9–10-flowered; *S. glomeratus*
 Capitula large sized, 5–7-flowered; *S. speciosus*

Strophopappus glomeratus (Gardner) R. L. Esteves, *Bradea* 6: 279 (1994), comb. illegit. = ***Strophopappus glomeratus*** (Gardner) R.L. Esteves

Strophopappus glomeratus (Gardner) R. L. Esteves, *Bradea* 9(14): 83 (2003).

Stilpnopappus glomeratus Gardner, *London J. Bot.* 6: 423 (1847). Type: 'HAB. Upland Campos near Nossa Senhora d'Abadia. Province of Goyaz. May, 1840. [Gardner] 4189'. Lectotype (selected by Esteves 2003: 83): Gardner 4189 – K (ex Herb. Hookerianum); isolectotype: B†, BM, BR, K (ex Herb. Benthianum), NY 00260213).

Strophopappus glomeratus (Gardner) R. L. Esteves, *Bradea* 6: 279 (1994), comb. illegit. Bolivia (Santa Cruz), Brazil.

Strophopappus pohlii (Baker) R. L. Esteves, *Bradea* 6(32): 279 (1994), comb. illegit. = ***Strophopappus pohlii*** (Baker) R.L. Esteves

Strophopappus pohlii (Baker) R. L. Esteves, *Bradea* 9(14): 83 (2003).

Stilpnopappus pohlii Baker in *Mart.*, *Fl. Bras.* 6(2): 139 (1873). Types: 'Habitat porv. Goyaz ad margines viarum inter Caretão et Crixas: *Pohl*; in prov. Mato Grosso ad Cuiaba: *Manso*.' Lectotype (selected by Esteves, 2003: 83): *Manso* 42 - BR. Isosytype: *Pohl* - NY (00260215).

Strophopappus pohlii (Baker) R. L. Esteves, *Bradea* 6(32): 279 (1994), comb. illegit. Bolivia (Santa Cruz), Brazil.

Campo rupestre, cerrado, rocky slopes.

560–1055 m.

October–April.

Strophopappus sellowianus Sch.Bip. ex Krasch., *Not. Syst. Herb. Petrop.* 3: 158 (1922), nom. nud. pro syn. = ***Strophopappus speciosus*** (Less.) R. L. Esteves

Strophopappus speciosus (Less.) Stuntz, U.S. Dept. Agric. Bur. Pl. Industr., *Invent. Seeds Pl. Import. Bull.* 31: 87 (1914), nom. illegit. pro syn. = ***Strophopappus speciosus*** (Less.) R. L. Esteves

Strophopappus speciosus (Less.) R. L. Esteves, *Bradea* 6(32): 279 (1994), nom. illegit. pro syn. = ***Strophopappus speciosus*** (Less.) R.L. Esteves

Strophopappus speciosus (Less.) R. L. Esteves, *Bradea* 9(14): 84 (2003).

Vernonia speciosa Less., *Linnaea* 4(3): 290 (1829). Type: 'E Brasilia tropica misit *Sellow* spec. 1.' Holotype: B†. Neotype (selected by Esteves, 2003: 84): *Regnell* III-818, S; isoneotypes: BR, R.

Stilpnopappus speciosus (Less.), Baker in *Mart.*, *Fl. Bras.* 6(2): 138 (1873).

Stilpnopappus patulus Mart., *Flora* 24(2), *Beibl.*: 109 (1841), nom. illegit. citing *Vernonia speciosa* Less. in synonymy. Note: Esteves (2003: 84) evidently selected a lectotype for this name: *Martius* 323 - M; isolectotypes: K, ?NY, P.

Stilpnopappus sellowianus Krasch., *Not. Syst. Herb. Petrop.* 3: 158 (1922). Type: 'Brasilia: In campis siccis pr. Batataes, Iun. 1834; No. 2248 (*Riedel*).' Note: Lectotype (selected by Esteves, 2003: 84): *Riedel* 684, LE; isolectotype: P. However, the lectotype chosen by Esteves was not the cited specimen in Kraschenninikov's protologue, which effectively called for a holotype, since he specified he studied the material in the Komarov Institute (as l'Herbier General du Jardin Botanique de Petrograde').

Strophopappus sellowianus Sch.Bip. ex Krasch., *Not. Syst. Herb. Petrop.* 3: 158 (1922), nom. nud. pro syn.

Strophopappus speciosus (Less.) Stuntz, U.S. Dept. Agric. Bur. Pl. Industr., *Invent. Seeds Pl. Import. Bull.* 31: 87 (1914), nom. illegit. pro syn.

Strophopappus speciosus (Less.) R. L. Esteves, *Bradea* 6(32): 279 (1994), comb. illegit.

Bolivia (Santa Cruz), Brazil.

'Chaparral esclerófilo de la Meseta de Huanchaca', (sclerophyllous cerrado woodland), campos rupestres, cerrado.

180–570 m.

March–August.

Struchium P.Br., Civ. Nat. Jamaica : 312, t. 34 (1756).

Athenaea Adans., Fam. 2: 121 (1763), non Sendtn. [SOLANACEAE], nom. cons.

Sparganophorus [Vaill. ex] Beohm. in Ludwig, Defin. Gen. Pl., ed. Boehm., ed. 3, 154, 560 (1760).

Sparganophorus Vaill. ex Crantz, Inst. 1: 261 (1873). Type: *Sparganophorus vaillantii* Crantz, nom. illegit. =

Struchium sparganophorum (L.) Kuntze

Type: *Struchium herbaceum* P. Browne ex J. St. Hil., *Ethulia struchium* Sw. = **Struchium sparganophorum** (L.) Kuntze

Struchium africanum P. Beauv., Fl. Owar. 1: 81, t. 48 (1804) = **Struchium sparganophorum** (L.) Kuntze

Struchium americanum Poir., Encycl. 7: 475 (1806) = **Struchium sparganophorum** (L.) Kuntze

Struchium herbaceum P. Browne ex J. St. Hil., Expos. Fam. 1: 406 (1805) = **Struchium sparganophorum** (L.) Kuntze

Struchium sparganophorum (L.) Kuntze, Revis. Gen. Pl. 1: 366 (1891).

Ethulia sparganophora L., Sp. Pl., ed. 2 :1171 (1763). Type: 'Habitat in India.' Lectotype (selected by Hind in Jarvis & Turland, 1998: 360): [icon] 'Sparganophoros Virgae aureae folio, floribus w foliorum alis, absque pediculis' in Vaillant in Mém. Acad. Roy. Sci. Paris 1719: 309, t. 20, f. 35 (1719). Epitype (selected by Hind in Jarvis & Turland, 1998: 360): 'Guadeloupe. Basse-Terre, near Grand Etang, 400-425 m, 27 Nov 1950, Proctor 20182', BM-000576316. See augmented explanation for these choices in Jarvis, 2007: 507.

Sparganophorus vaillantii Crantz, Inst.1: 261 (1766), nom. illegit. superfl., based on *Ethulia sparganophora* L.

Struchium herbaceum P. Browne ex J. St.-Hil., Expos. Fam. Nat. 1(2): 406 (Feb.–Apr. 1805). Type: 'Habitat la Jamaïque.'

Struchium africanum P. Beauv., Fl. Owar. 1(5): 81, t. 48 (May 1805). Type: 'OBS. Sur les bords du fleuve Formose, royaume d'Oware.' Holotype: ?

Ethulia struchium Sw., Fl. Ind. Occ. 3: 1297 (1806). Type: 'Provenit in subhumidis, adque ripas graminosis fluviorum Jamaicae. ♀.' Holotype: ?

Sparganophorus fasciatus Lam. ex Poir., Encycl. 7: 302 (1806), nom. illegit. superfl. based on *Ethulia sparganophora* L.

Struchium americanum Poir., Encycl. 7: 475 (1806), nom. illegit. superfl. based on *Ethulia struchium* Sw.

Sparganophorus struchium Pers., Syn. Pl. 2: 398 (1807). Type: 'Hab. in Jamaicae subhumidis.' Holotype: ?

Sparganophorus fasciculatus Steud., Nom. Bot. 1: 801 (1821), orth. var. of *Sparganophorus fasciatus* Lam. ex Poir.

Sparganophorus africanus (P. Beauv.) Steud., Nom. Bot. 1: 801 (1821).

Sparganophorus fuscatus Steud., Nom. Bot., ed. 2, 2: 614 (1841), orth. var. of *Sparganophorus fasciatus* Lam. ex Poir.

Sparganophorus vaillantii Crantz var. *longifolius* Griseb., Cat. Pl. Cub. : 143 (1866). Type: [Cuba:] 'Wr[ight]. 2783.' Holotype: GOET; isotype: K.

Sparganophorus sparganophora (L.) C. Jeffrey, Kew Bull. 43(2): 272 (1988), comb. illegit.

Belize, Bolivia (Cochabamba, La Paz, Santa Cruz), Brazil, Cuba, India, Jamaica, Panama, Peru. Pantropical.

Open woodland, wet areas in riverine forests, margins of seasonally flooded areas.

0–1200 m.

September–February.

Vernacular name: NOIVINHA (Cabrera & Klein, 1980).

Stuckertiella Beauverd, Bull. Soc. Genève, sér. 2, 5: 205 (1913).

Type: **Stuckertiella capitata** (Wedd.) Beauverd

References

Beauverd, G. (1913). Le genre *Stuckertiella* Beauverd, gen. nov., Bull. Soc. Genève, sér. 2, 5: 205–209.

Dillon, M. O. & A. Sagástegui-Alva. (1991). *Stuckertiella*. In: J. F. Macbride & collab., Flora of Peru, Family Asteraceae: Part V. Fieldiana, Bot. n.s. 26 (1422): 62–65.

***Stuckertiella capitata** (Wedd.) Beauverd, Bull. Soc. Bot. Genève, sér. 2, 5(5): 206 (1913).

Gamochaeta capitata Wedd., *Chloris Andina* 1: 153 (1856). Types: 'Hab. PÉROU!: montagnes du département de Cuzco (Gay). – BOLIVIE: lieux humides, aux environs de Pomabamba! prov. de Tomina, dans la région sous-alpine (Wedd.). Syntypes: P. Note: Without specifying that there were other syntypes, Dillon & Sagástegui (1991: 63) stated that the 'holotype', Gay s.n., was in P, with a fragment in F.

Gnaphalium capitatum (Wedd.) Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 186 (March–April 1879); *Symb. Fl. Argent.* : 186 (1879), comb. illegit., non Lam. (1786), nec Thunb. (1799).

Gnaphalium weddellianum Rusby, *Mem. Torrey Bot. Club* 3(3): 57 (1893), nom. nov. pro *Gnaphalium capitatum* (Wedd.) Griseb.

**Gnaphalium weddellianum* Rusby var. *nanum* Cuatrec., *Pl. Iserniana* 1: 225 (1935). Type: 'Bolivia: cercanías de La Paz, 4-VII-1863 ([Isern] núm. 349).' Holotype: MA.

Gamochaeta weddelliana (Rusby) Anderb., *Opera Bot.* 104: 157 (1991).
Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz), Peru.
Moist ground, sandy roadsides.
2000–4000 m.
November–July.

Stylimnus Raf., *J. Phys. Chim. Hist. Nat. Arts* 89: 100 (1819) = **Pluchea** Cass.

Symphotrichum Nees, *Gen. Sp. Aster.* : 135 (1832)[1833]

Virgaria Raf. ex DC., *Prodr.* 5: 243 (1836), nom. nud. pro syn.

Tripolium Nees sect. *Oxytripolium* DC., *Prodr.* 5: 253 (1836). Lectotype (selected by Jones, 1980): *Aster tenuifolius* L. = *Symphotrichum tenuifolium* (L.) G. L. Nesom

Aglotoma Raf., *Fl. Tellur.* 2: 44 (1836)[1837]. Type: based on *Aster multiflorus* Ait., but no combination made in *Aglotoma*.

Mesoligus Raf., *Fl. Tellur.* 2: 44 (1836)[1837]. Type: *Aster subulatus* Michx. = *Mesoligus subulatus* (Michx.) Raf. = *Symphotrichum subulatum* (Michx.) G. L. Nesom

Virgulus Raf., *Fl. Tellur.* : 46 (1836)[1837]. Type: based on *Aster concolor* L., but no combination made in *Virgulus*. Lectotype (selected by Reveal & Keener, 1981: 649): *Virgulus concolor* (L.) J. L. Reveal & C. S. Keener

Fimbristima Raf., *Fl. Tellur.* 2: 46 (1836)[1837]. Lectotype (selected by Neson, 1994: 271): *Aster squamatus* (Spreng.) Hieron. = *Fimbristima squamata* (Spreng.) Raf. = ***Symphotrichum squamatum*** (Spreng.) G. L. Nesom

Tripolium Nees subgen. *Astropolium* Nutt., *Trans. Amer. Philos. Soc.* 2(7): 295 (1840). Lectotype (selected by Sundberg, 1986): *Aster tenuifolius* L. = *Symphotrichum tenuifolium* (L.) G. L. Nesom

Aster L. subgen. *Oxytripolium* (DC.) Torrey & A. Gray, *Fl. N. Amer.* 2: 161 (1841).

Aster L. sect. *Conyzopsis* Torrey & A. Gray, *Fl. N. Amer.* 2: 162 (1841). Type: not stated.

Brachyactis Ledeb., *Fl. Ross.* 2: 495 (1845). Type: *Brachyactis ciliata* (Ledeb.) Ledeb. = *Symphotrichum ciliatum* (Ledeb.) G. L. Nesom

Aster L. sect. *Heterastrum* Benth. & Hook. f., *Gen. Pl.* 2: 273 (1873). Lectotype (selected by Neson, 1994: 270): *Aster vahlii* Gaudich. = ***Symphotrichum vahlii*** (Gaudich.) G. L. Nesom

Aster L. subgen. *Conyzopsis* (Torrey & A. Gray) A. Gray, *Proc. Amer. Acad. Arts* 16: 99 (1880).

Lasallea Greene, *Leafl. Bot. Observ. Crit.* 1: 5 (1903). Type: not stated.

Conyzanthus Tamasch., *Fl. U.R.S.S.* 24: 583 (1959). Type: *Aster squamatus* (Spreng.) Hieron. = *Conyzanthus squamatus* (Spreng.) Tamamsch. = ***Symphotrichum squamatum*** (Spreng.) G. L. Nesom

Aster L. subgen. *Virgulus* (Raf.) A.G. Jones, *Brittonia* 32(2): 233 (1980).

Aster L. subgen. *Symphotrichum* (Nees) A.G. Jones, *Brittonia* 32(2): 234 (1980).

Aster L. subgen. *Ascendentes* (Rydb.) Semple, *Phytologia* 58(7): 430 (1985), based on *Aster* sp. –group *Ascendentes* Rydb.

Virgulaster Semple, *Phytologia* 58(7): 430 (1985). Type: *Aster ascendens* Lindl. = *Virgulasater ascendens* (Lindl.) Semple = *Symphotrichum ascendens* (Lindl.) G. L. Nesom

Type: *Symphotrichum unctuosum* Nees (= *Symphotrichum novi-belgi* (L.) G. L. Nesom)

Note: Neson (2005) was of the opinion that the lumping proposed by Sundberg (2004) was unacceptable and maintained Sundberg's subspecies as distinct species, a treatment accepted here. All Bolivian species belong to *Symphotrichum* sect. *Oxytripolium* (DC.) G. L. Nesom (qv. Neson, 1994: 270–271).

References

Ariza Espinar, L. (2001). Notas nomenclaturales en Asteraceae Argentinas. *Bol. Soc. Argent. Bot.* 36(1–2): 159–160.

Nesom, G. L. (1994). Review of the taxonomy of *Aster* sensu lato (Asteraceae: Astereae), emphasizing the New World species. *Phytologia* 77(3): 141–297.

Nesom, G. L. (2000). Generic conspectus of the tribe Astereae (Asteraceae) in North America, Central America, the Antilles and Hawaii. *Sida, Bot. Misc.* 20: 1–100.

Nesom, G. L. (2005). Taxonomy of the *Symphytotrichum* (*Aster*) *subulatum* group and *Symphytotrichum* (*Aster*) *tenuifolium* (Asteraceae: Astereae). *Sida* 21(4): 2125–2140.

Reveal, J. L. & C. S. Keener. (1981). *Virgulus* Raf. (1837), an earlier name for *Lasallea* Greene (1903) (Asteraceae). *TAXON* 30(3): 648–651.

Sundberg, S. D. (2004). New combinations in North American *Symphytotrichum* subgenus *Astropolium* (Asteraceae: Astereae). *Sida* 21(2): 903–910.

Symphytotrichum graminifolium (Spreng.) G. L. Nesom, *Phytologia* 77(3): 283 (Sept. 1994)[1995].

Conyza graminifolia Spreng., *Syst. Veg.*, ed. 16, 3: 515 (1826). Type: [Uruguay:] 'Monte Video. Sello.' Holotype: P.

**Aster divaricatus* (Nutt.) Torrey & A. Gray var. *graminifolius* (Spreng.) Baker in Mart., *Fl. Bras.* 6(3): 22 (1882).

Aster squamatus (Spreng.) Hieron. var. *graminifolius* (Spreng.) Hieron., *Bot. Jahrb. Syst.* 29(1): 19 (1900*).

[*Note: See Reference section concerning problem with date of publication]

Conyzanthus graminifolius (Spreng.) Tamamsch., *Fl. URSS* 25: 186 (1959).

Aster cabreriae Ariza, *Bol. Soc. Argent. Bot.* 36(1–2): 159 (2001), as nom. nov. pro *Conyza graminifolia* Spreng..

Note: Ariza Espinar (2010: 159) held that a new name (albeit in *Aster*) was required since Sprengel's name in *Conyza* was a later homonym of Pursh and of Kuntze, although neither of these publications was cited nor the placement of these taxa today provided. I have only been able to find *Flora Americae Septentrionalis* (1814) published by Pursh which does not use this name under *Conyza*. Since Kuntze's combination would antedate that of Sprengel quite considerably it is of no consequence.

Argentina, Bolivia (La Paz, Santa Cruz), Uruguay. Note: Listed by Foster (1958: 203), its presence in Bolivia was based on *Rusby* 1712, although Britton commented that he was adopting the name sensu Baker and that the material was different from that in North America (of *Aster divaricatus*).

Disturbed ground, roadsides, path margins.

300–400 m.

September–May, although probably flowering throughout the year in the right conditions.

Symphytotrichum squamatum (Spreng.) G. L. Nesom, *Phytologia* 77(3): 292 (1994)[1995].

Conyza squamata Spreng., *Syst. Veg.*, ed. 16, 3: 515 (1826). Type: 'Monte Video. Sello.'

Erigeron semiamplexicaule Meyen, *Reise um die Erde* 1: 311 (1834). Type: not stated. [Walper in *Observat. Bot.* : 260 (1843) cited 'Chile: Cordillera de S. Fernando. (v.s.)'] Holotype: B†.

Baccharis asteroides Bertero ex Colla, *Mem. Reale Accad. Sci. Torino* 38(4–5): 14 (1835). Type: 'Habitat Chili in pascuis Rancagua.' Holotype: TO.

Tripolium ? subulatum (Michx.) Nees ***** [symbols of unspecified rank] *brasilianum* DC., *Prodr.* 5: 254 (1836), nom. inval.

Tripolium conspicuum Lindl. ex DC., *Prodr.* 5: 254 (1836). Types: '(Lindl. obs. mss. 1835) ... *Baccharis asteroides* Bert.! n. 83 et 828 [sic! – 818 on label!], in pascuis et hortis circa Rancagua et Valparaiso lecta. (v.s.)'.

Syntypes: G-DC. Note: In addition to the two Bertero collections there is a *Gaudichaud* collection which is unnumbered and unlocalized.

Conyza berteroana Phil., *Linnaea* 28: 737 (1836). Types: 'Cl. Bertero specimina duo in herb. chil. reliquit, hoc retulo: „*Baccharis asteroides* Bert., a genere differt, an *Aster?* ad fossas, locis aquosis, inque hortis ruderibusque Bancaquae“, ...' Pizarro (1960: 138) cited only 'Se halla en Rancagua', with only one specimen in SGO – 65048.

Aster subtropicus Morong, *Ann. New York. Acad. Sci.* 7: 139 (1893). Type: [Paraguay:] 'Near Asuncion ([Morong] 620). March.' Holotype: NY (00162133); isotype: (00622177).

Aster asteroides (Colla) Rusby, *Mem. Torrey Bot. Club* 4(3): 213 (1893).

- Tripolium moelleri* Phil., Anales Univ. Chile 87: 403 (1894). Type: 'In praedio Renaico dicto prov. Biobio amicissimi doctoris Petri Möller locis humidis inveni.' ['Lo he encontrado en el fundo Renaico, de la provincia de Bío-Bío, de mi gran amigo el Dr. Pedro Möller, en lugares húmedos.' 44749, 65044, 71233 - SGO. Pizarro, 1960: 164.]
- Tripolium oliganthum* Phil., Anales Univ. Chile 87: 403 (1894). Type: 'Habitat in litore prope Lebu, et prope Valdivia; locis humidis, porro ad lacum Lacar et Huechulafquen (*Otto Philippi*).' Holotype: SGO.
- Erigeron depile* Phil., Anales Univ. Chile 87: 417 (1894). Type: 'Specimen unicum Martio 1886 in alveo rivuli prov. O'Higgins, ad *Marcel* inveni.' ['He hallado un solo ejemplar en marzo de 1886 en el lecho de un río de la provincia de O'Higgins, en Marcel (Mansel).'] 65133 - SGO. Pizarro, 1960: 140]
- Aster bangii* Rusby, Mem. Torrey Bot. Club 4(3): 213 (1895), as nom. nov. pro. *Tripolium conspicuum* Lindl. ex DC.
- Aster squamatus* (Spreng.) Hieron., Bot. Jahrb. Syst. 29(1): 19 (1900*). [*Note: See Reference section concerning problem with date of publication]
- Aster moelleri* (Phil.) Reiche, Anales Univ. Chile 109: 338 (1901).
- **Aster exilis* Elliott f. *subalpinus* R. E. Fr., Ark. Bot. 5(13): 12 (1906). Type: [Bolivia:] 'Junaca pr. Tarija, loco humido ad ripam rivuli iin regione subalpina, ca. 2500 m. s. m. [²⁸/202; *Fr[ies]*. 1316].' Holotype: S.
- Aster barcinonensis* Sennen, Bull. Géogr. Bot. 24(Nos. 295-297): 242 (1914). Type: [Spain:] 'Catalogne: Prat de Llobregat, dans les terrains salés ou saumâtres, entre la Ricarda et la mer. [*Frère Sennen*].' Holotype: ?
- Conyzaanthus squamatus* (Spreng.) Tamamsch., Fl. U. R. S. S. 25: 186 (1959).
- Symphiotrichum squamatum* (Spreng.) G. L. Nesom var. *squamatum* (Spreng.) S. D. Sundb., Sida 21(2): 908 (2004).
- According to Nesom (2005: 2135) 'Native to South America and apparently widely distributed there; rare in California and the southeastern USA Naturalized in Australia, Japan, Iraq, Africa, France and probably other regions of the world. ...' Bolivia (Santa Cruz).
- Widespread as a weed of disturbed ground, roadsides.
- 1885 m.
- March-May, although probably flowering throughout the year in the right conditions.
- Note: It is quite probable that the reference to *Aster exilis* Ell. in Foster (1958: 203) should be as *Aster exilis* sensu auctt., non Ell., and is referable to *Symphiotrichum squamatum*; it may also be referable to *S. graminifolium*.
- Vernacular names: MATA NEGRA, RAMA NEGRA, UOGOÑI (Freire et al., 2006).
- Symphiotrichum squamatum* (Spreng.) G. L. Nesom var. *squamatum* (Spreng.) S. D. Sundb., Sida 21(2): 908 (2004) = ***Symphiotrichum squamatum*** (Spreng.) G. L. Nesom
- Symphiotrichum vahlii*** (Gaudich.) G. L. Nesom, Phytologia 77(3): 294 (1994).
- Erigeron vahlii* Gaudich., Ann. Sci. Nat., Paris 5: 103 (1825). Type: not cited, except that in the table above the description the species is one of a few collected in 'Détroit de Magellan', and the introduction to the paper indicates that Gaudichaud collected the material on les Melouines (= Falkland Islands). Holotype: P.
- **Aster vahlii* (Gaudich.) Hook. & Arn., Companion Bot. Mag. 2: 49 (1836).
- Tripolium tenuifolium* Phil., Anales Univ. Chile 87: 404 (1894). Type: 'Ad lacum Ranco januario 1887 ab O. *Philippi* lectum est.' Pizarro (1960: 164) cited sheets 65041 and 44748 in SGO.
- Aster vahlii* (Gaudich.) Hook. & Arn. var. *tenuifolius* (Phil.) Cabrera, Revista Chil. Hist. Nat. 40: 227 (1936).
- Oritrophium vahlii* (Gaudich.) Cuatrec., Webbia 24: 89 (1969).
- Symphiotrichum vahlii* (Gaudich.) G. L. Nesom var. *tenuifolium* (Phil.) G. L. Nesom, Phytologia 77(3): 294 (1994)
- Argentina, Bolivia (Cochabamba), Chile. Note: Foster (1958: 203) cited *Aster vahlii* for Bolivia based on *Bang* 940 and *Rusby* 2720, although *Rusby* (1893: 54) noted further study was needed.
- Disturbed ground.
- Symphiotrichum vahlii* (Gaudich.) G. L. Nesom var. *tenuifolium* (Phil.) G. L. Nesom, Phytologia 77(3): 294 (1994) = ***Symphiotrichum vahlii*** (Gaudich.) G. L. Nesom
- Synedrella*** Gaertn., Fruct. Sem. Pl. 2: 456 (1791).
- Ucacou* Adans., Fam. Pl. 2: 131 (1763), nom. rej.

Type: *Verbesina nodiflora* L. = **Synedrella nodiflora** (L.) Gaertn.

References

Robinson, H. (2006). *Synedrella*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(2): 190(6). Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 130–133.

Turner, B. L. (1994). Taxonomic study of the genus *Synedrella* (Asteraceae, Heliantheae). *Phytologia* 76(1): 39–51.

Synedrella nodiflora (L.) Gaertn., *Fruct. Sem. Pl.* 2: 456 (1791).

Verbesina nodiflora L., *Cent. I. Pl.* : 28 (1755). Type: 'Habitat in Caribaeis.' Type: not yet designated.

Ucacou nodiflorum (L.) Hitchc., *Ann. Rep. Missouri Bot. Gard.* 4: 100 (1893).

A pantropical weed, widespread in S America. Bolivia (Bení, La Paz, Pando).

Roadsides, paths, cultivated areas, disturbed ground, dry evergreen forest, scrub.

0–1500 m.

Flowering throughout the year.

Synedrellopsis Hieron. & Kuntze, *Revis. Gen. Pl.* 3(3): 180 (1898), nom. illegit. = **Synedrellopsis** Hieron. ex Kuntze ex Hoffm.

Synedrellopsis grisebachii Hieron. & Kuntze, *Revis. Gen. Pl.* 3(3): 180 (1898), nom. illegit. = **Synedrellopsis grisebachii** Hieron. & Kuntze ex Hoffm.

Synedrellopsis Hieron. & Kuntze ex O. Hoffm., *Nat. Pflanzenfam. Nachträge zu Teil IV, Abteilung 5. Lieferung 163*: 325 (Nov. 1897).

Synedrellopsis Hieron. & Kuntze, *Revis. Gen. Pl.* 3(3): 180 (1898), nom. illegit. later homonym but based on the same material.

Type: **Synedrellopsis grisebachii** Hieron. & Kuntze ex O. Hoffm.

Reference

Ariza Espinar, L. (2000). *Synedrellopsis*. In: Prodrómo de la flora fanerogámica de Argentina Central. No. 2. Familia Asteraceae: Tribu Heliantheae. pp. 80–82 (Fig. 27).

Cabrera, A. L. (1978). *Synedrellopsis*. In: Cabrera, A. L. (ed.), Flora de la Provincia de Jujuy, Republica Argentina. Parte X – Compositae. INTA, Buenos Aires. pp. 315–316 & fig. 131.

***Synedrellopsis grisebachii** Hieron. & Kuntze ex O. Hoffm., *Nat. Pflanzenfam. Nachträge zu Teil IV, Abteilung 5. Lieferung 163*: 325 (Nov. 1897). Note: The discussion in Kuntze (1898: 181) suggested that Hoffmann would be placing *Synedrellopsis* close to *Eloira* (= *Delilia*). Hoffmann's account in the *Nachträge* of *Die natürlichen Pflanzenfamilien* was actually published in November 1897, and so has priority over Hieronymus & Kuntze's apparent publication of the name; Hoffmann's effective genero-specific diagnosis is perfectly valid. Hoffmann only referred to the species as coming from Argentina. Since this, when referring to Hieronymus & Kuntze's account, can only refer back to the *Lorentz & Hieronymus* collection this should be taken as the type. Material in NY corresponding to the *Lorentz & Hieronymus* collection is 'Pasaje del Rio Juramense, 18.2.73, *Lorentz & Hieronymus* s.n.'; this has been marked as a 'probable type' by Pruski & Nee. It would be prudent to assign this as the lectotype of *S. grisebachii* Hieron. & Kuntze ex Hoffm. Ariza Espinar (2000: 81), apparently unaware of the nomenclatural problem, referred to the *Lorentz & Hieronymus* collection as *Lorentz & Hieronymus* 367, a duplicate of which is in CORD.

Synedrellopsis grisebachii Hieron. & Kuntze, *Revis. Gen. Pl.* 3(3): 180 (1898), nom. illegit., a later homonym based on the same material as *S. grisebachii* Hieron. & Kuntze ex Hoffm. Note: It is clear from the notes in Kuntze (1898: 180–181) that the material on which Hieronymus & Kuntze based their name, which was taken up by Hoffmann in the preceding year, was varied and rich (Kuntze: 'Ich habe ziemlich reiches Material ...'). In their protologue, reference is only made to one collection, that of *Lorentz & Hieronymus* as 'Argentina: Provinz Salta (*Lorentz & Hieronymus* sub nomine *Synedrella nodiflora*)', but they also noted Grisebach's source of material in *Symbolae ad Floram argentinam* (Grisebach, 1879: 197). One of the specimens cited in Grisebach's *Symbolae* was *Balanasa* 869, as 'Paraguay: *Bal.[ansa]* 869.' A duplicate of the

Balansa collection in K gives 'L'Assomption, sur le bord des chemins. Avril 1874.' It is unclear whether Hoffmann would have had access to all of this material in B, and likewise whether any of this material available to Hieronymus & Kuntze should be considered either as original material or syntype material.

Synedrellopsis grisebachii Hieron. & Kuntze ex O. Hoffm. var. *inversa* Hassl., Repert. Spec. Nov. Regni Veg. 14(16/20): 272 (1916). Types: 'Paraguay: [March 1913] Hassler 12549 in regione lacu Ypacaray, [3.III.1903] Fiebrig 953 pr. Itaguá.' Syntypes presumably in G; isosyntypes K.

Synedrellopsis grisebachii Hieron. & Kuntze ex O. Hoffm. f. *reducta* Hassl., Feddes Spec. Nov. Regni Veg. 14(16/20): 272 (1916). Type: 'Balansa 856, l.c. [possibly referring to the locality in the previous variety]' Holotype: G.

Argentina, Bolivia (Chuquisaca, Santa Cruz, Tarija), Brazil, Paraguay. Relatively recently adventive in Australia.

Bosques seco chaqueño, dry grassy roadsides, sandy soil, dry valleys. Sometimes as a lawn weed (in Santa Cruz botanical Garden!).

0–1800 m.

February–May.

Note: It is interesting to note the 'ant association' of this plant in some areas: the ants use the green plant material in their nests and leave/expell the mature achenes around their nest entrance where they are very conspicuous in the cleared areas! In some regions the name *Synedrellopsis grisebachii* has apparently been misapplied to *Calypocarpus vialis* Less.

Synedrellopsis grisebachii Hieron. & Kuntze ex O. Hoffm. var. *inversa* Hassl., Repert. Spec. Nov. Regni Veg. 14(16/20): 272 (1916) = **Synedrellopsis grisebachii** Hieron & Kuntze ex Hoffm.

Synedrellopsis grisebachii Hieron. & Kuntze ex O. Hoffm. f. *reducta* Hassl., Feddes Spec. Nov. Regni Veg. 14(16/20): 272 (1916) = **Synedrellopsis grisebachii** Hieron & Kuntze ex Hoffm.

T

Tafalla D. Don, Edin. New Phil. J. : 273 (1831), non Ruiz & Pav. (1794) = **Loricaria** Wedd.
Tafalla thyoides (Lam.) D. Don, Edin. New Phil. J. : 273 (1831) = **Loricaria thujoides** (Lam.) Sch.Bip.

Tagetes L., Sp. Pl. : 887 (1753).

Diglossus Cass., Dict. Sci. Nat. 13: 241 (1819). *Diglossus variabilis* Cass. = *Tagetes filifolia* Lag.

Enalcida Cass., Bull. Sci. Soc. Philom, Paris 1819: 31 (1819). Type: *Enalcida pilifera* Cass. = *Tagetes coronopifolia* Willd.

Solenotheca Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 371 (1841). Type: *Solenotheca tenella* Nutt. = *Tagetes filifolia* Lag.

Type: *Tagetes patula* L.

References

Ferraro, M. (1955). Las especies argentinas del género *Tagetes* (Compositae). Bol. Soc. Argent. Bot. 6(1): 30–39.

Neher, R. T. (1966). Monograph of the genus *Tagetes* (Compositae). Unpublished PhD thesis. Indiana University, Bloomington, IN.

Robinson, H. (1973). Additions to the genus *Tagetes* (Helenieae, Asteraceae). Phytologia 26(5): 378–380.

Robinson, H. & J. A. Soule. (2006). *Tagetes*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(1): 190(6). Compositae-Heliantheae, Part 1: Introduction, genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 133–154.

Soule, J. A. (1993). Systematics of *Tagetes* (Tageteae: Compositae). Unpublished PhD thesis. University of Texas, Austin, TX.

Soule, J. A. (1993). *Tagetes minuta*: A potential new herb from South America. In: J. Janick & J.E. Simon (eds.), New crops. Wiley, New York. pp. 649–654.

Soule, J. A. (1996). Infrageneric systematics of *Tagetes*. In D.J.N. Hind & H.J. Beentje (eds). Compositae: Systematics. Proceedings of the International Compositae Conference, Kew, 1994. (D.J.N. Hind, Editor-in-Chief), vol. 1. pp. 435–443. Royal Botanic Gardens, Kew.

Specimen citations so far are taken from Neher (1966).

Tagetes andina M. Ferraro, Bol. Soc. Argent. Bot. 6(1): 37 (1955) = **Tagetes multiflora** Kunth

Tagetes anisata Lillo in Zelada, Inform. Dept. Invest. Industr. Univ. Tucumán 8: 8 (1918) = **Tagetes filifolia** Lag.

Tagetes bonariensis Pers., Syn. Pl. 2: 459 (1807) = **Tagetes minuta** L.

Tagetes cabreræ M.Ferraro, Bol. Soc. Argent. Bot. 6(1): 38 (1955) = **Tagetes terniflora** Kunth

Tagetes campanulata Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 188 (1874); Pl. Lorentz.: 140 (1874).

Types: [Argentina] 'Tucuman, in rupibus supra Cienega. Catamarca, in alpinis Vayas alt. 9–11000.'

Syntypes: Lorentz 139, 616, GOET.

Argentina, Bolivia (?), Peru.

Pastures.

2500–3500 m.

Unloc.: Fiebrig 3534 (F, GH, US).

Vernacular names: SUICO; SUICO-VACA (Petenatti & Ariza Espinar, 1997: 27)

Tagetes congesta Hook. & Arn., Bot. Beechey Voy. : 299 (1838) = **Tagetes filifolia** Lag.

***Tagetes daucooides** Schrad., Ind. Sem. Hort. Götting. : 5 (1833). Type: 'Chili.' – according to Linnaea 10 Litteratur-bericht 1835 u. 36: 71 in 'Index seminum horti Academici Gottingensis' (1836). Holotype: ?GOET.

?Bolivia (?), Chile, ?Ecuador. Cited by Foster (1958). Neher (1966: 157) cited this species as only 'Chile and Ecuador'. It may well not be present in Bolivia; the type was cultivated material apparently from Chile, and Neher cited only one other collection, *Spruce* 5790, from Ecuador.

Tagetes dichotoma Turcz., Bull. Soc. Naturalistes Moscou 24(2): 72 (1851) = **Tagetes filifolia** Lag.

Tagetes erecta L., SP. Pl. : 887 (1753). Type: 'Habitat in Mexico.' Lectotype (selected by Howard, Fl. Lesser Antilles 6: 601, 1989): Herb. Linn. 1009.3, LINN.

Tagetes major Gaertn., Fruct. Sem. Pl. 2: 437, t. 172, f. 4 (1791).

Native to Mexico, but very widely cultivated throughout the world, sometimes escaping. Bolivia (Cochabamba).

Tagetes erythrocephala* Rusby, Bull. New York Bot. Gard. 8: 133 (1912) = **Tagetes multiflora Kunth

Tagetes filifolia Lag., Gen. Sp. Pl. : 28 (1816). Type: 'Hab. in Imperio Mexicano. Culta fuit in Reg. M. H. ab an. 1804 ad 1808. Ex seminibus à cel. D. D. Sessé et Mociño allatis. †.' Holotype: MA. Note: Sheet 3929 in the Sessé & Mociño herbarium possesses a capsule on the sheet and no material mounted separately; the sheet is simply labelled '3929/Tagetes minima' on a small label bottom left.

**Tagetes pusilla* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 152 (1818). Type: [Ecuador:] 'Crescit prope Chillo Quitensium, alt. 1340 hex. † Floret Junio.' = ?*T. filifolia* Lag. Holotype: P-Bonpl.

Diglossus variabilis Cass., Dict. Sci. Nat. 13: 241 & 443 (1819). Type: 'Nous avons observé, dans l'herbier de M. de Jussieu, deux échantillons de cette espèce, recueillis au Pérou par Joseph de Jussieu ...' Syntypes: P-JU.

Enalcida pilifera Cass., Bull. Sci. Soc. Philom. Paris 1819: 31 (1819). Type: 'Je décris cette plante sur un petit échantillon sec que m'a donné M. Godefroy, qui l'avait recueilli au jardin de botanique de Rennes, en 1815, et qui ne sait rien de plus sur son origine.' Holotype: ?

Enalcida foeniculifolia Cass., Dict. Sci. Nat. 14: 443 (1819), nom. inval. superfl. pro *E. pilifera* Cass.

Tagetes foeniculacea Desf., Tab. Ecole Bot. 3 [= Catal. Pl. Hort. Reg. Paris.]: 171 (1829), nom. et comb. illegit. pro *Enalcida foeniculifolia* Cass.

Tagetes tanacetifolia Schrad., Ind. Sem. Hort. Acad. Gott. : 6 (1833). Type: 'Venit etiam in Hortis foetidae nominae.' Holotype: GOET.

Tagetes perretii Nob. ex Colla, Herb. Pedem. 3. 418 (1834). Type: '(Patria ?). ... Communicata a cl: PERRET, subnomine *T. flosculosae*, ...' Holotype: TO.

Tagetes foeniculacea Poepp. ex DC., Prodr. 5: 646 (1836), nom. illegit. superfl.

Tagetes congesta Hook. & Arn., Bot. Beechey Voy. : 299 (1838). Type: not cited.

**Tagetes silenoides* Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 272 (1843). Type: 'Peruvia: Laguna de Titicaca, alt. 12,400 pedum. (v.s.)'.

Tagetes dichotoma Turcz., Bull. Soc. Naturalistes Moscou 24(2): 72 (1851). Type: [Ecuador:] 'Cum priori sub. [Jameson] n. 865.' [= *Tagetes pectinata* Turcz. Prope Quito. Jameson n. 776.] Holotype: ?KW; isotypes: BM, F (1013839 - fragment), G, GH (52471).

Tagetes scabra Brandege. Zoe 1(10): 314 (1890). Type: 'Antigua, Guatemala, from an unknown collector.' Holotype: ?

Tagetes pseudomicrantha Lillo in Zelada, Inform. Dept. Invest. Industr. Univ. Tucumán 8: 7 (1918). Type: [Original publication not seen].

Tagetes anisata Lillo in Zelada, Inform. Dept. Invest. Industr. Univ. Tucumán 8: 8 (1918). Type: [Original publication not seen].

Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz, Tarija), Colombia, Ecuador, Mexico, Peru, Venezuela. Puna, pastures.

500–2700 (–3800) m.

January–March.

Note: Cabrera (1978: 443) noted that the plant (in Jujuy) did not possess the bipinnate leaves called for in Lagasca's description of that species, nor the corymbose inflorescences. However, leaf division is variable across the range of the species and most plants only possess single capitula, rather than corymbose arrangements.

Cochabamba: Cardenas 2449 (US); Bro. Julio 53 (US); Steinbach 3910 (ML); Steinbach 9491 (F, GH, ML, MO, US); Steinbach 9497 (GH, NY).

La Paz: Beck 11127 (K, LPB); Britton & Rusby 53 (CC, GH, MO, US); Britton & Rusby 772 (CC, GH, MO, US); Britton & Rusby 2099 (F, GH, MO, NY, US); Rusby 2133 (CC, US); Buchtien 176 (NY); Buchtien 702 (NY); Buchtien 703 (NY); Buchtien 4804 (US); Buchtien 8236 (NY); Holway 500 (GH, US); Bro. Julio 232a (US); Mandon 69 (F, GH, NY, M, T); Williams 155 (NY, US).

Santa Cruz: Steinbach 3813 (ML).

Tarija: Fiebrig 2211 (F, GH, US).

Unloc.: Tate 880 (NY); Williams 329 (NY); Bro. Julio 370 (US); Kuntze s.n. (NY); Buchtien 278 (US).

Vernacular names: ANÍS; ANÍS DEL CAMPO; ANÍS DE LA SIERRA; COMINILLO; ANISILLO; PAMPANIS (Pentenatti & Ariza Espinar, 1997: 27).

Tagetes foeniculacea Desf., Tab. Ecole Bot. 3 [= Catal. Pl. Hort. Reg. Paris.]: 171 (1829), nom. et comb. illegit. pro
Enalcida foeniculifolia Cass. = **Tagetes filifolia** Lag.

Tagetes foeniculacea Poepp. ex DC., Prodr. 5: 646 (1836) = **Tagetes filifolia** Lag.

Tagetes gigantea* Carr., Rev. Hort. 58: 107 (1886) = **Tagetes terniflora Kunth

Tagetes glandulifera Schrank, Pl. Rar. Hort. Monac. 2: pl. 54 (1819) = **Tagetes minuta** L.

Tagetes glandulosa Schrank ex Link, Enum. 2: 339 (1822) = **Tagetes minuta** L.

Tagetes gracilis DC., Prodr. 5: 645 (1836) = **Tagetes multiflora** Kunth

Tagetes graveolens* L'Hérit. ex DC., Prodr. 5: 644 (1836) = **Tagetes terniflora Kunth

Tagetes iltisiana H. Rob., Phytologia, 26(5): 378 (1973). Type: 'BOLIVIA: Cochabamba: Prov. Cercado. Cervecería Colón, about 2 km N of Cochabamba. Alt. 2700 m, roadside thickets bordering a small garden patch, with *Solanum anomalocalyx*, *Cleome*, *Eryngium*, *Tagetes*, *Clematis*, *Euphorbia*, *Oenothera*, *Polygonum*, *Nicotiana glauca*, and non-tuberous *Solanum* sp. April 3, 1963. D. Ugent 4598'. Holotype: US (02700407); isotype: WIS. [Note: Soule determined this as *Tagetes laxa* Cabrera in 1995. It remains to be seen if *T. laxa* is present in Bolivia.]

Bolivia (Cochabamba).

Scrubby roadsides.

2700 m.

Tagetes integrifolia Muschl., Bot. Jahrb. Syst. 50(2/3), Beibl. 111: 77 (1913) = **Porophyllum ruderale** (Jacq.)
Cass.

Tagetes major Gaertn., Fruct. Sem. Pl. 2: 437, t. 172, f. 4 (1791) = **Tagetes erecta** L.

Tagetes mandonii Sch.Bip., Bull. Bot. Soc. France 12: 79 (1865); Linnaea 34(5): 529 (Feb. 1866), nom. nud. (based on Mandon 68) = **Tagetes mandonii** Sch.Bip. ex Klatt

Tagetes mandonii Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 6(1): 64 (1896) = **Tagetes mandonii** Sch.Bip. ex Klatt

***Tagetes mandonii** Sch.Bip. ex Klatt, Leopoldina 25(11-12): 109 (1889). Note: There is a separately paginated reprint/pre-print in K and this description appears on p. 6. Type: 'Hab. Bolivia, Viciniis Sorata in incultis, sylvulis, undique; leg. G. Mandon, No. 68.' Holotype: GH (52469); isotypes: GH (2830), GOET, K, NY (00546782, 00546783, 00546785, 00546786), US (01067693 - fragments and photo of material NY).

Tagetes mandonii Sch.Bip., Bull. Bot. Soc. France 12: 79 (1865); Linnaea 34(5): 529 (Feb. 1866), nom. nud. (based on Mandon 68).

Tagetes mandonii Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 6(1): 64 (1896). Types: [Bolivia:] 'Near snow-line, Mt. Tunari, 1891 ([Bang] 1111). Same as Rusby's 1641.' Note: Rusby, clearly aware of Schultz Bipontinus citing a Mandon collection for his nom. nud. appears to have been unaware of Klatt's earlier validation of Schultz Bipontinus's name. There are two duplicates of Bang 1111 in NY (00039413, 00039414).

**Tagetes maxima* Kuntze, Revis. Gen. Pl. 3(3): 181 (1898). Type: 'Bolivia: Tunarigebirge 3000 m, Cuchicanchipass 3600 m.' ['BOLIVIA. Cuchic[h]anchipass, 3600 m, 13-21 Apr 1892, Kuntze s.n.; another specimen: Tunarigebirge, 3000 m, Apr-May 1892, Kuntze s.n.' is in NY (00260287) - according to Wetter & Zardoni, 1985: 338]. Syntypes (Kuntze s.n., Tunarigebirge 3000 m) NY (00260287); isosyntype: US (1067694 - fragments and photo of the NY syntype). Syntype (Kuntze s.n., Cuchicanchipass 3600 m) NY (00260288); isosyntype: B† [TO CHECK OF WHICH SYNTYPE!]

Bolivia (La Paz), Peru.

3000-3600 m.

April-May.

Tagetes maxima* Kuntze, Revis. Gen. Pl. 3(3): 181 (1898). = **Tagetes mandonii Sch.Bip. ex Klatt

***Tagetes micrantha** Cav., Icon. 4: 31, t. 352 (1797). Type: 'Habitat in Nova-Hispania iuxta urbem Querétaro, ubi observat suit a D. Lud. Née ♀./Floruit in Regio horto Matritensi mense Octobri 1796.' Type material: MA. Note: There are three sheets in MA, MA (476405 – Fiche 74/B5 (with 5 plants mounted on it) with one handwritten label on the sheet 'Tagetes micrantha Cav./ex Nova Hispania/Née Iter.', MA (476403 – Fiche 74/B6) (with just one small plant mounted on it) labelled 'Tagetes micrantha Cav./Ex Hort. Braz. Matr. 1799.', and the third MA (476404 – Fiche 74/B7) labelled 'Tagetes micrantha Cav./ex nova Hispania/ Icon. vol. 4, tab./Culta in R. H. M. 1796./floriut Sep. et Octobri.' ?Bolivia (?), Mexico. Listed by Foster (1958: 220) this species is Mexican in origin and its occurrence in Bolivia needs confirming as Foster's source is unknown.

Tagetes minuta L., Sp. Pl. : 887 (1753). Type: 'Habitat in Chili. ♀.' Lectotype (selected by Delgado-Montañón in Jarvis & Turland, 1998: 368): [icon] 'Tagetes multiflora, minuto flore albicante' in Dillenius, Hort. Eltham. 2: 374, t. 280, f. 362 (1732).

Tagetes bonariensis Pers., Syn. Pl. 2: 459 (1807). Type: 'Hab. in Bonaria. Commers.'

Tagetes glandulifera Schrank, Pl. Rar. Hort. Monac. 2: pl. 54 (1819). Type: 'PATRIA Brasilia. Dr. Martius./Colitur in Caldario.' Holotype: M.

Tagetes glandulosa Schrank ex Link, Enum. 2: 339 (1822), nom. illegit. in error pro *Tagetes glandulifera* Schrank

Tagetes porophyllum Vell., Fl. Flum. Icones 8: 116 (1831). Type: not stated.

Tagetes riojana Ferraro, Bol. Soc. Argent. Bot. 6(1): 34 (1955). Types: [Argentina:] 'La Rioja: Cuesta de Miranda, 1900 m. s. m., leg. J. Frenguelli, No 511, 15-III-1943 ([Co-tipo: LP.); Cuesta de miranda, 1900 m. s. m., leg. J. Frenguelli, No 510, 15-III-1943 (Co-tipo: LP).' Syntypes: LP.

A widespread weedy species. Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz, Tarija), Brazil, Chile, Colombia, Mexico, Paraguay, Peru, Uruguay. Also present in Kenya, South Africa, and Australia.

Roadsides, disturbed ground.

350–2500 m.

Cochabamba: Steinbach 3987 (ML).

La Paz: Buchtien 3948 (US).

Santa Cruz: Peredo 504 (ML); Rambo 30672 (LP); Rambo 33560 (ML).

Tarija: Tucumilla 3455 (GH).

VERNACULAR NAMES: CHILCA, CHILCHIL, CHINCHILLA, COARI BRAVO, CXRAVO DO DIFUNTO, ERVA ANDORINHA, FLOR AMAR, MANZANILLA SILVESTRE, MARGARITA, PICÓN DEL REY, QUENCHIHUÉ, QUIMPE, RABO DE FOGUETE, RABO DE ROJÃO, SUECO, SUICO, SUIQUE, SUIQUILLO, SUYCO, VARA DE ROJAO (FREIRE ET AL., 2006); SUICO, CHINCHILLA (PETENATTI & ARIZA ESPINAR, 1997: 29).

***Tagetes multiflora** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4(ed. folio): 154 (1818). Type: 'Crescit et floret cum præcedente. ♀' [*T. terniflora* Kunth - 'Crescit prope Quito in radicibus montis Pichinchæ, alt. 1500 hex. ♀ Floret Junio.']

Tagetes gracilis DC., Prodr. 5: 645 (1836). Type: '• in Peruvia? ... (v.s. comm. à Mus. reg. Par. ex coll. Dombeyi sine loci propr. design.)'. Holotype: P; isotype: G-DC. Note: this is *Dombey* 29.

Solenotheca tenella Nutt., Trans. Amer. Phil. Soc., ser. 2, 7: 371 (1841). Type: 'Hab. Near Arequipa, in Peru. (Mr. Curson.)'

Tagetes multiflora Kunth var. β *rupestris* Wedd., Chloris Andina 1: 72 (1856). Type: 'PÉROU: lieux sablonneux et rocailleux, autour du lac de Titicaca, huateur 3900 mètres (Wedd.); Agapata (ou Ayapata?)! (Lechler, exsicc., n° 1922).' Note: It is not at all clear, other than the *Humboldt & Bonpland* collection referable to the type variety, which of the other collections refer directly to var. *rupestris*.

Tagetes erythrocephala Rusby, Bull. New York Bot. Gard. 8: 133 (1912). Types: ' "Juliaca, Peru, 12,500 ft., May 15, 1902" ([R.S. Williams] No. 2512). The same collected by Pearce at 11,000 ft., and by Matthews in Peru.'

Tagetes andina M.Ferraro, Bol. Soc. Argent. Bot. 6(1): 37 (1955). Type: [Argentina] 'Salta: Dep. San Antonio de los Cobres, loc. Alcazoqui, 4.000 m. s. m., leg. A. L. Cabrera N° 8.836, II-1945.' Holotype: LP.

Argentina, Bolivia (Cochabamba, La Paz, Oruro, Potosí, Tarija), Brazil, Chile, Colombia, Ecuador, Peru.

Streamsides, grassland, scrub, rocky areas, Prepuna, Puna.

2200–4000 m.

Since Neher (1966) duplicated material of *T. gracilis* with citations under *T. multiflora* I have combined the Bolivian citation here.

Cochabamba: Buchtien 2399 (NY); Buchtien 3296 (NY); Eyerdam 24788 (F); Kuntze 19 (NY); Kuntze s.n.(NY); Steinbach 9630 (F, GH, MO, NY); Steinbach 9702 (NY).

La Paz: *Bang* 34 (CC, GH, MO, US); *Bang* 53a (F, GH, MO, NY, US); *Buchtien* 645 (MO, NY); *Buchtien* 646 (GH, MO, NY); *Buchtien* 3076 (NY, US); *Buchtien* 3295 (NY, US); *Buchtien* 4305 (NY), *Buchtien* 4306 (NY), *Buchtien* 4307 (GH, US), *Buchtien* 4308 (GH); *Buchtien* 4001 (NY, US); *Buchtien* 8708 (NY); *Buchtien* 8750 (US); *Canigeral* 394 (LP); *Hammarlund* 206 (NY); *Bro. Joseph* 1155 (US); *Bro. Julio* 229 (US); *Krapovikas & Fuchs* (LP, ML); *Mandon* 66 (F, GH, M, NY, T); *Mandon* 69 (F, GH, NY, US); *Holway & Holway* (US); *Holway* 581 (NY); *Nebb* (GH); *Klatt* (GH).

Oruro: *Asplund* 4973 (US); *Asplund* 4974 (US); *Asplund* 4975 (US).

Potosí: *Carden?* [probably *Cardenas*] 237 (GH); *Carden?* 254 (GH).

Tarija: *Fiebrig* 3032 (GH, US).

unloc.: *Bang* 1 (NY); *Bang* 2637 (MO, NY, US); *Bridarolli* 4308 (LP); *Buchtien* 701 (US); *Conigeral* 577 (LP); *Bro. Julio* 362 (US); *Tate* 270 (NY).

Vernacular names: SUICO; SUICO-VACA (Pettenatti & Ariza Espinar, 1997: 29).

Tagetes multiflora Kunth var. β *rupestris* Wedd., *Chloris Andina* 1: 72 (1856) = **Tagetes multiflora** Kunth

Tagetes papposa Vent., *Descr. Pl. Nouv.*: tab. 36 (June-July 1801) = **Dyssodia papposa** (Vent.) Hitchc.

Tagetes perretii Nob. ex Colla, *Herb. Pedem.* 3. 418 (1834) = **Tagetes filifolia** Lag.

Tagetes porophyllum Vell., *Fl. Flum. Icones* 8: tab. 116 (1831) = **Tagetes minuta** L.

Tagetes praetermissa (Strother) H. Rob., *Phytologia* 26(5): 380 (1973).

Vilobia praetermissa Strother, *Brittonia* 20(4): 343 (1968). Type: 'South America: BOLIVIA: CHUQUISACA:

Guerraloma, 9900 feet, 8 March 1939, E. K. Balls B6183.' Holotype: UC (683533); isotypes: BM, E, K, US (01800501).

Bolivia (Chuquisaca).

Disturbed ground, often near cultivation; irrigation channels.

c. 3000 m.

Tagetes pseudomicrantha Lillo in Zelada, *Inform. Dept. Invest. Industr. Univ. Tucumán* 8: 7 (1918) = **Tagetes filifolia** Lag.

Tagetes pumilla Willd., *Sp. Pl.* 3: 2126 (1804), nom. nud. pro syn. = **Dyssodia papposa** (Vent.) Hitchc.

**Tagetes pusilla* Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 152 (1818) = *Tagetes filifolia* Lag.

Tagetes riojana Ferraro, *Bol. Soc. Argent. Bot.* 6(1): 34 (1955) = **Tagetes minuta** L.

Tagetes rotundifolia Mill., *Gard. Dict.*, ed. 8. *Tagetes* No. 4 (1768) = **Tithonia rotundifolia** (Mill.) S. F. Blake

Tagetes scabra Brandegee. *Zoe* 1(10): 314 (1890) = **Tagetes filifolia** Lag.

Tagetes silenoides* Meyen & Walp., *Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur.* 19, Suppl. 1: 272 (1843) = **Tagetes filifolia Lag.

Tagetes tanacetifolia Schrad., *Ind. Sem. Hort. Acad. Gott.* : 6 (1833) = **Tagetes filifolia** Lag.

Tagetes terniflora Kunth in Humb., *Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 154 (1818). Type: 'Crescit prope Quito in radicibus montis Pichinchæ, alt. 1500 hex. ♀ Floret Junio.' Holotype: P-Bonpl.

**Tagetes graveolens* L'Hérit. ex DC., *Prodr.* 5: 644 (1836). Type: '• in Peruvia olim legit Pavon. ... (v.s. sine fl.)'.

Note: there are two sheets in G-DC, both lacking inflorescences. Strangely, Robinson (2006: 148) cited *Prodr.* 5: 674 – where no *Tagetes* are described – as well as clearly citing *Dombey* as the collector of the type. De Candolle quite clearly stated that *Pavón* was the collector on p. 644. Robinson (2006: 148), and Cabrera (1978: 444), were of the opinion that L'Her. ex DC.' is the author citation, whereas Koster (1950: 220) was probably correct with 'L'Hér. in DC.' since de Candolle (1836: 644) indicated that L'Heritier's name was used and his description seen/used.

**Tagetes gigantea* Carr., *Rev. Hort.* 58: 107 (1886). Type: 'La plante à laquelle nous donnons ce qualificatif *gigantea* provient de graines envoyées de la Bolivie à MM. Vilmorin et C^{ie}, sous cette rubrique: «Composée employée comme Persil, en Bolivie.» Holotype: ?

Tagetes cabreræ M. Ferraro, *Bol. Soc. Argent. Bot.* 6(1): 38 (1955). Type: [Argentina] 'Salta: San Lorenzo, Dep. Capital, leg. A. L. Cabrera, N^o. 3.033, 28-V-1933.' Holotype: LP; isotype: F (720462).

Argentina, Bolivia (Cochabamba, La Paz, Tarija), Colombia, Ecuador, Peru. 'South America, Central America and Mexico.'

Woodland, pasture.

500–3400 m.

Note: Neher (1966) likened this species to *T. minuta* and provided the broad characters that can be used to separate the two.

Cochabamba: *Buchtien* 2399 (US); *Jimenez* 30 (LP); *Steinbach* 9702 (F, GH, MO, NY, US)
La Paz: *Bro. Julio* 17 (US); *Buchtien* 106 (US); *Buchtien* 169 (GH, US); *Buchtien* 745 (F, GH, ML, MO, NY); *Buchtien* 3297 (NY, US); *Mandon* 502 (GH, US); *Mandon* 65 (GH); *Tate* 775 (NY); *Weddell* 4455 (F).
Tarija: *Fiebrig* 2438 (GH); *Fiebrig* 3533 (F).
Unloc.: *Tate* 670 (NY).
Vernacular names: SUICO-SUICO; HUACATAY (Peru) (Petenatti & Ariza Espinar, 1997: 30).

Tanacetum L., *Sp. Pl.* : 844 (1753); *Gen. Pl.*, ed. 5 : 366 (1754).

Type: *Tanacetum vulgare* L.

Reference

Schultz Bipontinus, C. H. (1844). Ueber die Tanaceteen mit besonderer Berücksichtigung der deutschen Arten von Dr. Carl Heinrich Schultz, Bipontinus, ... Festgabe zur Jubiläumsfeier des Herrn Hofraths Dr. Koch in Erlangen. Neustadt an der Haardt, Ch. Trautmann. 1–69.

Tanacetum parthenium (L.) Sch.Bip., *Tanacet.* : 55 (1844).

Matricaria parthenium L., *Sp. Pl.* : 890 (1753). Type: 'Habitat in Europae cultis, ruderatis.' Lectotype (selected by Sell in Jarvis & Turland, 1998: 364): LINN 1013.2.

Matricaria latifolia Gilib., *Fl. Lithuan.* 1: 220 (1781). Type: 'Matricaria parthenium L. passim spontanea invenitur, etiamsi advena: floret circa Grodnam, julio, augusto: perennis. Lugdunea.'

Pyrethrum parthenium (L.) J.E. Smith, *Fl. Brit.* 2: 900 (1800).

**Chrysanthemum parthenium* (L.) Bernh., *Syst. Verz. Pflanz.* : 145 (1800).

Leucanthemum parthenium (L.) Gren. & Godr., *Fl. Fr.* 2: 145 (1850).

Parthenium matricaria Gesn. ex Rupr., *Fl. Ingr.* 1: 583 (1860), nom. illegit. based on *Matricaria parthenium* L. Bolivia (Cochabamba, La Paz). Widespread, widely cultivated and naturalized in both the Old and New World.

Roadside ditches, stream banks, disturbed ground near cultivation, waste ground.

0–3300 m.

March–April.

Vernacular name: MARGARITA (Ariza Espinar, 1997: 29).

Taraxacum Weber in F. H. Wigg., *Prim. Fl. Holsat.* : 56 (1780), nom. cons.

Type: *Taraxacum officinale* F. H. Wigg. (*Leontodon taraxacum* L.), typ. cons.

Reference

Richards, A. J. (1978). An account of some neotropical *Taraxacum* species. *Rhodora* 78(No. 816): 682–706.

Note: It is quite possible that the more widespread *T. fernandezianum* Dahlst. may be present in Bolivia; it is presently known from Argentina, Bermuda, Brazil, Chile, Costa Rica, Dominican Republic, Guatemala, Haiti, Honduras, Mexico and Peru. The two species may be separated based on the following key derived from Richards's; it is probable other species, outside of sect. *Mexicana* may be present and a detailed study is clearly necessary.

Key to species

| | |
|--|--------------------------|
| Leaves lacking well-defined lobes; outer phyllaries 1 mm wide, olive-green or sometimes brownish-red | <i>T. fernandezianum</i> |
| Leaves lobate; outer phyllaries 1.5–2 mm wide, dark green or purplish | <i>T. suspathulatum</i> |

Taraxacum suspathulatum A. J. Richards *Rhodora*, 78(No. 816): 692 (1976). Type: 'Argentina: Tucumán: Villa Vougues, 1000 m, *S. Venturi* 1470.' Holotype: US. Argentina, Bolivia (Cochabamba), Chile (mainland and Juan Fernandez Is.), Peru.

Tecmarsis DC., *Prodr.* 5: 93 (1836) = **Pluchea** Cass.

Tenorea Colla, *Hortus Ripul.* : 137 (1824) = **Trixis** P. Browne

Terranea Colla, Mem. Reale Accad. Sci. Torin. 38: 11 (1835) = **Erigeron** L.

Tessaria Ruiz & Pav., Fl. Peruv. Chil. Prodr.: 112, t. 24 (1794).

Gynheteria Willd., Mag. Neuesten Entdeck. Gesammten Naturk. Ges. Naturf. Freunde Berlin 1: 140 (1807).

Note: generic description only. Sprengel (1821) described the first species, the type, *G. incana*.

Type: **Tessaria integrifolia** Ruiz & Pav.

References

Cabrera, A. L. (1939). Las especies Argentinas del genero *Tessaria*. Lilloa 4: 181–189, pl. 1–3.

Ariza Espinar, L. (1979). Contribucion al conocimiento del genero *Tessaria* (Compositae). Kurtziana 12-13: 47–62.

Dillon, M. O. & A. Sagástegui-Alva. (1991). *Tessaria*. In: J. F. Macbride & collab., Flora of Peru, Family Asteraceae: Part V. Fieldiana, Bot. n.s. 26 (1422): 65–67.

Freire, S. E. (1997). Notas críticas en la tribu Inuleae (Compositae) para la Flora del Paraguay. 1. Delimitación de los géneros *Tessaria* Ruiz & Pav. y *Pluchea* Cass. In: L. Ramella & P. Perret (eds), Notulae ad Flora paraquaiensem, 58–61. Candollea 52(1): 214–215 (199–216).

Nesom, G. L. (1989). New species, new sections, and a taxonomic overview of American *Pluchea* (Compositae: Inuleae). Phytologia 67: 158–167.

Robinson, H. (1973). The generic limits of *Pluchea* and *Tessaria* (Inuleae, Asteraceae). Phytologia 27(4): 277–285.

Note: Freire (1997) in providing two new combinations in *Tessaria*, and recognizing 4 species in Paraguay, commented on Robinson & Cuatrecasas (1973), who reduced the genus to one species. This is important, especially since Anderberg & Eldenäs (2006) maintained the genus as monotypic. Following Freire (1997) the genus could contain 4 species in Bolivia. See also comments under *Pluchea* pertaining to Nesom's comments (Nesom, 1989).

Tessaria absinthoides* (Hook. & Arn.) DC., Prodr. 5: 457 (1836) = **Pluchea absinthoides (Hook. & Arn.) H. Rob. & Cuatrec.

Tessaria absinthoides (Hook. & Arn.) DC. var. *ambigua* (DC.) R.E.Fries, Ark. Bot. 5(13): 15 (1906) = **Tessaria integrifolia** Ruiz & Pav.

Tessaria ambigua DC., Prodr. 5: 457 (1836) = **Tessaria integrifolia** Ruiz & Pav.

Tessaria ambigua DC. var. *uniflora* Cuatrec., Anales Univ. Madrid 4(2): 244 (1935) = **Tessaria integrifolia** Ruiz & Pav.

Tessaria boliviensis Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 534 (1866), nom. nud., based on Mandon 229 = **Gutierrezia mandonii** (Sch.Bip.) Solbrig

Tessaria dentata Ruiz & Pav., Syst. : 214 (1798) = **Tessaria integrifolia** Ruiz & Pav.

Tessaria dodoneifolia (Hook. & Arn.) Cabrera, Lilloa 4: 184 (1939) = **Pluchea dodoneifolia** (Hook. & Arn.) H. Rob. & Cuatrec.

Tessaria dodoneifolia (Hook. & Arn.) Cabrera ssp. *plucheoides* (Hassl.) S. E. Freire, Candollea 52(1): 214 (1997) = **Pluchea dodoneifolia** (Hook. & Arn.) H. Rob. & Cuatrec.

Tessaria fastigiata (Griseb.) Cabrera, Fl. Prov. Jujuy 10: 254 (1978) = **Tessaria integrifolia** Ruiz & Pav.

***Tessaria integrifolia** Ruiz & Pav., Syst. : 213 (1798). Type/s?: 'Habitat in Huanuci et Ambo ripis.' Holotype: MA. Note: On the microfiche sheet 300 of the Ruiz & Pavón herbarium, A4, A5 are marked as 'Typus' by Domke, to which A6 might also be considered type material. A4 and A5 possess no additional label other than Domke's determination label, whereas A6 indicates 'Tessaria integrifolia Peru', presumably in Pavón's hand.

Tessaria dentata Ruiz & Pav., Syst. : 213 (1798). Type: 'Habitat copiosè in ripis, pratis et pascuis Limae et Chancay ad Arnedo et Huaaura.' Holotype: MA (as A4 of microfiche sheet 300 of the Ruiz & Pavón herbarium; A2 may well represent an isotype but lacks a label), determined as 'Typus' by Domke.

Gynheteria incana Spreng., Neue Entdeck. 2: 135 (1821). Type: 'Frutex e Chili, a *Balbisio* donatus, ...' Holotype: P. Note: The citation '*Gynheteria incana* Willd.' has appeared in the literature (e.g. de Candolle, 1836: 456)

- referring to the place of publication as 'Mag. Nat. Berl. 1807. p.140' (= Mag. Neuesten Entdeck. Gesammten Naturk. Ges. Naturf. Freunde Berlin 1: 140 (1807)') However, this is incorrect as Willdenow only described the genus, mentioning no species; Sprengel (1821) described the first species in Willdenow's genus.
- Tessaria legitima* DC., Prodr. 5: 456 (1836). Types: '■ in Peruvîa ubi dicitur Paxaro-Bobo. (v. s. ex itin. Dombey [43], Née [s.n., ex herb. Thibaud] et Gaudichaud [118].)' Syntypes: G-DC. Note: the original syntype of the *Dombey* 43 collection is in P, that in G-DC an isosyntype.
- Tessaria ambigua* DC., Prodr. 5: 457 (1836). Type: '■ in Americâ merid. fortè in Peruvîa. Habeo ex itin. Neaeano sub nom. vernaculo Pajro-Bovo, vix à nom. primae generis speciei distincto.' Note: there is one specimen in G-DC with a label bearing this vernacular name, however, the locality information is 'Pampas __ Buenos Ayres'!
- Pluchea fastigiata* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 184 (March-April 1879); Symb. Fl. Argent.: 184 (1879). Types: 'O.: Oran; Gr. Chaco, Laguna del Palmar.' Syntypes: Lorentz & Hieronymus 6, 537, GOET.
- **Pluchea odorata* (L.) Cass. var. *ferruginea* Rusby, Mem. Torrey Bot. Club 4(3): 211 (1895). Type: [Bolivia:] '[Vic. La Paz, 10000 ped., 1890] [Bang] 178.' Holotype: NY (00232543); isotypes: F (77313), US (01417370).
- Tessaria absinthoides* (Hook. & Arn.) DC. var. *ambigua* (DC.) R.E.Fries, Ark. Bot. 5(13): 15 (1906).
- Tessaria integrifolia* Ruiz & Pav. var. *obtusifolia* Hassl., Trab. Mus. Farmacol. Fac. Ci. Med. Buenos Aires 21: 127 (1909). Type: 'En las orillas del río, fl. julio Rojas n. 602'. Holotype: ?BAF.
- Tessaria ambigua* DC. var. *uniflora* Cuatrec., Anales Univ. Madrid 4(2): 244 (1935). Type: 'Perú: Arica, 18-VI-1863 ([Isern] núm. 413).'
- Tessaria integrifolia* Ruiz & Pav. var. *polyandra* Cabrera, Lilloa 4: 189 (1939). Type: 'ARGENTINA. - Chaco: Colonia Benítez, leg. A. G. Schulz, no 163, II-1931 (Tipo: Cabr.)'. Holotype: LP (60895-A); isotype: LP (60895-B).
- Tessaria fastigiata* (Griseb.) Cabrera, Fl. Prov. Jujuy 10: 254 (1978).
- Tessaria integrifolia* Ruiz & Pav. var. *ambigua* (DC.) S. E. Freire, Candollea 52(1): 215 (1997). Argentina, Bolivia (Cochabamba, La Paz, Santa Cruz, Tarija), Brazil, Colombia, Paraguay, Peru, Venezuela. Yungas, sandy river margins (often forming large pure stands, often as a pioneer species on exposed substrate), forests. 0–2500 m. October–July. Probably flowering throughout the year. Vernacular names: ALISO, BOBO, LIBI-LIBI, PÁJARO BOBO (Argentina) (Cabrera, 1978); ALISO, PÁJARO BOBO (Argentina), ALISO, CENIZO, OLIVO, SAUCE DE PLAYA, SAUCE PLAYERO (Colombia), BOBO, CHAMCHI, MAYU-CHAMCHI (Peru) (Dillon & Sagástegui Alva, 1991); ALISO, ALISO'Í, ALISO ÑU, BOBO, PALO BOBO (Freire, 1998); ALISO, ALISO EL RÍO, MBUI BÉ, PÁJARO BOBO, PALO BOBO, PEKÚJ, SALÁK (Freire et al., 2006); PARAJOBOBO.
- Tessaria integrifolia* Ruiz & Pav. var. *ambigua* (DC.) S. E. Freire, Candollea 52: 215 (1997) = **Tessaria integrifolia** Ruiz & Pav.
- Tessaria integrifolia* Ruiz & Pav. var. *obtusifolia* Hassl., Trab. Mus. Farmacol. Fac. Ci. Med. Buenos Aires 21: 127 (1909) = **Tessaria integrifolia** Ruiz & Pav.
- Tessaria integrifolia* Ruiz & Pav. var. *polyandra* Cabrera, Lilloa 4: 189 (1939) = **Tessaria integrifolia** Ruiz & Pav.
- Tessaria legitima* DC., Prodr. 5: 436 (1836) = **Tessaria integrifolia** Ruiz & Pav.
- Tessaria plucheoides* Hassl., Repert. Spec. Nov. Regni Veg. 16(1/4): 26 (1919) = **Pluchea dodoneifolia** (Hook. & Arn.) H. Rob. & Cuatrec.
- Tessaria straminea* (Chodat) Hassl., Repert. Spec. Nov. Regni Veg. 16(1/4): 25 (1919) = **Pluchea dodoneifolia** (Hook. & Arn.) H. Rob. & Cuatrec.
- Tessaria viscosa* Lillo, Prim. Reun. Nac. Soc. Argent. Ci. Nat.: 213 (1919) = **Pluchea dodoneifolia** (Hook. & Arn.) H. Rob. & Cuatrec.
- Tetracanthus* A. Rich. in Sagra, Hist. Phys. Cuba, Bot. [Faner. 3(2),] 11: 60 (1850) = **Pectis** L.
- Tetracanthus linearifolius* A. Rich. in Sagra, Hist. Phys. Cuba, Bot. [Faner. 3(2),] 11: 60 (1850) = **Pectis linifolia** L.
- Tetracarpum* Moench, Meth. Suppl. : 240 (1802) = **Schkuhria** Roth
- Tetracarpum anthemoideum* (DC.) Rydb., N. Amer. Fl. 34: 45 (1914) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
- Tetracarpum flavum* Rydb., N. Amer. Fl. 34: 46 (1914) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Tetracarpum guatemalensis Rydb., N. Amer. Fl. 34: 45 (1914) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Tetracarpum pringlei (S. Watson) Rydb., N. Amer. Fl. 34: 44 (1914) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Tetracarpum virgatum (Llave & Lex.) Rydb., N. Amer. Fl. 34: 45 (1914) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Tetracarpum wislizeni (A. Gray) Rydb., N. Amer. Fl. 34: 45 (1914) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.
Tetracarpum wrightii (A. Gray) Rydb., N. Amer. Fl. 34: 44 (1914) = **Schkuhria pinnata** (Lam.) Kuntze ex Thell.

Tetralix Hill, Veg. Syst. 4: 17 (1762), non Griseb. (1866) [TILIACEAE] = **Cirsium** Mill.

Tetrantha Poit. ex DC., Prodr. 5: 693 (1836) [originally appearing as '*Petrantha* Poit.' on p. 503], nom. nud. pro syn. = **Riencourtia** Cass.

Tetrantha Poit. ex Baker in Mart., Fl. Bras. 6(3): 143 (1884), nom. nud. pro syn. = **Riencourtia** Cass.

Tetraotis Reinw., Syll. Pl. Nov. 2: 8 (1825)[1826] = **Enydra** Lour.

Tetraotis longifolia Reinw. in Bl., Bijdr. 15de Stuk. : 892 (1826) = **Enydra fluctuans** Lour.

Thelechitonina Cuatrec., Bull. Soc. Bot. France 101: 242 (1954) = **Sphagneticola** O. Hoffm.

Thelechitonina brachycarpa (Baker) H. Rob. & Cuatrec., Phytologia 72(2): 142 (1992) = **Sphagneticola brachycarpa** (Baker) Pruski

Thelechitonina muricata Cuatrec., Bull. Soc. Bot. France 101: 242 (1954) = **Sphagneticola brachycarpa** (Baker) Pruski

Thelechitonina trilobata (L.) H. Rob. & Cuatrec., Phytologia 72(2): 142 (1992) = **Sphagneticola trilobata** (L.) Pruski

Thyrsanthema Necker, Elem. Bot. 1: 6 (1790), nom. rej. = **Chaptalia** Vent.

Thyrsanthema ebracteata Kuntze, Revis. Gen. Pl. 3(3): 182 (1898) = **Chaptalia nutans** (L.) Polak.

Thyrsanthema integrifolia (Cass.) Kuntze, Revis. Gen. Pl. 3(3): 182 (1898) = **Chaptalia integerrima** (Vell.) Burkart

Thyrsanthema nutans (L.) Kuntze, Revis. Gen. Pl. 1: 369 (1891) = **Chaptalia nutans** (L.) Polak.

Thysopsis Wedd., Chloris Andina 1: 165 (1856), nom. nud., in adnota = **Loricaria** Wedd.

Tilesia G. Mey., Prim. Fl. Esseq. : 251 (1818)

Wullfia Neck. ex Cass., Dict. Sci. Nat. 29: 491 (1823). Type: *Coreopsis baccata* L. = **Tilesia baccata** (L.) Pruski

Chatiakella Surian ex Cass., Dict. Sci. Nat. 29: 491 (1823), nom. prov. Type: *Chylodia sarmentosa* (Rich.) Rich. ex Cass. = **Tilesia bacchata** (L.) Pruski

Chylodia Rich. ex Cass., Dict. Sci. Nat. 29: 491 (1823), non *Chilodia* R.Br. Type: *Chylodia sarmentosa* (Rich.) Rich. ex Cass. = **Tilesia baccata** (L.) Pruski

Note: Robinson (2006: 211) indicated that the generic name *Wullfia* was proposed for rejection, although the current (Vienna) Code does not cite *Wullfia* as being conserved against it.

Type: *Tilesia capitata* G. Mey. = **Tilesia baccata** (L.) Pruski

References

Pruski, J. F. (1996). Compositae of the Guayana Highland – XI. *Tuberculocarpus* gen. nov. and some other Ecliptinae (Heliantheae). *Novon* 6(4): 404–418.

Robinson, H. (2006). *Wullfia*. In: G. Harling & L. Andersson (eds), *Flora of Ecuador*, No. 77(2): 190(6). Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 211–218.

Robinson, H. & V. A. Funk. (2000). Proposal to conserve the name *Wullfia* against *Tilesia* (Asteraceae). *Taxon* 49: 569–570.

Tilesia baccata (L.) Pruski, *Novon* 6(4): 414 (1966).

Coreopsis baccata L., *Pl. Surinam.* : 14 (1775). Type: 'Habitat [in Surinamo.]' Lectotype (selected by D'Arcy, 1975: 1170): Herb. Linn. 1026.7 – LINN. Note: Given by Robinson (2006: 212) as 'Surinam, 1754-1755, Dahlberg s.n. (holotype LINN 1026.7).'

Helianthus sarmentosus Rich., *Act. Soc. Hist. Nat. Paris* 1: 112 (1792). Type: not cited. Note: Pruski (1998: 480) selected 'FRENCH GUIANA. Cayenne: 1792, *LeBlond* 329' as a type in G, with a possible duplicate in G-DC. No lectotypification of the name was undertaken. Robinson (2006: 213) noted only 'French Guiana, Cayenne, 1785-89, RICHARD s.n. (holotype P-JU).'

in contrast to Pruski (q.v. 1996: 414; 1998: 480) who stated that the type collection was one of *LeBlond* (329), and that the probable holotype was in G, with a possible isotype in G-DC.

Verbesina oppositifolia Poir., *Encycl.* 8: 460 (1808). Type: 'Cette plante a été recueillie, à 'île de Cayenne, par M. Jos. Martin. (V. s. in herb. Desfont.)' Holotype: ?FI; isotype: G-DC (according to Pruski, 1996: 414).

Helianthus membranifolius Poir., *Encycl. Suppl.* 3: 18 (1813). Type: 'Cette plant croit à l'île de Cayenne. (V. s. in herb. Desfont.)' Holotype: ?FI; isotype: P (according to Pruski, 1996: 414).

Tilesia capitata G. Mey., *Prim. Fl. Esseq.* : 254 (1818). Type: [Guyana: Rio Essequibo] 'In umbrosis arenosis continentis. [leg. Rodschied]'. Holotype: ?GOET. Note: Pruski (1996: 414) noted that this collection was Meyer 177, which I dispute based on the protologue and introduction.

Gymnolomia maculata Ker Gawl., *Bot. Reg.* 8: t. 662 (1822). Type: 'Raised from seed from the Brazils, and, we believe, belonging to an unrecorded species. There are no samples of it in either the Banksian or Lambertian Herbarium. The plant flowered this summer in the hothouse at the Nursery of Messrs. COLVILL [sic!], in the King's Road, Chelsea.' Note: it is likely that if any material was preserved for this taxon it will be in BM. Note: Pruski (1996: 414) indicated that the holotype was in K, although he had not seen it.

Chylodia sarmentosa (Rich.) Rich. ex Cass., *Dict. Sci. Nat.* 29: 490 (1823). [This is a very odd author citation perporting that Richard gave the name, according to Cassini, in 1791 to material/in litt?]

?*Euxenia radiata* Nees & Mart., *Nova Acta Acad. Caes. Leop. Carol. German. Nat. Cur.* 12(1): 7 (1824). Type: [Brazil:] 'Ad viam Felisbertiam. [Prince Maximilian zu Wied-Neuwied]'. Note: In an earlier paper describing plants from the Prince's itinerary *Echinocloa polystachya* Humb. & Bonpl. was cited from 'Ad viam silvaticam, iuxta Ilhéos fluvium, quae nobis appellatur Via Filisbertia*' - the footnote explaining (*) Filisbertius, Centurio, summo suo et opere et merito hanc viam patefecit.' Mello Silva (pers. comm. Oct. 2008, SPF) has pointed out that this road was constructed by lieutenant colonel Felisberto Gomes da Silva. The road connected Ilhéus to northern Minas Gerais. Wied took this road at Ilhéus January 6th 1817 (although from the various protologues it appears Maximilian was on this road between December 1816 to January 1817) and followed the Rio Ilhéus (or Salgado), going through Itabuna to Itororó, and then to Itambé, where the road meets the Rio Pardo. Robinson (2006: 214) noted 'Holotype: LD; isotype: P-Sch.Bip., US (frag. + photo).'

which is somewhat in error. There are many Maximilian collections in LD but these appear to have been sent to LD before they were worked upon. Most are annotated simply 'Brasilia. e coll. Princ. Neowied' in C. A. Agardh's hand (Håkan Wittzell, pers. comm. Sept. 2008, LD). Urban (1906) and Förther (1994) have noted clearly that Maximilian's principal collection, of 650 numbers, is in BR, with duplicates in several other herbaria (B, LE, P, etc.). Indeed the '*Elenchus collectionum in Herbario Martii asservatarum*' in BR lists Prince Maximilian Alexander Philipp von Neuwied's collections under entry 133 - as *Max. Princ. Neovidensis/ Ex itinere per Brasiliae provincias orientales ...*'. It is in BR that the holotype is likely to be located, although it is interesting to note that Baker (1884) in his account of '*Wulffia stenoglossa* DC.' did not mention either the synonym nor a Maximilian collection.

Pascalina baccata (L.) Spreng., *Syst. Veg.*, ed. 16, 3: 602 (1826).

Meyeria capitata (G. Mey.) Spreng., *Syst. Veg.*, ed. 16, 3: 601 (1826).

Chatiakella platyglossa Cass., *Dict. Sci. Nat.* 46: 403 (1827). Type: 'Nous avons fait cette description sur un échantillon sec, recueilli dans la Guiane française par M. Poiteau, et qui se trouve dans l'herbier de M. Gay, où il est étiqueté *Crodisperma aspera* Poit.' Holotype: K.

Chatiakella stenoglossa Cass., *Dict. Sci. Nat.* 46: 403 (1827). Type: apparently based on the same type material as that of *Helianthus sarmentosus*, q.v. Stated by Robinson (2006: 214) that this is based on *Chylodia sarmentosa* (Rich.) Rich. ex Cass. Cassini only referred to a manuscript name written by Vaillant in 'l'herbier de Surian.' on material also named *Chylodia sarmentosa* written 'au crayon' by Richard.

Gymnopsis? euxemioides DC., *Prodr.* 5: 562 (1836), comb. illegit., based on *Euxenia radiata* Nees & Mart.

Wulffia membranifolia (Poir.) DC., *Prodr.* 5: 549 (1836).

Wulffia maculata (Ker Gawl.) DC., *Prodr.* 5: 563 (1836).

Wulffia platyglossa (Cass.) DC., *Prodr.* 5: 563 (1836).

Wulffia havanensis DC., Prodr. 5: 563 (1836). Type: '■in insulâ Cubâ juxta Havanam legit cl. *Ant. de La Ossa*. ... (v.s.)'. Holotype: G-DC. Note: there is one unlabelled collection also bearing the *Prodromus* name.

Wulffia scandens DC., Prodr. 5: 564 (1836). Type: '■in Peruviâ legit cl. *Poeppig*. *Caesula scandens* Poepp.! pl. exs. n. 24. diar. 1663. ... (v.s.)'. Holotype: G-DC.

Wulffia capitata (G. Mey.) Sch.Bip., *Linnaea* 21: 246 (1848).

Wulfia [sic!] *suffruticosa* Gardner, *London J. Bot.* 7: 292 (1848). Type: 'HAB. Woods near Natividade, Province of Goyaz. Jan., 1840.' [*Gardner*] 3295. Isotypes: BM, K, NY (00278083).

Wulfia [sic!] *longifolia* Gardner, *London J. Bot.* 7: 293 (1848). Types: 'HAB. Bushy places on the Organ Mountains, at an elevation of about 3,000 feet, March 1837 ([*Gardner*] n. 509); and at Jacarè near Rio de Janeiro, Dec., 1840 ([*Gardner*] 5525).' Lectotype (selected by ?Robinson, 2006: 214): *Gardner* 509, BM; isolectotype: K, photo US, NY (00278076, 00278077, 00278078).

Wulffia elongata Miq., *Stirp. Surinam. Select.* : 193 (1850). Type: 'In Surinamo, v. c. prope Paramaribo urbem, legit FOCKE.' Holotype: U.

Wulffia quitensis Turcz., *Bull. Soc. Imp. Naturalistes Moscou* 24(1): 182 (1851). Type: [Ecuador:] 'Machangara in regno Quitensi. *Jameson* coll. n. 468.' Holotype: ?KW.

Wulffia baccata (L.) Kuntze, *Revis. Gen. Pl.* 3(3): 184 (1898).

Wulffia baccata (L.) Kuntze var. *discoidea* S. F. Blake, *J. Wash. Acad. Sci.* 28: 491 (1938). Type: 'ECUADOR: Scandent perennial herb up to 3 m. high, with orange flowers and black fruit, thicket along trail side, trail from Tena to Napo, Cantón Napo, Prov. Napo-Pastaza, alt. 400 m., 5 April 1935, *Ynes Mexia* 7170'. Holotype: US (1,692,980).

Aspilia bolivarana V. M. Badillo, *Ernstia* 23: 14 & fig. 4 (1984). Type: [Venezuela:] 'Estado Bolivar (Heres): Trepadora de hojas membranáceas de color verde claro; flores del disco de color anaranjado claro con estambres marrones; flores de los rayos amarillos; en bosque al lado de la pista de Santa Bárbara del Orinoco. 25-V-1975, *Paul E. Berry* 698'. Holotype: VEN; isotype: MYF.

Bolivia (Bení, Cochabamba, La Paz, Santa Cruz, Tarija), Brazil, Colombia, Ecuador, Guyana, Panama, Peru, Surinam, Venezuela, West Indies.

Forest margins, scrub, roadsides, hedges.

0–2000 m.

Probably flowering sporadically throughout the year.

Robinson (2006: 214) separated *Wulffia baccata* var. *discoidea* (syn. *W. scandens* DC.) as the eradiate headed taxon found in Colombia, Ecuador and Peru. Pruski (1996) had previously recognized this as *Tilesia baccata* var. *discoidea* (S. F. Blake) Pruski

Tilesia capitata G. Mey., *Prim. Fl. Esseq.* : 254 (1818) = ***Tilesia baccata*** (L.) Pruski

Tiltilia Phil. ex Reiche, *Anal. Univ. Chile* 115: 322 (1904), nom. nud. = ***Chaetanthera*** Ruiz & Pav.

Timanthea Salisb., *Prodr.* : 208 (1796), nom. superfl. = ***Baltimora*** L.

Tithonia Desf. ex Juss., *Gen. Pl.* : 189 (1789).

Tithonia Desf. ex Juss. subgen. *Mirasolia* Sch.Bip. in Seem., *Bot. Voy. Herald*: 305 (1856). Type: *Tithonia calva* Sch.Bip.

Mirasolia (Sch.Bip.) Benth. & Hook. f., *Gen. Pl.* 2: 367 (1873).

Urbanisol Kuntze, *Revis. Gen. Pl.* 1: 370 (1891), nom. illegit. superfl. pro ***Tithonia*** Desf. ex Juss.

Type: *Tithonia uniflora* Gmelin = ***Tithonia rotundifolia*** (Mill.) S. F. Blake

References

Blake, S. F. (1921). Revision of the genus *Tithonia*. *Contr. U. S. Natl. Herb.* 20: 423–436.

La Duke, J. C. (1982). Revision of *Tithonia*. *Rhodora* 84(No. 840): 453–522.

Robinson, H. (2006). *Tithonia*. In: G. Harling & L. Andersson (eds), *Flora of Ecuador*, No. 77(2): 190(6).

Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 154–160.

Zardini, E. M. (1974). Dos compuestas del genero «*Tithonia*», adventicias, nuevas para la flora Jujeña. Darwiniana 18: 421–424.

Tithonia aristata Oersted, Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1852(5–7): 114 (1852)[1853] =

Tithonia rotundifolia (Mill.) S. F. Blake

Tithonia heterophylla Griseb., Bonplandia 6: 9 (1858) = ***Tithonia rotundifolia*** (Mill.) S. F. Blake

Tithonia macrophylla S. Watson, Proc. Amer. Acad. Arts 26: 140 (1891) = ***Tithonia rotundifolia*** (Mill.) S. F. Blake

Tithonia rotundifolia (Mill.) S. F. Blake, Contr. Gray Herb. 52: 41 (1917).

Tagetes rotundifolia Mill., Gard. Dict., ed. 8. *Tagetes* No. 4 (1768). Type: 'This plant was discovered by the late Dr. Houston growing naturally at La Vera Cruz in New Spain, from whence he sent the seeds to England.' [cult. material by ?] Holotype: BM.

Tithonia uniflora Desf. ex J. F. Gmel., Syst. Nat., ed. 13, 2(2): 1259 (1792), nom. illegit. – no validly published genus at this time. Note: Reference in the protologue, after merely a citation of the name was to 'Des Fontaines. act. Paris. extram. vol. 12'. This, as Stafleu & Cowan (1976: 629) pointed out, was never published but it appeared later as 'Description du genre *Tithonia*' in Ann. Mus. Nat. Hist. Nat. 1: 49–51 (1802).

Tithonia tagetiflora Desf., Ann. Mus. Natl. Hist. 1: 49, pl. 4 (1802). Type: 'Thiery, voyageur connu par des projets utiles à son pays, en envoya, en 1778, au jardin des plantes, des graines qu'il avoit cueillies dans les environs de la Vera Cruz. Elle a été cultivée pendant deux ou trois ans; ...'. Holotype: P.

Tithonia tagetiflora Lam., Tab. Encycl. tom. 3: 284 (1823); tom. 2: t. 708 (1797), nom. illegit., later hom. Type: not specified.

Helianthus speciosus Hook., Curtis's Bot. Mag., ser. 2, 3 [vol 61 of whole]: t. 3295 (1834). Type: 'Along with the very beautiful drawing here figured, my obliging correspondent, THOMAS GLOVER, Esq. of Manchester, sent me the following account of this charming HELIANTHUS. "Mr. EDWARD LEEDS of this place, who has lately commenced business as a Nurseryman and Florist, from among a packet of seeds from the Botanic Garden, Mexico, sent to him by W. HIGSON, Esq. of Manchester, has raised several plants that are not known in this neighbourhood. Only one, the subject of my present communication, has flowered, ... Only one seed vegetated; and ... it is said to have come from Jorullo. ..." Holotype: K; isotype: K. La Duke (1982) annotated the sheet in K used for t. 3295 (ex Herb. Hookerianum) as the 'Holotype'. Interestingly there is one sheet in the 'Cultivated' material covers that is of one capitulum on part of a pedicel with a printed label. This label notes that the specimen is from the original plant grown by Mr Edward Leeds and could therefore be counted as an isotype.

Leighia speciosa (Hook.) DC., Prodr. 5: 583 (1836).

Tithonia aristata Oersted, Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1852(5–7): 114 (1852)[1853]. Type: 'Jeg fandt den paa Bjerget Aguacate i Costa-Rica.' Holotype: C.

Tithonia heterophylla Griseb., Bonplandia 6: 9 (1858). Type: 'Ins. Taboga pr. Panamam: Duch.[assaing s.n.]' Holotype: GOET.

Tithonia speciosa (Hook.) Griseb., Cat. Pl. Cub. : 155 (1866).

Tithonia macrophylla S. Watson, Proc. Amer. Acad. Arts 26: 140 (1891). Type: [Mexico:] 'Barranca, near Guadalajara; Sept., 1889 ([Pringle] n. 2798).' Holotype: US (277334); isotypes: F (106758), GH (13122), MICH, NY (00273846), US (48053).

Urbanisol tagetifolius (Desf.) Kuntze, Revis. Gen. Pl. 1: 370 (1891).

Urbanisol tagetifolius (Desf.) Kuntze var. *diversifolius* Kuntze f. *grandiflorus* Kuntze, Revis. Gen. Pl. 1: 370 (1891), nom. illegit.

Urbanisol tagetifolius (Desf.) Kuntze [unranked] α *normalis* Kuntze, Revis. Gen. Pl. 1: 370 (1891). Type: 'Singapur, verwildert.'

Urbanisol tagetifolius (Desf.) Kuntze [unranked] β *speciosus* (Hook.) Kuntze, Revis. Gen. Pl. 1: 370 (1891).

Urbanisol aristatus (Oerst.) Kuntze, Revis. Gen. Pl. 1: 371 (1891).

Urbanisol heterophyllus (Griseb.) Kuntze, Revis. Gen. Pl. 1: 371 (1891).

Tithonia speciosa (Hook.) Klatt, Bull. Soc. Roy. Bot. Belgique 31(2): 203 (1893), comb. illegit. superfl.

Tithonia vilmoriniana Pamp., Bull. Soc. Bot. Ital. 1908: 133 (1908). Type: 'Habitat: Culta in Horto Botanico Florentino e seminibus mexicanis, pr. Jacona (Michoacan) lectis et a cl. *Vilmorin-Andrieux* missis.' Holotype: FI.

Costa Rica, Cuba, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, San Domingo, San Salvador, Venezuela. Widely cultivated, frequently naturalizing. Bolivia (Santa Cruz), Brazil, Ecuador, Peru, USA. China, Kenya, Zambia, Zimbabwe.

Adjacent cultivated areas, roadsides, rubbish tips, gardens.

0–1000 m.

November – January.

Note: La Duke (1982: 482) and Robinson (2006: 159) incorrectly assigned the rank of variety to Kuntze's taxa. It is quite clear that Kuntze used the rank of variety only for var. *diversifolius*, and at the same time assigned the epithet *grandiflorus* the rank of forma; the other taxa are unranked.

Tithonia speciosa (Hook.) Griseb., Cat. Pl. Cub. : 155 (1866) = **Tithonia rotundifolia** (Mill.) S. F. Blake

Tithonia speciosa (Hook.) Klatt, Bull. Soc. Roy. Bot. Belgique 31(2): 203 (1893), comb. illegit. superfl. = **Tithonia rotundifolia** (Mill.) S. F. Blake

Tithonia tagetiflora Desf., Ann. Mus. Natl. Hist. 1: 49, pl. 4 (1802) = **Tithonia rotundifolia** (Mill.) S. F. Blake

Tithonia tagetiflora Lam., Tab. Encycl. tom. 3: 284 (1823); tom. 2: t. 708 (1797), nom. illegit., later hom. =

Tithonia rotundifolia (Mill.) S. F. Blake

Tithonia uniflora Desf. ex J. F. Gmel., Syst. Nat., ed. 13, 2(2): 1259 (1792), nom. illegit. = **Tithonia rotundifolia** (Mill.) S. F. Blake

Tithonia vilmoriniana Pamp., Bull. Soc. Bot. Ital. 1908: 133 (1908) = **Tithonia rotundifolia** (Mill.) S. F. Blake

Tonalanthus Brandegee, Univ. Calif. Publ. Bot. 6: 75 (1914) = **Calea** L.

Torrentia Vell., Fl. Flum. Icones 8: tab. 149 (1831) = **Ichthyothere** Mart.

Tragoceros Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 195 (1818) = **Zinnia** L.

Trajoceras peucedanifolium Spreng., Syst. Veg. ed. 16, 3: 576 (1826) = **Isostigma peucedanifolium** (Spreng.) Less.

Tragopogon L., Sp. Pl. : (1753).

Tragopogon fritillarioides Less., Linnaea 6(1): 101 (1831) = **Picrosia longifolia** D. Don

Trichapium Gilli, Feddes Repert. 94: 312 (1983) = **Clibadium** L.

Trichocline Cass., Bull. Sci. Soc. Philom. Paris 1817: 13 (1817).

Bichenia D. Don, Trans. Linn. Soc. London 16(2): 236 (1830). Type: *Bichenia aurea* D. Don = *Trichocline aurea* (D. Don) Reiche

Type: [*Doronicum incanum* Lam. non L., nom. illegit.] **Trichocline incana** Cass.

Reference

Zardinia, E. M. (1975). Revisión del género «*Trichocline*» (Compositae). Darwiniana 19: 618–733.

Key to species

Leaves oblanceolate or obovate, entire, sinuate or lobate; scape tomentose; pappus setae c.

11 mm long

T. reptans

Leaves lyrate with 1 or 2 pairs of lateral lobes and large terminal lobe; scape glabrescent;

pappus setae c. 7 mm long

T. auriculata var. *auriculata*

Trichocline auriculata (Wedd.) Hieron., Bot. Jahrb. Syst. 21(4): 369 (1896).

Bichenia auriculata Wedd., Chloris Andina 1: 26 (1855). Type: 'Hab. BOLIVIE: environs de Potosí!, à une hauteur de 4000 mètres environ (*d'Orbigny*, n. 1429).' Holotype: P.

var. **auriculata**

Argentina, Bolivia (Potosí, Tarija).

Slopes, dry hillsides, Puna, loose soils.
3300–4600 m.

December–April.

Vernacular names: CONTRAYERBA; PAMPABALLA (Katinas, 1996: 35).

**Trichocline incana* (Lam.) Cass., Dict. Sci. Nat. 55: 216 (1828). Note: Listed by Foster (1958: 220), this species is only known from Uruguay. The record for this species might well be the result of synonymizing *T. reptans* under *T. incana*.

***Trichocline reptans** (Wedd.) Hieron., Bot. Jahrb. Syst. 21(4): 369 (1896).

Bichenia reptans Wedd., Chloris Andina 1: 25, tab. 8, B (1855). Type: 'Hab. Bolivie: environs de Chuquisaca!, dans la région alpestre.' Holotype: P.

Gerbera incana (Lam.) Kuntze [var.] β *intermedia* Kuntze, Revis. Gen. Pl. 3(3): 149 (1898). Type: 'Argentina: Potrero de Lujan, Calamuchita (Cordoba) legit C. Galander [s.n.]' Holotype: NY (00169450). Note: Wetter & Zandoni (1985: 331) indicated that this was collected on '25 Dec 1883'.

Gerbera incana (Lam.) Kuntze [var.] γ *reptans* (Wedd.) Kuntze, Revis. Gen. Pl. 3(3): 149 (1898).

Gerbera incana (Lam.) Kuntze [var.] γ *reptans* (Wedd.) Kuntze f. *pallida* Kuntze, Revis. Gen. Pl. 3(3): 149 (1898). Type: 'Argentina: Cordoba.' Holotype: NY (00169452) as 'ARGENTINA. Córdoba, Dec 1891, Kuntze s.n.' according to Wetter & Zandoni (1985: 331).

Gerbera incana (Lam.) Kuntze [var.] γ *reptans* (Wedd.) Kuntze f. *aurantiaca* Kuntze, Revis. Gen. Pl. 3(3): 149 (1898). Type: 'Argentina: Cordoba, Ceres in Provinz Santa Fé. [Oct 1892, Kuntze s.n.]' Holotype: NY (00169451).

Trichocline reptans (Wedd.) B. L. Rob., Proc. Amer. Acad. Arts 47: 193 (1911), comb. superfl.

Trichocline reptans (Wedd.) B. L. Rob., Proc. Amer. Acad. Arts. 49: 515 (1913), comb. superfl.

Argentina, Bolivia (Chuquisaca) – disputed territory with Paraguay.

Sandy, rocky and loose soils.

0–3000 m.

November–March.

Note: Zardini (1975) mentioned nothing about *Gerbera incana* (Lam.) Kuntze [var.] α *brasiliensis* Kuntze (Kuntze 1898: 149) which was provided with a short Latin diagnosis and compared with var. *reptans* Kuntze. Ariza Espinar (2001: 159) in correctly citing the correct authority for this taxon regrettably provided the wrong publication year regardless of his explanation; Heft 4 of the volume was published in '11. Februar 1896' according to the journals own statement of publication dates bound with this volume. Wetter & Zandoni (1985) also mentioned nothing about this taxon amongst the type specimens in NY.

Vernacular names: ARNICA; CONTRAYERBA; CORO; YERBA CHINA; YERBA DEL CIERVO (Katinas, 1996: 37); KA' APE POÑY (Cabrera, 1998).

Trichocline reptans (Wedd.) B. L. Rob., Proc. Amer. Acad. Arts 47: 193 (1911), comb. superfl. = **Trichocline reptans** (Wedd.) Hieron.

Trichocline reptans (Wedd.) B. L. Rob., Proc. Amer. Acad. Arts. 49: 515 (1913), comb. superfl. = **Trichocline reptans** (Wedd.) Hieron.

Trichogonia (DC.) Gardner, London J. Bot. 5: 459 (1846).

Kuhnia L. sect. *Trichogonia* DC., Prodr. 5: 126 (1836).

Type: *Kuhnia arguta* Kunth = *Trichogonia arguta* (Kunth) Benth.

Reference

King, R. M. & H. Robison (1978). Studies in the Eupatorieae (Asteraceae). CLXXXI. Two new species of *Trichogonia*. Phytologia 39(5): 334–338.

Trichogonia bishopii R. M. King & H. Rob., Phytologia 39(5): 334 (1978). Type: 'BOLIVIA: SANTA CRUZ: one km from Comarapa on road to Cochabamba. Elevation ca. 6200 ft. February 5, 1978. R. M. King & L. E. Bishop 7626.' Holotype: US (02827684).

Bolivia (Santa Cruz).

1800 m.

January–February.

***Trichogonia capitata** (Rusby) B. L. Rob., Proc. Amer. Acad. Arts 47: 193 (1911).

Eupatorium capitatum Rusby, Bull. New York Bot. Gard. 4(14): 380 (1907). Type: [Bolivia:] ‘ “A few feet high, flowers light red; scarce, in dry gravelly soil.” Coripata, Yungas, March 25, 1894. ([Bang] No. 2114.)’

Holotype: NY (00061829); isotypes: LD, US (00325869 & 01404207).

Bolivia (La Paz).

March–April.

Trichospira Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 21 (1818).

Type: *Trichospira menthoides* Kunth = **T. verticillata** (L.) S. F. Blake

Reference

Dillon, M. O. (1982). Additions to tribe Vernonieae (Compositae): I. In: J. F. Macbride & collab., Flora of Peru, Fieldiana, Bot. n.s. 11: 1–7.

Robinson, H. & R. D. Brettell. (1973). Tribal revisions in the Asteraceae II. The relationship of *Trichospira*. Phytologia 25(4): 259–261.

Trichospira biaristata Less., Linnaea 4(3): 343 (1829) = **Trichospira verticillata** (L.) S. F. Blake

Trichospira menthoides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 22 (1818) =

Trichospira verticillata (L.) S. F. Blake

Trichospira priurei DC., Prodr. 5: 91 (1836) = **Trichospira verticillata** (L.) S. F. Blake

Trichospira pulegium Mart. ex DC., Prodr. 5: 91 (1836) = **Trichospira verticillata** (L.) S. F. Blake

Trichospira verticillata (L.) S. F. Blake, Torreyia 15: 106 (1915).

Bidens verticillata L., Sp. Pl. : 833 (1753). Type: ‘Hab. in Vera Cruce.’ Lectotype (selected by Blake, 1915: 106): Herb. Clifford 399, *Bidens* 4. (BM-000646990).

Trichospira menthoides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 22 (1818). Type:

‘Crescit in arenosis fluvii Apures (Provincia Varinensi.) ■ Floret Majo.’ [*Humboldt & Bonpland* no. 810. in arenosis Rio Apure]. Holotype: P-Bonpl.

Rolandra reptans Willd. ex Less., Linnaea 4(3): 343 (1829), nom. nud. pro syn.

Trichospira biaristata Less., Linnaea 4(3): 343 (1829). Type: ‘Sellow misit e Brasilia tropical. ... (v. sp. ∞.)’.

Syntypes: B†.

Trichospira pulegium Mart. ex DC., Prodr. 5: 91 (1836). Type: ‘(Mart.! herb.) ... ■ in herbidis prov. Rio-Negro Brasiliae fluv. Japura conterminis legit cl. Martius. ... (v.s.)’. Holotype: M. Note: there are only two *Poeppig* collections bearing this name in G-DC and these clearly cannot be regarded as type material.

Trichospira priurei DC., Prodr. 5: 91 (1836). Type: ‘■ in Guianâ Gallicâ ad ripas flum. Ouessa, in solo argillaceo paludoso legit cl. Le Prieur, qui ex naufragio miserrimo hanc et paucas alias salvavit! Herba pedalis. (v. s. comm. à cl. inv.)’. Holotype: G-DC (Note: this collection is marked ‘Synanth. n. 4’); isotype: G.

Salmea verticillata (L.) Druce, Bot. Exch. Club Soc. Brit. Isles 3: 423 (1914).

Bolivia (Bení, Pando, Santa Cruz), Brazil, Cuba, Dominican Republic, Guatemala, Guyana, Haiti, Mexico, Panama, Peru, Venezuela.

Disturbed areas, riverbanks, damp roadsides, wet cerrado.

0–500 m.

October–May.

Trichostemma Cass., Dict. Sci. Nat. 46: 409 (1827), non *Trichostema* L. (1753) = **Wedelia** Jacq.

Trichostephium Cass., Dict. Sci. Nat. 55: 266 (1828), as nom. nov. pro *Trichostemma* Cass. = **Wedelia** Jacq.

Trichostephus Cass., Dict. Sci. Nat. 60: 618 (1830), orth. var. *Trichostephium* Cass. = **Wedelia** Jacq.

Tridax L., Sp. Pl. : 900 (1753).

Bartolia Adans., Fam. Pl. 2: 124 (1763). Type: **Tridax procumbens** L.
Balbisia Willd., Sp. Pl. 3(3): 2214 (1803), nom. rej., non *Balbisia* Cav., nom. cons. Type: *Balbisia elongata* Willd. = **Tridax procumbens** L.
Sogalgina Cass., Dict. Sci. Soc. Philom. Paris 1818: 31 (1818). Type: *Galinsoga trilobata* Cav. = *Tridax trilobata* (Cav.) Hemsl.
Galinsogea Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 199 (1818). Type: *Galinsogea trilobata* Cav. = *Tridax trilobata* (Cav.) Hemsl.
Ptilostephium Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 199 (1818). Lectotype (selected by): *Ptilostephium coronopifolium* Kunth = *Tridax coronopifolia* (Kunth) Hemsl.
Carphostephium Cass., Dict. Sci. Nat. 44: 62 (1826). Type: *Ptilostephium trifidum* Kunth = *Tridax coronopifolia* (Kunth) Hemsl.
Mandonia Wedd., Bull. Soc. Bot. France 11: 50, pl. 1 (1864). Type: *Mandonia boliviensis* Wedd. = **Tridax boliviensis** (Wedd.) R. E. Fr.

Type: **Tridax procumbens** L.

References

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Key to species

1. Plants annual, stems erect to ±decumbent; phyllaries 4–5-seriate, gradate, apices of inner phyllaries reddish-purple; ray florets c. 13, limbs whitish or purplish; pappus of c. 35–40 setae
T. boliviensis
 Plants perennial, stems procumbent and often rootin at nodes; phyllaries 2–3-seriate, subequal; ray florets 3–6, limbs creamish-white to pale yellow; pappus of 20 setae
T. procumbens

***Tridax boliviensis** (Wedd.) R. E. Fr., Ark. Bot. 5(13): 21 (1906).

Mandonia boliviensis Wedd., Bull. Soc. Bot. France 11: 51, pl. 1 (1864). Type/s?: ‘Hab. Bolivia: in cultis et incultis, viciniis oppiduli Sorata, ad San Pedro et in monte Lorecasa, alt. 2600–3200 metr. [Feb.–May 1860, Mandon 289]. Holotype: P; isotypes: ?F, GH (13237, 13238), GOET, NY (00214998, 00214999, 00215000), US (02565783 & 01802988 – fragments only).

Tridax mandonii Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); *Linnaea* 43: 536 (1865), nom. nud. Bolivia (Chuquisaca, Cochabamba, La Paz, Potosí, Tarija).

Roadsides, gravelly areas, rocky soils, sandy soils, field margins, dry valleys.

1150–3000 m.

December – May.

Tridax mandonii Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); *Linnaea* 43: 536 (1865), nom. nud. = **Tridax boliviensis** (Wedd.) R. E. Fr.

***Tridax procumbens** L., Sp. Pl. : 900 (1753). Type: ‘Habitat in Vera Cruce.’ Lectotype (selected by Powell, 1965: 80): *Houston*, Herb. Clifford: 418, *Tridax* 1 (BM-000647229).

Balbisia elongata Willd., Sp. Pl. 3: 2214 (1803). Type: ‘Habitat in Mexico. † (v. v.)’ Type material: B-W (16366).

Note: There are three sheets under this number in B-W. The first sheet is the most complete material and appears to have the following nom. nud. written beneath the specimen. The second has ‘(*Balbis*)’ written at the bottom of the sheet, but lacks any capitula, and the third has ‘(*Humboldt*)’ written at the bottom.

Amellus pedunculatis Ortega ex Willd., Sp. Pl. 3: 2214 (1803), nom. nud. pro syn.

Balbisia canescens Pers., Syn. Pl. 2: 470 (1807). Type: ‘Hab. ad S. Martham Continentalis Amer. australis.

Richard.’ Holotype: ?P.

Tridax procumbens L. var. *canescens* (Pers.) DC., Prodr. 5: 679 (1836).

Balbisia pedunculata Ortega ex O. Hoffm., Verz. Pfl. : 228 (1824), nom. illegit., based on *Balbisia elongata* Willd.
Balbisia divaricata Cass., Ann. Sci. Nat. 23: 90 (1831). Type: 'M. Bouton, qui n'avait point nommé cette plante, dit qu'elle est cultivée dans le jardin des Pamplemousses.'
Tridax procumbens L. var. *ovatifolia* B. L. Rob. & Greenm., Proc. Amer. Acad. Arts 32: 7 (1896). Type: 'Collected by E. W. Nelson in the vicinity of Yalalag, Oaxaca, July, 1894, no. 948.' Holotype: GH (13227).
A pantropic weed, widespread in South America. Bolivia (La Paz, Cochabamba, Santa Cruz)
Roadsides, path edges, cultivated areas, field margins, dry valleys, rough pasture.
0–2000 m.
Flowering throughout the year.

Tridax procumbens L. var. *canescens* (Pers.) DC., Prodr. 5: 679 (1836) = **Tridax procumbens** L.
Tridax procumbens L. var. *ovatifolia* B. L. Rob. & Greenm., Proc. Amer. Acad. Arts 32: 7 (1896) = **Tridax procumbens** L.

Tridens varius Pohl ex Baker in Mart., Fl. Bras. 6(3): 225 (1884), nom. nud. pro syn. (sub *V. dissitifolia* (DC.) Baker) = **Viguiera anchusifolia** (DC.) Baker

Trimorpha Cass., Bull. Sci. Soc. Philom. Paris 1817: 137 (1817), but its rank was not specified – appearing as 'Ce genre, ou sous-genre, ...'; Dict Sci. Nat. 3: Suppl. 65 (Dec. 1816 or Jan. 1817) is cited in *Index Kewensis*, although this was a nom. nud. at this date = **Erigeron** L.

Trinacte Gaertn., Fruct. Sem. Pl. 2: 415 (1791) = **Jungia** L.f.

Trinchinettia Endl., Gen. : 1383 (1841), nom. nov. (based on *Schomburghia* DC.) = **Calea** L.

Triplotaxis Hutch., Bull. Misc. Inform. Kew 1914(10): 355 (1914) = **Vernonia** Schreb.

Tripolium Nees sect. *Oxytripolium* DC., Prodr. 5: 253 (1836) = **Symphotrichum** Nees
Tripolium Nees subgen. *Astropolium* Nutt., Trans. Amer. Philos. Soc. 2(7): 295 (1840) = **Symphotrichum** Nees
Tripolium conspicuum Lindl. ex DC., Prodr. 5: 254 (1836) = **Symphotrichum squamatum** (Spreng.) G. L.
Nesom
Tripolium moelleri Phil., Anales Univ. Chile 87: 403 (1894) = **Symphotrichum squamatum** (Spreng.) G. L.
Nesom
Tripolium oliganthum Phil., Anales Univ. Chile 87: 403 (1894)) = **Symphotrichum squamatum** (Spreng.) G. L.
L. Nesom
Tripolium ? subulatum (Michx.) Nees ***** [symbols of unspecified rank] *brasilianum* DC., Prodr. 5: 254 (1836), nom. inval. = **Symphotrichum squamatum** (Spreng.) G. L. Nesom
Tripolium tenuifolium Phil., Anales. Univ. Chile 87: 404 (1894) = **Symphotrichum vahlii** (Gaudich.) G. L.
Nesom

Triptilion Ruiz & Pav., Prodr.: 102, t. 22 (1794).

Triptilion axillare Lag. ex Spreng., Syst. Veg., ed. 16, 3: 506 (1826) = **Nassauvia axillaris** (Lag. ex Spreng.) D. Don

Trixis Sw., Prodr. : 115 (1788), non P. Browne, Civ. Nat. Hist. Jamaica [MUTISIEAE] = **Clibadium** L.
Trixis P. Browne subgen. *Cleanthes* (D. Don) Less., Syn. Gen. Comp. : 413 (1832) = **Holocheilus** Cass.
Trixis P. Browne sect. *Cleanthes* (D. Don) DC., Prodr. 7: 71 (1838) = **Holocheilus** Cass.

Trixis P. Browne, Civ. Nat. Hist. Jamaica : 312 (1756).

Prionanthes Schrank, Pl. Rar. Hort. Acad. Monac. 2: tab 51 (1819). Type: *Prionanthes antimenorrhoea* Schrank = **Trixis divaricata** (Kunth) Spreng.

Tenorea Colla, Hortus Ripul. : 137 (1824). Type: *Tenorea berteri* Colla = *Trixis inula* Crantz

Castra Vell., Fl. Flum. : 342 (1825)[7 Sept. - 28 Nov. 1829]. Type: not stated. Lectotype (selected by Katinas, 1996: 44): *Castra praestans* Vell. = *Trixis praestans* (Vell.) Cabrera
Bowmannia Gardner, Hook. Ic. Pl. 6: 519 (1843). Type: *Bowmannia verbascifolia* Gardner = *Trixis verbascifolia* (Gardner) S. F. Blake

Type: *Trixis inula* Crantz

References

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- Katinas, L. (1996). Revisión de las especies Sudamericanas del género *Trixis* (*Asteraceae, Mutisieae*). Darwiniana 34(1-4): 27-108.

Key to species (modified from Katinas, 1996)

- | | | |
|--------|---|-----------------------|
| 1. | Involucre uniseriate; phyllaries 5-6 | <i>T. cacalioides</i> |
| | Involucre 2-5-seriate; phyllaries >10 | 2 |
| 2. (1) | Inner phyllaries 5; stems winged; inflorescence spiciform | <i>T. spicata</i> |
| | Inner phyllaries >8; stems unwinged; inflorescence paniculate, corymbose or pseudoracemose | 3 |
| 3. (2) | Inner phyllaries 8-9 | 4 |
| | Inner phyllaries >10 | 5 |
| 4. (3) | Inflorescence congested; midrib and venation yellowish; pappus orange-yellow to yellowish-white | <i>T. aggregata</i> |
| | Inflorescence lax; midrib and venation pappus pale yellow | <i>T. divaricata</i> |
| 5. (3) | Leaves auriculate at base | <i>T. grisebachii</i> |
| | Leaves not auriculate at base | <i>T. ophiorhiza</i> |

****Trixis aggregata*** Rusby, Mem. Torrey Bot. Club 6(1): 71 (1896). Type: [Bolivia:] 'Vic. Cochabamba, 1891 ([Bang] 1150).' Holotype: NY (00274280); isotypes: BM, GH (56245), K, NY (00274281), US (01417487). Note: The K isotype is determined as the 'lectotype' by Katinas on the sheet.

**Trixis rigida* J. Koster, Blumea 5(3): 682 (1945). Types: 'Hab.: in den Geröllalluvionen der Ebene um Cochabamba, 2800 m alt., Mai 1911, [Herzog] n. 2078. ... *Steinbach* n. 9705 est eadem species.' Syntype (Herzog 2078): L(94437141); isosyntype (Herzog 2078): S; isosyntypes: *Steinbach* 9705, K × 3. Note: Clearly Koster did not consider the *Steinbach* collection to be considered alongside of the *Herzog* as the *Herzog* material in L is clearly marked as the 'Type', yet its mention in the protologue is clear and it should be regarded as a syntype, rather than a paratype.

Bolivia (Chuquisaca, Cochabamba, Potosí).

Dry soils and rocky areas on hill slopes.

2400-3200 m.

March-May.

Vernacular name: YURA KHUASA (Katinas, 1996: 46).

Trixis antimenorrhoea (Schrank) Mart. ex Baker in Mart., Fl. Bras. 6(3): 385 (1884) = ***Trixis divaricata*** (Kunth) Spreng.

Trixis antimenorrhoea (Schrank) Mart. ex Baker var. *auriculata* (Hook.) Cabrera, Revista Mus. La Plata, Secc. Bot. 1: 73 (1936) = **Trixis divaricata** (Kunth) Spreng.
Trixis antimenorrhoea (Schrank) Mart. ex Baker var. *cladoptera* (Baker) Cabrera, Revista Mus. La Plata, Secc. Bot. 1: 77 (1936) = **Trixis divaricata** (Kunth) Spreng.
Trixis antimenorrhoea (Schrank) Mart. ex Baker [var.] β *divaricata* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 183 (1898) = **Trixis divaricata** (Kunth) Spreng.
Trixis antimenorrhoea (Schrank) Mart. ex Baker [var.] α *flexuosa* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 182 (1898) = **Trixis divaricata** (Kunth) Spreng.
Trixis antimenorrhoea (Schrank) Mart. ex Baker [var.] α *flexuosa* (Kunth) Kuntze f. *discolor* (D. Don) Kuntze, Revis. Gen. Pl. 3(3): 182 (1898) = **Trixis divaricata** (Kunth) Spreng.
Trixis antimenorrhoea* (Schrank) Kuntze [var.] γ *heterophylla* Kuntze, Revis. Gen. Pl. 3(3): 183 (1898) = **Trixis divaricata (Kunth) Spreng.
Trixis antimenorrhoea* (Schrank) Kuntze [var.] δ *petiolata* Kuntze, Revis. Gen. Pl. 3(3): 183 (1898) = **Trixis divaricata (Kunth) Spreng.
Trixis antimenorrhoea (Schrank) Mart. ex Baker [var.] δ *petiolata* Kuntze f. *sublanata* Kuntze, Revis. Gen. Pl. 3(3): 183 (1898) = **Trixis divaricata** (Kunth) Spreng.
Trixis antimenorrhoea (Schrank) Mart. ex Baker var. *typica* Cabrera, Revista Mus. La Plata, Secc. Bot. 1: 72 (1936) = **Trixis divaricata** (Kunth) Spreng.
Trixis auriculata Hook., Bot. Mag. 54: tab. 2765 (1827) = **Trixis divaricata** (Kunth) Spreng.

Trixis cacalioides (Kunth) D. Don, Trans. Linn. Soc. London 16(2): 187 (1830).

Perdicium cacalioides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 121 (1818). Type: 'Crescit in declivitate orientali Andium Peruvianorum ad ripam fluvii Matara, alt. 430 hex. ■ Floret Augusto.' Holotype: P-Bonpl.

Trixis frutescens R. Browne var. *denticulata* Less., Syn. Gen. Comp. : 414 (1832), nom. illegit. based on *Perdicium cacalioides* Kunth

Trixis paradoxa Cass., Opusc. Phytol. 2: 160 (1826). Type: 'Cette description est faite sur un échantillon recueilli dans le Pérou, par Dombey, et qui se trouve dans l'Herbier général du Muséum d'histoire naturelle.' Holotype: P.

Trixis papillosa Gillies ex D. Don, Phil. Mag. 2: 388 (1832). Type: 'Herb. Gillies' Holotype: ?BM.

Trixis neaeana DC., Prodr. 7: 67 (1838). Type: ■ in Amer. calid., verisim. in Peruvia legit cl. Née sed locus proprius ignotus. ... (v. s. ex herb. Thibaud.) Holotype: G-DC.

Trixis (§ *Aplochlaenae*) *hexantha* S. Moore, J. Bot. 52: 264 (1914). Type: [Peru:] 'Hab. Valley between Pacasmayo and Rail-head, 7000 ft. [Mr. H. O. Forbes]'. Holotype: BM.

Trixis subparadoxa Herrera, Publ. Mus. Hist. Nat. 'Javier Prado' Lima, ser. B, Bot. 25: 6 (1969). Type: 'CAJAMARCA: Prov. Celendín, entre Balsas y Hacienda el Limón, 1500-2000 m.s.m. *Ferreyra* 15059'. USM (15729).

Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija), Chile, Paraguay, Peru.

Dry and rocky soils on hill slopes.

0–3000 m.

Flowering throughout the year.

Vernacular names: COCA INCA, INGA, HIERBA LINDA, YERBA LINDA (Katinas, 1996: 57); KA'A NAMBI (Cabrera, 1998).

Trixis calcarea Gardner, London J. Bot. 6: 460 (1847) = **Trixis divaricata** (Kunth) Spreng.

Trixis cerroleonensis Soria & Zardini, Ann. Missouri Bot. Gard. 78(2): 531 (1991) = **Trixis ophiorhiza** Gardner ssp. **ophiorhiza**

Trixis chionopappa Sch.Bip. in Mart. Fl. Bras. 6(3): 386 (1884), nom. nud. pro syn. = **Trixis ophiorhiza** Gardner ssp. **ophiorhiza**

Trixis diffusa* Rusby, Bull. New York Bot. Gard. 8(No. 28): 134 (1912) = **Trixis divaricata (Kunth) Spreng.

Trixis discolor Gillies ex D. Don, Philos. Mag. : 388 (1832) = **Trixis divaricata** (Kunth) Spreng.

***Trixis divaricata** (Kunth) Spreng., Syst. Nat. 3: 501 (1826).

Perdicium divaricatum Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 122 (1818). Type:

[Peru] 'Crescit in collibus siccis prope Cavico ad ripam fluvii Chamaya. (Prov. Jaen de Bracamoros.) ■ Floret Augusto.' [*Humboldt & Bonpland* 'mss. n. 3650. Cavico'; B-W: '3650' - this is the second sheet marked

- 15066 but is not marked as a Humboldt collection.] Lectotype (selected by Cabrera, 1936): *Humboldt & Bonpland* 3650, P.
- Perdicium flexuosum* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4: 121 (1818) (folio). Type: [Ecuador:] 'Crescit locis temperatis prope Gonzanama Quitensium, alt. 1000 hex. ■ Floret julio.' [*Humboldt & Bonpland* 'mss. n. 3431. Gonzanama'; W: '3431'.] Lectotype (selected by Cabrera, 1936): *Humboldt & Bonpland* 3431, P; isoelectotype F.
- Prionanthes antimenorrhoea* Schrank, Pl. Rar. Hort. Acad. Monac. 2: tab. 51 (1819). Type: 'Brasilia, unde Dr. Martius semina misit.' Lectotype (selected by Harling, 1991): as the plate - M.
- Trixis flexuosa* (Kunth) Spreng., Syst. Nat. 3: 501 (1826).
- Trixis auriculata* Hook., Bot. Mag. 54: tab. 2765 (1827). Type: 'This plant was received at the Royal Botanic Gardens, Edinburgh, from Mr OTTO, of Berlin, under the name of *Perdicium brasiliense*;'. Holotype: K. *Castra regia* Vell., Fl. Flum. : 343 (1825)[7 Oct. - 28 Nov. 1829]. Type: not cited. ['Habitat maritimis fruticetis.']; Fl. Flum. Icones 8: tab. 79 (1831).
- Trixis salicifolia* D. Don, Trans. Linn. Soc. London 16(2): 298 (1830). Type: 'In Brasiliã. Sello.' (Katinas (1996) gave *Sello* 414 as the type and cited 'Isotype BM'. Holotype: originally in the Aylmer Bourke Lambert Herbarium, now probably in BM, CGE, G, LE, or OXF fide Miller (1970: 541). *Sellow* material was also purchased by Rich and is now in Herb. Delessert, P. Lectotypification is certainly necessary, but only after further investigation).
- Trixis discolor* Gillies ex D. Don, Philos. Mag. : 388 (1832). Type: 'Herb. Gillies.' [Shrubby at San Achivas, Province of San Luis. *Gillies* s.n.]. Holotype: K.
- Trixis divaricata* (Kunth) Spreng. var. α *auriculata* (Hook.) DC., Prodr. 7: 69 (1838).
- Trixis divaricata* (Kunth) Spreng. var. β *exauriculata* DC., Prodr. 7: 69 (1838). Type: as for *Perdicium flexuosum* Kunth
- Trixis sprengeliana* Gardner, London J. Bot. 6: 460 (1847). Types: 'HAB. Bushy places, near Villa de Arrayas ([*Gardner*] 3870), and near San Pedro ([*Gardner*] 4264, province of Goyaz. April and May, 1840.' Synstypes: K. Lectotype: *Gardner* 4264, BM; isoelectotypes B, K \times 2. I have corrected Katinas' citation of 'Holotype' for Lectotype as lectotypification of this name was necessary.). Syntypes: K. Isosynotype (*Gardner* 3870): NY (00274301).
- Trixis calcarea* Gardner, London J. Bot. 6: 460 (1847). Type: 'HAB. Open places on limestone mountains, near the Villa de Arrayas, Province of Goyaz. April 1840.' [*Gardner*] 3871. Holotype: BM; isotypes: K \times 2, NY (00274287, 00274287).
- Trixis odoratissima* Gardner, London J. Bot. 6: 461 (1847). Type: 'HAB. Between the Rio de San Francesco and Formigas, Province of Minas Geraes. July, 1840.' [*Gardner*] 4964. Lectotype: BM; isoelectotypes: B, GH, K \times 2, NY (00274294, 00274295, 00274296)). Note: Katinas' citation of 'Holotype' for 'Lectotype' has been corrected as lectotypification of this name was necessary.
- Trixis antimenorrhoea* (Schrank) Mart. ex Baker in Mart., Fl. Bras. 6(3): 385 (1884).
- Trixis divaricata* (Kunth) Spreng. var. *discolor* (D. Don) Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 199 (1874); Pl. Lorentz. : 151 (1874).
- Trixis divaricata* (Kunth) Spreng. var. δ *sprengeliana* (Gardner) Baker in Mart., Fl. Bras. 6(3): 385 (1884).
- Trixis divaricata* (Kunth) Spreng. var. ϵ *odoratissima* (Gardner) Baker in Mart., Fl. Bras. 6(3): 385 (1884).
- Trixis divaricata* (Kunth) Spreng. var. ξ *cladoptera* Baker in Mart., Fl. Bras. 6(3): 385 (1884). Type: 'in Argentinae prov. Tucuman: Tweedie.' Holotype: K.
- Trixis antimenorrhoea* (Schrank) Mart. ex Baker [var.] α *flexuosa* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 182 (1898).
- Trixis antimenorrhoea* (Schrank) Mart. ex Baker [var.] α *flexuosa* (Kunth) Kuntze f. *discolor* (D. Don) Kuntze, Revis. Gen. Pl. 3(3): 182 (1898).
- Trixis antimenorrhoea* (Schrank) Mart. ex Baker [var.] β *divaricata* (Kunth) Kuntze, Revis. Gen. Pl. 3(3): 183 (1898).
- **Trixis antimenorrhoea* (Schrank) Mart. ex Baker [var.] γ *heterophylla* Kuntze, Revis. Gen. Pl. 3(3): 183 (1898). Types: 'Bolivia: Ost-Velasco. Argentina: Cordoba.' ['BOLIVIA. Ost-Velasco, 200 m, Jul 1892, *Kuntze* s.n. (2 sheets).'] - according to Wetter & Zanoni, 1985: 338]. Lectotype (selected by Katinas, 1996: 53): 'Argentina, Cordoba. *Kuntze* XII-1891, LP; isoelectotype: MO.
- **Trixis antimenorrhoea* (Schrank) Mart. ex Baker [var.] δ *petiolata* Kuntze, Revis. Gen. Pl. 3(3): 183 (1898). Type: 'Bolivia: Sierra de Santa Cruz 800 m, Provinz Velasco 200 m.' ['BOLIVIA. Prov. Velasco, 200 m, Jul 1892,

Kuntze s.n.; Sierra de Santa Cruz, 800 m, May 1892, *Kuntze s.n.*' - according to Wetter & Zanoni, 1985: 338]. Syntypes: NY ('July 1892' - 00274284, 'May 1892' - 00274285), US (00702194 & 00702195).

Trixis antimenorrhoea (Schrank) Mart. ex Baker [var.] *δ petiolata* Kuntze f. *sublanata* Kuntze, Revis. Gen. Pl. 3(3): 183 (1898). Type: '(No. 904 *Balansa*, Paraguay in Mus. bot. berol.' 'Holotype: B; isotypes: BM, K' according to Katinas (1996)). Holotype: B†; Isotypes: BAF, G, K, LP, P.

Trixis divaricata (Kunth) Spreng. var. *exauriculata* DC. f. *subpetiolata* Chodat, Bull. Herb. Boissier, Ser.2 3(9): 782 (1903). Type: Paraguay ' in dumetis insulae Chaco-y pr. Concepcion, Aug., [Hassler] n. 7254.' Holotype G; isotype: BM.

Trixis divaricata (Kunth) Spreng. var. *exauriculata* DC. f. *petiolata* Chodat, Bull. Herb. Boissier, Ser.2 3(9): 782 (1903). Types: Paraguay ' .. inter rupes in colle Cerro hu pr. Paraguari, Dec. [Hassler] n. 6634 [K]; ... in culmine collis Cerrito, Oct., [Hassler] n. 1233 ...'. Lectotype (selected here): Hassler 6634, G; isoelectotypes BM, K, W.

**Trixis diffusa* Rusby, Bull. New York Bot. Gard. 8(No. 28): 134 (1912). Types: [Bolivia:] ' "Apolo, 4800 ft. alt., March 12, 1902 ([R.S. Williams] No. 75) and Apr. 5, 1902 ([R.S. Williams] No. 139)." These two are identical. Bang's No. 1493 from Mapiro, published as *T. divaricata* Spr., has more numerous and slightly smaller heads, but is of the same species.' Syntypes: NY. Lectotype (selected by Katinas, 1996): Williams 75, K; isoelectotype: NY (00274290). Syntype (Williams 139), NY (00274289).

Trixis divaricata (Kunth) Spreng. var. *glandulifera* Hassl., Repert. Spec. Nov. Regni Veg. 16(1/4): 27 (1919). Type: 'Paraguay: Centurion (Kalkregion) in silvula aprica rupestri flor. mens Oct. Fiebrig 4171 in Herb. Hassler'. Holotype: G; isotypes: BM, K.

Trixis antimenorrhoea (Schrank) Mart. ex Baker var. *typica* Cabrera, Revista Mus. La Plata, Secc. Bot. 1: 72 (1936).

Trixis antimenorrhoea (Schrank) Mart. ex Baker var. *auriculata* (Hook.) Cabrera, Revista Mus. La Plata, Secc. Bot. 1: 73 (1936).

Trixis antimenorrhoea (Schrank) Mart. ex Baker var. *cladoptera* (Baker) Cabrera, Revista Mus. La Plata, Secc. Bot. 1: 77 (1936).

Trixis divaricata (Kunth) Spreng. ssp. *discolor* (D. Don) Katinas, Candollea 53: 120 (1998).

Argentina, Bolivia (Bení, La Paz, Pando, Santa Cruz, Tarija), Brazil, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela.

Cliffs, rocky slopes, dry valleys, river margins, dry forest, paths edges.
0-4000 m.

Flowering throughout the year.

Vernacular names: CONTRAYERBA, KA' APE AYSY, KA' APE PARA, KA' APE RĀ, KA' APE RO, KA' APE ÑEMBO'Y, TUGUY GUASU POHĀ (Cabrera, 1998); SELIDŌNIA (Cabrera & Klein, 1973); ANKU CHURA, CUÑAMBĪ, CHUCHA, HERVA ANDORINHA, KA' APE AYSY, KA' APE RA, KA' APE ÑEMBOY, KA' APE RO, PALO DE SANTA MARÍA, SELIDONIA, TUGUY GUASU POHA (Freire et al., 2006); ANKU-CHUTA, CUÑMBI, CHUCHA, HERVA ANDORINHA, PALO DE SANTA MARTA, SELIDONIA. (Katinas, 1996: 50)

Trixis divaricata (Kunth) Spreng. var. *α auriculata* (Hook.) DC., Prodr. 7: 69 (1838) = **Trixis divaricata** (Kunth) Spreng.

Trixis divaricata (Kunth) Spreng. var. *ξ cladoptera* Baker in Mart., Fl. Bras. 6(3): 385 (1884) = **Trixis divaricata** (Kunth) Spreng.

Trixis divaricata (Kunth) Spreng. ssp. *discolor* (D. Don) Katinas, Candollea 53: 120 (1998) = **Trixis divaricata** (Kunth) Spreng.

Trixis divaricata (Kunth) Spreng. var. *discolor* (D. Don) Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 199 (1874); Pl. Lorentz. : 151 (1874) = **Trixis divaricata** (Kunth) Spreng.

Trixis divaricata (Kunth) Spreng. var. *β exauriculata* DC., Prodr. 7: 69 (1838) = **Trixis divaricata** (Kunth) Spreng.

Trixis divaricata (Kunth) Spreng. var. *exauriculata* DC. f. *petiolata* Chodat, Bull. Herb. Boissier, ser. 2, 3(9): 782 (1903) = **Trixis divaricata** (Kunth) Spreng.

Trixis divaricata (Kunth) Spreng. var. *exauriculata* DC. f. *subpetiolata* Chodat, Bull. Herb. Boissier, ser. 2, 3(9): 782 (1903) = **Trixis divaricata** (Kunth) Spreng.

Trixis divaricata (Kunth) Spreng. var. *glandulifera* Hassl., Repert. Spec. Nov. Regni Veg. 16: 27 (1919) = **Trixis divaricata** (Kunth) Spreng.

Trixis divaricata (Kunth) Spreng. var. *ε odoratissima* (Gardner) Baker in Mart., Fl. Bras. 6(3): 385 (1884) = **Trixis divaricata** (Kunth) Spreng.

Trixis divaricata (Kunth) Spreng. var. *δ sprengeliana* (Gardner) Baker in Mart., Fl. Bras. 6(3): 385 (1884) = **Trixis divaricata** (Kunth) Spreng.

Trixis flexuosa (Kunth) Spreng., Syst. Nat. 3: 501 (1826) = **Trixis divaricata** (Kunth) Spreng.

Trixis frutescens P. Browne var. *cacalioides* Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 199 (1874); Pl.

Lorentz. 19: 151 (1874) = **Trixis grisebachii** Kuntze

Trixis frutescens R. Browne var. *denticulata* Less., Syn. Gen. Comp. : 414 (1832), nom. illegit. based on *Perdicium cacalioides* Kunth = **Trixis cacalioides** (Kunth) D. Don

Trixis grisebachii Kuntze, Revis. Gen. Pl. 3(3): 183 (1898). Types: 'Argentina: Jujuy (*Lorentz & Hieronymus*), im Berliner bot. Museum ausserdem von Tucuman: Cuesta de Juntas (*Lorentz*). Note: it is clear that the *Lorentz* specimen was in B, presumed destroyed and Wetter & Zanoni (1985: 339) noted a *Lorentz & Hieronymus* s.n. type in NY (as 'Argentina. Jujuy, Apr 1872'). These are taken as the syntypes. Katinas (1996: 64) merely noted the NY type, but cited a 'holotype' for '*Trixis frutescens* P. Browne var. *cacalioides* Griseb.' (as a synonym) as 'Argentina, Prov. Tucumán. Sierra de Tucumán, Cuesta v. Juntas, *Lorentz* 324' in B, based on photograph in F (16098). The lectotype is probably best chosen as *Lorentz & Hieronymus* s.n., NY (00274292). Argentina, Bolivia (Tarija).

Roadsides, field margins, railways.

0–2500 m.

December–August.

Vernacular name/s: TIAN-TIAN; TIEN-TIEN (Katinas (1996: 66)).

Trixis (§ *Aplochlaenae*) *hexantha* S. Moore, J. Bot. 52: 264 (1914) = **Trixis cacalioides** (Kunth) D. Don

Trixis hoffmanniana Taub., Bot. Jahrb. Syst. 21(4): 456 (1896) = **Trixis ophiorhiza** Gardner ssp. **ophiorhiza**

Trixis neaeana DC., Prodr. 7: 67 (1838) = **Trixis cacalioides** (Kunth) D. Don

Trixis odoratissima Gardner, London J. Bot. 6: 461 (1847) = **Trixis divaricata** (Kunth) Spreng.

Trixis ophiorhiza Gardner, London J. Bot. 6: 461 (1847). Types: 'HAB. Between Capella da Passe and San Pedro, Province of Goyaz ([*Gardner*] 4266), and between the Rio de San Francisco and Formigas, Province of Minas Geraes ([*Gardner*] 4959). May and July 1840.' Syntypes: K. Lectotype (selected by Katinas, 1996: 78, but cited as 'holotype'): *Gardner* 4959, BM; isolectotypes: B, GH, K, NY (00274297, 00274299). Isosyntype (*Gardner* 4266): K, NY (00274298).

ssp. **ophiorhiza**

Trixis chionopappa Sch. Bip. in Mart. Fl. Bras. 6(3): 386 (1884), nom. nud. pro syn.

Trixis hoffmanniana Taub., Bot. Jahrb. Syst. 21(4): 456 (1896). Type: 'Habitat in locis Cerrados vocatis in fluminis Paranyhyba ditone: ULE n. 2969. – Flor. m. Jul.' Holotype: ?; isotype: HBG.

Trixis cerroleonensis Soria & Zardini, Ann. Missouri Bot. Gard. 78(2): 531 (1991). Type: 'Paraguay. Chaco: Cerro León, 8 Aug. 1983, *Hahn* 1555'. Holotype: PY; isotypes: LP, MO, SI.

Brazil, Bolivia (Santa Cruz), Paraguay.

Cerrado, disturbed soils.

To 1000 m.

June–September.

Vernacular name: MBÓI POHĀ (Cabrera, 1998).

Trixis papillosa Gillies ex D. Don, Phil. Mag. 2: 388 (1832) = **Trixis cacalioides** (Kunth) D. Don

Trixis paradoxa Cass., Opusc. Phytol. 2: 160 (1826) = **Trixis cacalioides** (Kunth) D. Don

Trixis ravenii Zardini & Soria, Ann. Missouri Bot. Gard. 78(2): 531 (1991) = **Trixis spicata** Gardner

Trixis rigida* J. Koster, Blumea 5(3): 682 (1945) = **Trixis aggregata Rusby

Trixis salicifolia D. Don, Trans. Linn. Soc. London 16(2): 298 (1830) = **Trixis divaricata** (Kunth) Spreng.

Trixis spicata Gardner, London J. Bot. 6: 462 (1847). Type: 'HAB. Grassy campos near the Rio Claro, Province of Minas Geraes. [Sept. 1840]' [*Gardner*] 4957. Note: Katinas (1996: 91) noted the 'Holotype: BM; isotype: K ...'

Trixis ravenii Zardini & Soria, Ann. Missouri Bot. Gard. 78(2): 531 (1991). Type: 'Paraguay, Amambay: Arroyo Estrella, 22°20'S, 56°20'W, 7 May 1989, *Soria, Bacigalupo & Fortunato* 3825'. Holotype: FCQ.

Bolivia (Santa Cruz), Brazil, Paraguay.

Grassland.

530 m.

March–June.

Vernacular name: KA'APE POTYMA (Cabrera, 1998).

Trixis sprengeliana Gardner, London J. Bot. 6: 460 (1847) = **Trixis divaricata** (Kunth) Spreng.

Trixis subparadoxa Herrera, Publ. Mus. Hist. Nat. 'Javier Prado' Lima, ser. B, Bot. 25: 6 (1969) = **Trixis cacalioides** (Kunth) D. Don

Trommsdorffia Bernh., Syst. Verz. Erf. : 102 (1800) = **Hypochaeris** L.

Trychinolepis B. L. Rob., Contr. Gray Herb., n.s. 80: 6 (1928) = **Ophryosporus** Meyen

Tuckermannia Nutt., Trans. Amer. Philos. Soc., ser. 2, 7: 363 (1841) = **Coreopsis** L.

Tursenia Cass., Dict. Sci. Nat. 37: 480 (1825) = **Baccharis** L.

Tussilago integerrima Vell., Fl. Flum. Icones 8: tab. 140 (1831) = **Chaptalia integerrima** (Vell.) Burkart

Tussilago lyrata Pers., Syn. Pl. 2: 456 (1807) = **Chaptalia nutans** (L.) Polak.

Tussilago nutans L., Syst. Nat. ed 10, 2: 1214 (1759) = **Chaptalia nutans** (L.) Polak.

Tussilago rheifolia Warsz. in Otto & Dietr., Allg. Gartenz. 20: 293 (1852) (Quid ?)'. Type: '[Bolivia: La Paz] Un fumpfigen Stellen in Torfboden endtedte ich eine *Tussilago*, *T. rheifolia* Nob. ...' Burkart (1944) considered this a species of *Chaptalia*, although not equated with a known species.

Tussilago ? sarmentosa Pers., Syn. Pl. 2: 456 (1807) = **Chevreulia sarmentosa** (Pers.) S. F. Blake

Tussilago vaccina Vell., Fl. Flum. Icones 8: tab. 143 (1831) = **Chaptalia nutans** (L.) Polak.

Tylloma D. Don, Trans. Linn. Soc., Bot. ser. 2, 16(2): 238 (1830) = **Chaetanthera** Ruiz & Pav.

U

Ucacou Adans., Fam. Pl. 2: 131 (1763), nom. rej. = **Synedrella** Gaertn.

Ucacou nodiflorum (L.) Hitchc., Ann. Rep. Missouri Bot. Gard. 4: 100 (1893) = **Synedrella nodiflora** (L.) Gaertn.

Unxia dissecta Hook., Bot. Misc. 2: 227 (1831) = **Villanova oppositifolia** Lag.

Urbanisol Kuntze, Revis. Gen. Pl. 1: 370 (1891), nom. illegit. superfl. pro **Tithonia** Desf. ex Juss.

Urbanisol aristatus (Oerst.) Kuntze, Revis. Gen. Pl. 1: 371 (1891) = **Tithonia rotundifolia** (Mill.) S. F. Blake

Urbanisol heterophyllus (Griseb.) Kuntze, Revis. Gen. Pl. 1: 371 (1891) = **Tithonia rotundifolia** (Mill.) S. F. Blake

Urbanisol tagetifolius (Desf.) Kuntze, Revis. Gen. Pl. 1: 370 (1891) = **Tithonia rotundifolia** (Mill.) S. F. Blake

Urbanisol tagetifolius (Desf.) Kuntze var. *diversifolius* Kuntze f. *grandiflorus* Kuntze, Revis. Gen. Pl. 1: 370 (1891), nom. illegit. = **Tithonia rotundifolia** (Mill.) S. F. Blake

Urbanisol tagetifolius (Desf.) Kuntze [unranked] α *normalis* Kuntze, Revis. Gen. Pl. 1: 370 (1891) = **Tithonia rotundifolia** (Mill.) S. F. Blake

Urbanisol tagetifolius (Desf.) Kuntze [unranked] β *speciosus* (Hook.) Kuntze, Revis. Gen. Pl. 1: 370 (1891) = **Tithonia rotundifolia** (Mill.) S. F. Blake

Urolepis (DC.) R. M. King & H. Rob., Phytologia 21: 304 (1971).

Hebeclinium DC. sect. *Urolepis* DC., Prodr. 5: 136 (1836).

Eupatorium L. Sect. *Urolepis* (DC.) Benth. ex Baker in Mart., Fl. Bras. 6(2): 364 (1876).

Type: *Hebeclinium hecatanthum* DC. = **Urolepis hecatantha** (DC.) R. M. King & H. Rob.

Urolepis hecatantha (DC.) R. M. King & H. Rob., Phytologia 21: 305 (1971).

Hebeclinium hecatanthum DC., Prodr. 5: 136 (1836). Type: '• in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 787 miss.)'. Holotype: P; isotype: G-DC (one leaf and a portion of an inflorescence).

Hebeclinium urolepis DC., Prodr. 5: 136 (1836). Types: '– in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras. sub n. 807 et 803 miss.)'. Syntypes: P; isosyntypes: G-DC. Note: Both the specimens in G-DC are fragments, 803 is in a packet and 807 is a shoot lacking any fertile portion.

Eupatorium populifolium Hook. & Arn., Companion Bot. Mag. 1(No. 8): 242 (1836), non Kunth (1818). Based on - Type: 'Banda Orientale and Pampas of Buenos Ayres, St. Jago, and Tucuman (n. 1299.) Tweedie.'

**Eupatorium hecatanthum* (DC.) Baker in Mart. Fl. Bras. 6(2): 365 (1876).

Eupatorium appendiculatum Less. ex Baker in Mart., Fl. Bras. 6(2): 365 (1876), nom. nud. pro syn.

Argentina, Bolivia (Bení, La Paz, Santa Cruz, Tarija), Brazil, Paraguay, Uruguay.

Pantanal, scrub, pasture, grassland, cultivated areas, roadsides, paths, disturbed ground, semi-disturbed forest.

0–1000 m.

September–May, but probably flowering throughout the year.

Vernacular names: CHARRÚA GUASU (Cabrera, 1996), CAMBARÁ, EUPATÓRIO (Cabrera & Klein, 1991).

V

Vanillosma (Less.) Spach, Hist. Veg. Phan. 10: 39 (1841) = **Piptocarpha** R.Br.

Vanillosma [sic!] *firmum* Mart. ex Sch.Bip., Jahresber. Pollichia 20-21: 424 (1863)[30 March 1864], nom. nud. pro syn. = **Piptocarpha rotundifolia** (Less.) Baker

Vanillosmopsis Sch.Bip., Jahresber. Pollichia 18-19: 166 (1861) = **Eremanthus** Less.

Vanillosmopsis Sch.Bip. subgen. *Euvanillosmopsis* Sch.Bip., Jahresber. Pollichia 20-21: 398 (1863)[30 March 1864] = **Eremanthus** Less.

Vanillosmopsis Sch.Bip. subgen. *Isotricha* (DC.) Sch.Bip., Jahresber. Pollichia 18-19: 168 (1861) = **Eremanthus** Less.

Vanillosmopsis Sch.Bip. subgen. *Nectaridium* Sch.Bip., Jahresber. Pollichia 20-21: 400 (1863)[30 March 1864] = **Eremanthus** Less.

Vargasia DC., Prodr. 5: 676 (1836) = **Galinsoga** Ruiz & Pav.

Vargasia caracasana DC., Prodr. 5: 676 (1836) = **Galinsoga quadriradiata** Ruiz & Pav.

Vasquezia [as *Vazquezia*, although generitype appeared as *Vasquezia biternata* in the text but as *Vazquezia biternata* in the plate caption and on the plate itself] Phil., Fl. Atacam. : 31 (1860); Reise Atacama: 205 (1860) = **Villanova** Lag.

Vasquezia biternata Phil, Fl. Atacam. : 31 (1860); Reise Atacama: 205 (1860) = **Villanova oppositifolia** Lag.

Vasquezia oppositifolia (Lag.) S. F. Blake, J. Wash. Acad. Sci. 27(9): 387 (1937) = **Villanova oppositifolia** Lag.

Vasquezia titicacensis (Meyen & Walp.) S. F. Blake, J. Wash. Acad. Sci. 27(9): 387 (1937) = **Villanova titicacensis** (Meyen & Walp.) Walp.

Verbesina L., Sp. Pl. : 901 (1753), Gen. Pl. ed. 5: 384 (1754).

Ridan Adans., Fam. Pl. 2: 120, 598x (1763), nom. rej. ≡ *Actinomeris* Nutt. (1818), nom. cons. Type: *Coreopsis alternifolia* L. ≡ *Verbesina alternifolia* (L.) Britt. ex Kearney

Phaethusa Gaertn., Fruct. Sem. Pl. 2: 425, pl. 169 (1791). Type: *Phaethusa americana* Gaertn. = *Verbesina occidentalis* (L.) Walt.

Ximenesia Cav., Icon. 2: 60, pl. 178 (1793–1794). Type: *Ximenesia encelioides* Cav. = **Verbesina encelioides** (Cav.) Benth. & Hook.f. ex A. Gray

Hingstonia Raf., Med. Repos. N. York 5: 352 (1808). *Hingstonia exalata* Raf. = *Verbesina occidentalis* (L.) Walt.

Ditrichum Cass., Bull. Sci. Soc. Philom. Paris 1817: 33 (1817), nom. rej., non Hampe. Type: *Ditrichum macrophyllum* Cass. = **Verbesina macrophylla** (Cass.) S. F. Blake

Actinomeris Nutt., Gen. 2: 181 (1818), nom. cons. vs. *Ridan* Adans. Type: *Actinomeris squarrosa* Nutt., nom. illeg. (*Coreopsis alternifolia* L.) type cons. = *Verbesina alternifolia* (L.) Britt. ex Kearney

Platypterus Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 156 (1818). Type: *Bidens crocata* Cav. = *Verbesina crocata* (Cav.) Less.

Actimeris Raf., Amer. Monthly Mag. & Crit. Rev. : 195 (1819) ≡ *Actinomeris* Nutt.

Hamulium Cass., Bull. Sci. Soc. Philom. Paris 1820: 173 (1820). Type: *Verbesina alata* L.

Ochronelis Raf., Atlantic J.: 153 (1832). Type: *Ochronelis sulfurea* Raf. = *Verbesina aristata* (Ell.) A.Heller

Saubinetia Remy in Gay, Hist. Chile Bot. 4: 282, pl. 49 (1849). Type: *Saubinetia helianthoides* Remy = *Verbesina saubinetia* Klatt

Ancistrophora A. Gray, Mem. Amer. Acad. 2, 6: 457 (1859). Type: *Ancistrophora wrightii* A. Gray = *Verbesina lindheimeri* B. L. Rob. & Greenm.

Chaenocephalus Griseb., Fl. Brit. W. I. : 374 (1861). Type: *Chaenocephalus petrobioides* Griseb. ≡ *Verbesina petrobioides* (Griseb.) S. F. Blake

Achaenopodium Brand., Zoe 5: 239 (1906). Type: *Achaenopodium discoideum* Brand. = *Verbesina discoidea* (Brand.) Rzed.

Lectotype: *Verbesina alata* L.

References

Blake, S. F. (1925). On the status of the genus *Chaenocephalus*, with a review of the section *Lipactinia* of *Verbesina*. Amer. J. Bot. 12(10): 625–640.

Coleman, J. R. (1966). A taxonomic revision of Section *Ximenesia* of the genus *Verbesina* L. (Compositae). Amer. Midl. Nat. 76(2): 475–481.

Espinar, L. A. (1991). Rehabilitacion de *Verbesina aurita* (Asteraceae). Kurtziana 21: 279–282.

Jeffrey C. (1992). (1058) Proposal to conserve *Verbesina* L. (Compositae) with a conserved type. Taxon 41(3): 595.

Olsen, J. (1985). Synopsis of *Verbesina* sect. *Ochractinia* (Asteraceae). Pl. Syst. Evol. 149(1–2): 47–63.

Robinson, B. L. & J. M. Greenman. (1899). Synopsis of the genus *Verbesina*, with an analytical key to the species. Proc. Amer. Acad Arts 34(20): 534–566.

Verbesina acmella L., Sp. Pl. : 901 (1753) = **Blainvillea acmella** (L.) Philipson

Verbesina alba L., Sp. Pl.: 902 (1753) = **Eclipta prostrata** (L.) L.

Verbesina allophylla S. F. Blake, Amer. J. Bot. 12(10): 633 (1925), as nom. nov. pro *Chaenocephalus heterophyllus* Griseb. non *Verbesina heterophylla* (Chapm.) A. Gray = **Verbesina suncho** (Griseb.) S. F. Blake

Verbesina aspilioides Griseb., Abh. Königl. Ges. Wis. Göttingen 24(1): 194 (1879) = **Dimerostemma aspilioides** (Griseb.) M. D. Moraes

Verbesina australis* Baker in Mart., Fl. Bras. 6(3): 215 (1884), nom. nov. pro *Ximenesia microptera* DC. = **Verbesina encelioides (Cav.) A. Gray

***Verbesina benderi** Perkins, Bot. Jahrb. Syst. 49: 227 (1913). Type: 'Bolivien: Quechisla, 20°30' südl. Breite, 66°20' westl. Länge, Schieferboden, 3425 m ü. M. (C. Bender n. 7. – Im März 1909 blühend).' Holotype: B†. Bolivia (?).

3425 m.

March.

***Verbesina boliviana** Klatt, Ann. K. K. Naturhist. Hofmus. Wien 9: 361 (1894). Type: 'Hab.: Bolivia, leg. Cuming.' Holotype: W; GH (13497 - possibly type fragment and drawing).

Verbesina bridgesii Rusby, Mem. Torrey Bot. Club 4(3): 212 (1895). Types: [Bolivia:] '[Bang] 974. ... Collected also by Bridges in Bolivia.' Syntypes: ?; Isosytype (Bang 974): NY (00274413, 00274414 - mounted with Bang 4, 00274415, an isotype of *V. mandonii*), US (01403480).

**Verbesina semidecurrens* Kuntze, Revis. Gen. Pl. 3(3): 183 (1898). Type: 'Bolivia: 3800 m Challapass zwischen oruro und Rio Tapacari.' ['BOLIVIA. Challapass zwischen Oruro und Rio Tapacari, 3800 m, 18 Mar 1892, Kuntze s.n.' - according to Wetter & Zanoni, 1985: 339]. Holotype: NY (00274459); isotype: US (00702213).

**Verbesina soratae* Sch.Bip. ex B. L. Rob. & Greenm., Proc. Amer. Acad. Arts 34: 551 (1899). Types: 'Sorata, Bolivia, Mandon, no. 55, and in the same locality at 2,400 m. altitude, February, 1886, Dr. H. H. Rusby, no. 1722.' Syntypes: Rusby 1722, NY (00431812, 00431811); isosytype (of Mandon 55): NY (00274461), S, US (01803302 - fragments of material from Schultz Bipontinus material originally in Herb. Cosson, now in P).

Verbesina soratae Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea, 34(5): 528. (Feb. 1866), nom. nud.

(based on Mandon 55).

Bolivia (La Paz, Oruro).

2400–3800 m.

February–March.

Note: Also included in this synonymy by Nees, on one Rusby 1722 duplicate in NY is *V. mandonii* (Mandon 57).

Verbesina brasiliiana Pers., Syn. Pl. 2: 472 (1807) = **Adenostemma brasilianum** (Pers.) Cass.

Verbesina bridgesii* Rusby, Mem. Torrey Bot. Club 4(3): 212 (1895) = **Verbesina boliviana Klatt

Verbesina carnososa (Rich.) G.Maza, Periant. : 274 (1890), nom. illeg. = **Sphagneticola trilobata** (L.) Pruski

***Verbesina cinerea** Rusby, Mem. Torrey Bot. Club 6(1): 63 (1896). Type: [Bolivia:] 'Below Cochabamba, 1891 ([Bang] 1092).' Holotype: NY (00274417); isotypes: GH (13503), NY (00274418), US (00032382), Z (000004024).

Bolivia (Cochabamba).
[Section 9 Saubinetia DC.]

Verbesina conyzoides Trew, Pl. Rar. : 8 (1763) = **Eclipta prostrata** (L.) L.

Verbesina cumingii Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 528 (Feb. 1866), nom. nud.
(based on *Mandon* 56 and *Cuming* 108 or 1108 – q.v. Bull. Soc. Bot. France 12: 79 (1865)) = **Verbesina cumingii** (Griseb.) S. F. Blake

***Verbesina cumingii** (Griseb.) S. F. Blake, Amer. J. Bot. 12: 634 (1925).

Verbesina cumingii Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 528 (Feb. 1866), nom. nud.
(based on *Mandon* 56 and *Cuming* 108 or 1108 – q.v. Bull. Soc. Bot. France 12: 79).

Chaenocephalus cumingii Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 196 (March-April 1879); Symb. Fl. Argent. : 196 (1879). Type: '(Verbesinae Sch. in *Mand.[on]* pl. boliv. 56.)' Holotype: GOET; isotypes: GH (13508 – oddly marked as the 'holotype', 13509 – a fragment of 13508), NY (00274423, 00431813), S, US (01203245 – fragment of GH material). [Note: this is a 'hyponym' according to Blake (1925: 634), but perfectly validly described, since it was compared with *Chaenocephalus macrophyllus* described at that point. The 'type' cited by Blake is the same *Mandon* collection, but with a fuller locality, albeit in the wrong country: 'ECUADOR [sic! = BOLIVIA]: in woods, near Soratá, alt. 2800-3100 m., July-August 1858-1859, *Mandon* 56 (Type in Gray Herb.; duplicate in herb. N. Y. Bot. Gard.; fotogr. and fragm., U.S. Nat. Herb.).']

Bolivia (La Paz).

Forest.

2800–3100 m.

July–August.

Verbesina dichotoma Murray, Comment. Phys. Goett. : 15, t. 4 (1779) = **Blainvillea acmella** (L.) Philipson
Verbesina diversifolia DC., Prodr. 5: 615 (1836) = **Verbesina macrophylla** (Cass.) S. F. Blake

***Verbesina elegans** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 160 (1818). Type:
[Ecuador:] 'Crescit in Regno Quitensi ? ■?' Holotype: P-Bonpl.

Bolivia (?), Ecuador.

[Section 8. Verbesinaria DC.]

Verbesina encelioides (Cav.) A. Gray, Bot. California 1: 350 (1876).

Ximenesia encelioides Cav., Icon. 2: 60, t. 178 (1793). Type: 'Habitat in Mexico unde introducta in Regium hortum Matritensem. Floruit prima vice mense Novembri: videtur perennis.' Note: There are four sheets in MA, MA (476510 – Fiche 80/C8) with a handwritten label 'Ximenesia encelioides Cav./ex Bonariensi planitie/Née Iter.', MA (476508 – Fiche 81/A1) has three handwritten labels, the upper 'Ximenesia encelioides/Cav. Ic./ta. 178/Willd. Syng. pa. 2886/ex Hort. Reg. Matr./anno 1808', the lower left 'Ximenesia encelioides/Cav. Ic. 2 ta. 178/X. pachyptera DC. Prod./Pallasia serratifolia Smith/Ex H. M. Aug. 1844' and the middle label 'Genus Encelia affine/Ximenesia encelioides/Icon. tab. 178/Mexico Culta in R. h. M.1792-93.', MA (476508 – sheet 2 – Fiche 81/A2) merely has a printed label, and MA (476509 – Fiche 81/A3) has two handwritten labels, the upper 'Ximenesia encelioides/Cav. Ic./Ex H. M. Aug. 1848' the lower 'Ximenesia enceli/odes [sic!] Cav. Ic. ta. 178/Willd. Syng. pa. 2886/ex Hort. Reg. Matr./anno 1808'. This suggests material was continually grown in the botanic garden and specimens prepared and incorporated in the herbarium. Two of these sheets might be considered as type material

Ximenesia encelioides Cav. var. α *hortensis* DC., Prodr. 5: 627 (1836). Type: 'Frequens in hortis botanicis sed nunquam specimen certè spontaneum vidi. (v.v.c.)'

Ximenesia encelioides Cav. var. β *pachyptera* DC., Prodr. 5: 627 (1836). Types: 'in Mexico legit cl. *Berlandier* (pl. exs. n. 2068 et 2286!). (v.s.sp.)'. Note: I do not consider Coleman's citation of a single *Berlandier* specimen 'P?' as effective lectotypification (cf. Coleman, 1966: 476).

Ximenesia encelioides Cav. var. γ *oblongifolia* DC., Prodr. 5: 627 (1836). Types: 'in Senegaliâ ad ripas flum. regionis Walo legit *Perrottet*, in insulis Mauritanis *Sieber* (fl. maur. 2. n. 118!) et *Belanger*, et in hort. Calcuttensi *Wallich* (v.s.)'

Ximenesia encelioides Cav. var. δ *cana* DC., Prodr. 5: 627 (1836). Types: 'in Mexico circa Laredo legit cl. *Berlandier* (pl. exs. n. 2068 et 2074). ...v.s.)'. Note: I do not consider Coleman's selection of a single *Berlandier* specimen 'P?' as effective lectotypification.

Ximenesia microptera DC., Prodr. 5: 627 (1836). Type: 'circa Buenos-Ayres legit cl. Bacle [32]. ... (v.s.)' Holotype: G-DC.

Ximenesia australis Hook. & Arn. ex DC., Prodr. 7: 291 (1838), nom. nud. pro syn. Note: Coleman (1966: 477) both cited erroneous authorities ('Benth. & Arn. in DC.')

and assumed there was a type for this name. *Verbesina scabra* Phil., Anales Univ. Chile 36: 186 (1870), non Benth. (1840). [Note: In a separately paginated reprint/preprint of 'Sertum Mendocinum alterum', pp. 1-54, this appears on p. 28.] Type: 'Mendoza'. Pizarro (1960: 165) cited SGO 44007 and 65406.

Encelia (Geraea) albescens A. Gray, Proc. Amer. Acad. Arts 8: 658 (1873). Type: 'In the western Mexican province of Sonora, Dr. Edward Palmer, coll. 1869, no. 21.' Lectotype (selected by Coleman, 1966: 477): 'Sonora, Mexico. Palmer 21' - GH (6545); isolectotype: US.

**Verbesina australis* Baker in Mart., Fl. Bras. 6(3): 215 (1884), nom. nov. pro *Ximenesia microptera* DC.

Verbesina encelioides (Cav.) A. Gray var. *cana* (DC.) B. L. Rob. & Greenm., Proc. Amer. Acad. Arts 34: 544 (1899), p.p.

Verbesina microptera (DC.) Herter, Rev. Sudam. Bot. 7: 235 (1843), comb. illegit. non *Verbesina microptera* DC. (1836).

Native distribution apparently the Gulf Coast plains of Texas and Mexico. Widely distributed as a pantropic weed as well as frequently cultivated, especially in temperate regions. Bolivia (Chuquisaca, Cochabamba, Santa Cruz).

Roadsides, disturbed soils, cultivated areas.

0-2200 m.

October-June, but probably flowering throughout the year.

Note: Several references (Gray, 1876; Coleman, 1966; Hind, 1993; *Index Kewensis*; etc.) quote the authority of this combination as variously '(Cav.) Benth. & Hook. f. ex A. Gray' or '(Cav.) Benth. ex A. Gray'; neither of these are correct. Bentham & Hooker f. provided nothing other than an inference that there were two species of *Verbesina* sect. *Ximenesia* - no names were mentioned. Since Gray (1876: 350) was actually the first author to validly make the combination it is to him alone it should be attributed. Espinar (1991: 280) has provided useful evidence that *Verbesina aurita* Phil. (Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 48 (1891)) should be removed from the synonymy of *V. encelioides*; *V. aurita* is now considered as restricted to northern Chile and the provinces of Catamarca, Salta and Tucumán in Argentina.

Some authors considered that Baker (1884: 215) was describing a new species of *Verbesina*. Clearly he was not since he cited *Ximenesia microptera* DC. in synonymy but, since de Candolle had already described *Verbesina microptera* Baker's name can be considered as a nom. nov. when *X. microptera* is recognized as a separate species in *Verbesina*.

****Verbesina flavovirens*** R. E. Fr., Arkiv. Bot. 5(13): 19 (1906). Type: 'Bolivia: Pinos pr. Tarija, in fruticetis regionis *Alni ferrugineae*, ca. 2500 m. s. m. [¹/₃ 02; FR. 1292].' Holotype: S.

Bolivia (Tarija).

2500 m.

February-March.

Verbesina foliacea Spreng., Syst. Veg., ed. 16, 3: 578 (1826) = ***Eleuthernathera ruderalis*** (Sw.) Sch.Bip.

Verbesina lanceolata Poir., Encyc. 8: 460 (1808) = ***Blainvillea acmella*** (L.) Philipson

Verbesina lancifolia Gardner, London J. Bot. 7: 406 (1848) = ***Verbesina macrophylla*** (Cass.) S. F. Blake

Verbesina lapazii J. L. Panero, Contrib. Univ. Mich. Herb., 19: 183 (1993). Type: 'BOLIVIA. La Paz: Prov. Nor Yungas, de Coroico 12 km hacia Coripata, 2050 m, 11 Apr 1990, Beck 17629'. Holotype: US (03174696); isotype: LPB.

Bolivia (La Paz).

2050 m.

March-April.

****Verbesina leucactinota*** B. L. Rob., Proc. Amer. Acad. Arts 47: 213 (1911). Type: 'Coripati, Yungas, Bolivia, April, 1894, Bang, no. 2135'. Holotype: GH (13521); isotypes: ?F, K × 2, MICH, MO, NY (00274438, 00274439, 00274440, 00274441), US (01403481).

Bolivia (La Paz).

Roadsides, secondary scrub.
1000–1100 m.
March–April.

Note: *Williams* 1609, which is clearly this species, is from Machichoirisa [sic!] Aug 3, [19]02, is most probably in the area of Apolo, Dept. La Paz (cf. Dorr, 1991).

Verbesina linifolia L., Syst. Nat., ed. 10, 2: 1226 (1759), nom. superfl. = **Pectis linifolia** L.

***Verbesina macrophylla** (Cass.) S. F. Blake, Bull. Torrey Bot. Club 51: 430 (1924).

Ditrichum macrophyllum Cass., Bull. Sci. Soc. Philom. Paris 1818: 59 (1818). Type: '... (dans l'échantillon incomplet) ... Je l'ai analysée dans l'herbier de M. de Jussieu, où elle est étiquetée avec doute, d'après Vahl, *Conyza lobata*, L.' Holotype: P-JU.

Verbesina diversifolia DC., Prodr. 5: 615 (1836). Type/s?: '■circa Bahiam Brasiliae leg. cl. *Blanchet* [1652, 1799] et *Salzmann* [17]. ... (v.s.)' Syntypes: G-DC. Isosyntypes: *Salzmann* 17, K × 2.

Verbesina lancifolia Gardner, London J. Bot. 7: 406 (1848). Type: 'Hab. Bushy places near the city of Bahia. Sept. 1838.' [*Gardner*] 875.

Bolivia (La Paz, Tarija), Brazil.
Roadsides, disturbed ground.

Probably flowering sporadically throughout the year.

[Section 11 Ochtractinia B. L. Rob. & Greenm. – Heads small; rays white or nearly so; leaves alternate.]

Note: Olsen (1985) keyed out and cited '*Verbesina macrophylla* (Cass.) S. F. Blake var. *integrifolia* Baker in Mart., Fl. Bras. IV, p. 214 (1882–1884)' a taxon that was clearly never published by Baker! Baker merely commented after the specimen citations that the *Lhotsky* 521 collection had entire leaves – and called it a form. There is also material in NY determined as *V. macrophylla* var. *rusbyi* Olsen; I am unable to find if this has been validly published. Olsen (1985: 63) also dismissed Hassler's *V. diversifolia* DC. subsp. *macrantha* as being referable to this species, noting the type was 'past flower and now appears discoid.'

Verbesina macrophylla (Cass.) S. F. Blake var. *nelidae* (Cabrera) Olsen, Pl. Syst. Evol. 149(1–2): 54 (1985) = **Verbesina nelidae** Cabrera

Verbesina mandonii Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); *Linnaea*, 33(5): 528 (Feb. 1866), nom. nud. (based on *Mandon* 58) = ?**Verbesina mandonii** Sch.Bip. ex B. L. Rob. & Greenm. – see note below, since *Mandon* 58 is clearly **Flaveria bidentis** (L.) Kuntze.

***Verbesina mandonii** Sch.Bip. ex B. L. Rob. & Greenm., Proc. Amer. Acad. Arts 34: 547 (1899). Types: 'Andes of Bolivia, in woods, La Paz, altitude 2,600 to 3,700 m., January, 1861, *G. Mandon*, no. 57 in herb Gray; October, 1895, *Rusby*, no. 1721; 1889, *Bang*, no. 4.' Syntypes: NY – *Bang* 4 × 2, *Mandon* 57 × 3 (00274448, 00274449), *Rusby* 1721 × 3 (00274451 – ex Columbia College Herbarium), (00274450 – ex Princeton University Herbarium), (00274453 – ex College of Pharmacy Herbarium). The fragmentary material in US (01803303) suggests that this is *Mandon* 58, agreeing with the following note. Note: Schultz Bipontinus (1865: 79) listed *Mandon* 57 against *Flaveria contrayerba*. One NY duplicate (00274447) is *Flaveria bidentis* (L.) Kuntze and not a *Verbesina*.

Verbesina mandonii Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); *Linnaea*, 33(5): 528 (Feb. 1866), nom. nud. (based on *Mandon* 58). Note: This may well be where Robinson & Greeman obtained their name, yet material of *Mandon* 58 is quite clearly of *Flaveria bidentis* (L.) Kuntze!

Bolivia (La Paz).
2600–3700 m.
October.

Note: The *Mandon* 57 syntypes in NY are of two differing taxa. NY 00274447 is *Flaveria bidentis*, as noted by Nee; the other two, NY 00274448, 00274449 are of *Verbesina mandonii*, suggesting that there may well have been an initial transposition of the numbers in Schultz Bipontinus list, or a mixing of materials when the duplicates were distributed. Nee's annotation on *Rusby* 1722 would suggest that *V. mandonii* is yet another synonym of *V. boliviana* Klatt. Olsen (1985) makes no comment on *V. mandonii*.

[Section 8. *Verbesinaria* DC.]

Verbesina microptera (DC.) Herter, Rev. Sudam. Bot. 7: 235 (1843), comb. illegit. non *Verbesina microptera* DC. (1836) = **Verbesina encelioides** (Cav.) A. Gray

Verbesina nelidae Cabrera, Notas Mus. La Plata, Bot. 18(No. 86): 61 (1955). Type: 'ARGENTINA. – Jujuy: Valle Grande, 1500 m s.m., leg. A. Burkart et N. S. Troncoso, 11477, 26-II-1940'. Holotype: LP; isotype: SI.

Verbesina macrophylla (Cass.) S. F. Blake var. *nelidae* (Cabrera) Olsen, Pl. Syst. Evol. 149(1–2): 54.

Argentina, Bolivia (?).

Woodland.

1500 m.

February–March.

Verbesina nodiflora L., Cent. I. Pl. : 28 (1755) = **Synedrella nodiflora** (L.) Gaertn.

Verbesina octantha S. F. Blake, Amer. J. Bot. 12(10): 633 (1925), as nom. nov. pro *Chaenophyllus macrophyllus*

Griseb. non *Verbesina macrophylla* (Cass.) S. F. Blake = **Verbesina suncho** (Griseb.) S. F. Blake

Verbesina oppositifolia Poir., Encycl. 8: 460 (1808) = **Tilesia baccata** (L.) Pruski

***Verbesina pflanzii** Perkins, Bot. Jahrb. Syst. 49: 227 (1913). Type: 'Bolivien: Palca-La Paz, 3700 m ü. M. (K. PFLANZ n. 47. – Im April 1908 blühend). Holotype: B†.

Bolivia (La Paz).

3700 m.

April.

[Sect. *Verbesinaria*]

Verbesina prostrata L., Sp. Pl.: 902 (1753) = **Eclipta prostrata** (L.) L.

***Verbesina rhomboidea** J. Koster, Blumea 6: 270 (1948). Type: 'Hab.: kleiner Strauch auf dem Kamm der Laguna verde bei Comarapa, 2600 m alt., April 1911, [Herzog] n. 1984.' Holotype: L.

Bolivia (La Paz).

2600 m.

April.

Verbesina scabra Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 34: 186 (1870), non Benth. (1840) = **Verbesina encelioides** (Cav.) A. Gray

Verbesina scandens (L.) Klatt, Leopoldina 25: 106 (1889) = **Salmea scandens** (L.) DC.

Verbesina semidecurrrens* Kuntze, Revis. Gen. Pl. 3(3): 183 (1898) = **Verbesina boliviana Klatt

Verbesina soratae Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 528. (Feb. 1866), nom. nud. (based on Mandon 55) = **Verbesina boliviana** Klatt

Verbesina soratae* Sch.Bip. ex B. L. Rob. & Greenm., Proc. Amer. Acad. Arts 34: 551 (1899) = **Verbesina boliviana Klatt

***Verbesina subcordata** DC., Prodr. 5: 614 (1836). Type: '■circa Buenos-Ayres legit cl. Bacle [136]. ... (v.s. comm. à cl. inv.)'. Holotype: G-DC.

Argentina, Bolivia (?), ?Brazil, Paraguay, ?Uruguay.

0–500 m.

Verbesina suncho (Griseb.) S. F. Blake, Amer. J. Bot., 12(10): 633 (1925)

Chaenocephalus suncho Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 195 (March–April 1879); Symb. Fl.

Argent. : 195 (1879). Type: 'Nom. vernac. Suncho v. Pino americano. – C.: Oran, in sylvis virgineis Tabaccal ubi in locis caede arborum apricis vegetationem secundarium constituit.' Blake (1925: 633) noted the type collection was in 'Y [= NY], sketch and fragm. G. [= GH 13536]'. Ariza Espinar (2000: 90) noted that the type collection was *Lorentz & Hieronymus* 528, a isotype of which exists in CORD.

Chaenocephalus heterophyllus Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 196 (March–April 1879); Symb.

Fl. Argent. : 196 (1879). Types: 'O.: Oran, pr. urbem; Tarija, Cuesta de Buyuyu.' Syntypes: *Lorentz & Hieronymus* 343, 867, GOET; isosyntypes: CORD. Blake (1925: 633) only cited *Lorentz & Hieronymus* 343 against 'Oran', but did not appear to have typified the name save citing '(sketch and fragm. of TYPE; G [= GH 4709])' after this latter specimen. Blake mentioned the material from Tarija but not apparently the

collector, except perhaps by reference to Kuntze. Kuntze (1898: 140) appears to only have referred to material from Tucuman, and nothing from Bolivia.

Chaenocephalus macrophyllus Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 196 (March-April 1879); Symb. Fl. Argent.: 196 (1879). Type: 'T.: Tucuman, pr. urbem.' Holotype: Lorentz & Hieronymus 193. Ariza Espinar (2000: 90) noted an isotype exists in CORD.

Verbesina octantha S. F. Blake, Amer. J. Bot. 12(10): 633 (1925), as nom. nov. pro *Chaenophyllus macrophyllus* Griseb. non **Verbesina macrophylla** (Cass.) S. F. Blake

Verbesina allophylla S. F. Blake, Amer. J. Bot. 12(10): 633 (1925), as nom. nov. pro. *Chaenocephalus heterophyllus* Griseb. non *Verbesina heterophylla* (Chapm.) A. Gray

Argentina, Bolivia (Tarija).

Woodland margins and clearings.

500–1500 m.

The following material was cited by Blake (1925: 633) under *V. allophylla* S. F. Blake:

'Bolivia: Machichoira, alt. 1065 m., 1902, Williams 1592 (Y [= NY]); in cultivated ground, Huachi, head of Beni River, alt. 915 m., 1921, Rusby (Mulford Biol. Expl. 458; N [= US], Y [= NY]).'

Vermifuga Ruiz & Pav., Fl. Peruv. Chil. Prodr. : 114 (1794) = **Flaveria** Juss.

Vermifuga corymbosa Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. : 216 (1798), based on *Milleria contrayerba* Cav. = **Flaveria bidentis** (L.) Kuntze

Vernonanthura H. Rob., Phytologia 73(2): 66 (1992) = **Vernonia** Schreb.

Vernonanthura amplexicaulis (R. E. Fr.) H. Rob., Phytologia 73(2): 68 (1992) = **Vernonia amplexicaulis** R. E. Fr.

Vernonanthura auriculata (Griseb.) H. Rob., Phytologia 73(2): 69 (1992) = **Vernonia auriculata** Griseb.

Vernonanthura brasiliana (L.) H. Rob., Phytologia 73(2): 69 (1992) = **Vernonia brasiliana** (L.) Druce

Vernonanthura canaminina (Gleason) H. Rob., Phytologia 73(2): 69 (1992) = **Vernonia amplexicaulis** R. E. Fr.

Vernonanthura ferruginea (Less.) H. Rob., Phytologia 73(2): 70 (1992) = **Vernonia ferruginea** Less.

Vernonanthura membranacea (Gardner) H. Rob., Phytologia 73(2): 71 (1992) = **Vernonia membranacea** Gardner

Vernonanthura patens (Kunth) H. Rob., Phytologia 73(2): 72 (1992) = **Vernonia patens** Kunth

Vernonanthura pinguis (Griseb.) H. Rob., Phytologia 73(2): 73 (1992) = **Vernonia pinguis** Griseb.

Vernonanthura prenanthoides (Gleason) H. Rob., Phytologia 73(2): 73 (1992) = **Vernonia prenanthoides** Gleason

Vernonanthura santacruzensis (Hieron.) H. Rob., Phytologia 76(1): 29 (1994) = **Vernonia santacruzensis** Hieron.

Vernonanthura squamulosa (Hook. & Arn.) H. Rob., Phytologia 73(2) :74 (1992) = **Vernonia squamulosa** Hook. & Arn.

Vernonanthura yurimaguasensis (Hieron.) H. Rob., Phytologia 73(2): 74 (1992) = **Vernonia yurimaguasensis** Hieron.

Vernonia Schreb. subgen. *Lepidaploa* Cass., Bull. Sci. Soc. Philom. Paris 1817: 66 (1817) = **Vernonia** Schreb.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC., Prodr. 5: 26 (1836) = **Vernonia** Schreb.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Brevifoliae* Cabrera, Darwiniana 6(3): 303 (1944) = **Vernonia** Schreb.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Chamaedrys* Cabrera, Darwiniana 6(3): 307 (1944) = **Vernonia** Schreb.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Laurifoliae* Cabrera, Darwiniana 6(3): 350 (1944) = **Vernonia** Schreb.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Nitidulae* Cabrera, Darwiniana 6(3): 347 (1944) = **Vernonia** Schreb.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Nudiflorae* Cabrera, Darwiniana 6(3): 353 (1944) = **Vernonia** Schreb.

Vernonia Schreb. sect. *Lepidaploa* subsect. *Oligocephalae* Baker in Mart., Fl. Bras. 6(2): 46 (1873), p.p. = **Vernonia** Schreb.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Sellowianae* Cabrera, Darwiniana 6(3): 306 (1944) = **Vernonia** Schreb.

Vernonia Schreb. sect. *Stenocephalum* (Sch.Bip.) Baker in Mart., Fl. Bras. 6(2): 25 (1873) = **Vernonia** Schreb.

Vernonia Schreb. sect. *Tephrodes* DC., Prodr. 5: 24 (1836) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vanillosma* Less., Linnaea 6(4): 630 (1831) = **Piptocarpha** R.Br.
Vernonia Schreb. sect. *Vernonia* subsect. *Arborescentes* Ekman, Ark. Bot. 13(15): 27 (1914) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Eremosis* (DC.) S. B. Jones, Rhodora 81(No. 828): 435 (1979) =
Critoniopsis Sch.Bip.
Vernonia Schreb. sect. *Vernonia* subsect. *Noveboracenses* Ekman, Ark. Bot. 13(15): 95 (1914) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Nudiflora* Cabrera ser. *Brevifoliae* (Cabrera) S. B. Jones, Rhodora
81(No. 828): 438 (1979) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Nudiflorae* Cabrera ser. *Subulatae* S. B. Jones, Rhodora 81(No. 828): 439
(1979) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Nudiflorae* Cabrera ser. *Verbascifoliae* S. B. Jones, Rhodora 81(No. 828):
438 (1979) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Pallescentes* Ekman, Ark. Bot. 13(15): 88 (1914) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Polyanthes* Ekman, Ark. Bot. 13(15): 89 (1914) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Sagraeanae* Ekman, Ark. Bot. 13(15): 11 (1914) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Arborescentes* (Ekman) S. B. Jones, Rhodora
81(No. 828): 445 (1979) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Aureae* S. B. Jones, Rhodora 81(No. 828): 442
(1979) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Flexuosae* (Cabrera) S. B. Jones, Rhodora 81(No.
828): 442 (1979) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Foliatae* (Benth. & Hook. f.) S. B. Jones,
Rhodora 81(No. 828): 443 (1979) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Pallescentes* (Ekman) S. B. Jones, Rhodora
81(No. 828): 445 (1979) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Scorpioides* (Benth. & Hook.f.) Ekman ser. *Remotiflorae* (Cabrera) S. B.
Jones, Rhodora 81(No. 828): 441 (1979) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Sagraeanae* (Ekman) S. B. Jones, Rhodora 81(No.
828): 444 (1979) = **Vernonia** Schreb.
Vernonia Schreb. sect. *Vernonia* subsect. *Stenocephalum* (Sch.Bip.) S. B. Jones, Rhodora 81(No. 828): 437 (1979) =
Vernonia Schreb.
Vernonia Schreb. subsect. *Argenteae* Cabrera, Candollea 54(1): 109 (1999) = **Vernonia** Schreb.
Vernonia Schreb. subsect. *Flexuosae* Cabrera, Darwiniana 6: 329 (1944) = **Vernonia** Schreb.
Vernonia Schreb. subsect. *Orbivestus* S. B. Jones, Rhodora 83(No. 833): 61 (1981) = **Vernonia** Schreb.
Vernonia Schreb. subsect. *Hilliardiana* S. B. Jones, Rhodora 83(No. 833): 66 (1981) = **Vernonia** Schreb.
Vernonia Schreb. subsect. *Tephrodes* (DC.) S. B. Jones, Rhodora 83(No. 833): 70 (1981) = **Vernonia** Schreb.

Vernonia Schreb., Gen. 2: 541 (1791), nom. cons.
Behen Hill, Veg. Syst. 4: 41 (1762). Type: *Behen novaboracensis* (L.) Hill = *Vernonia novaboracensis* (L.) Michx.
Baccharoides Moench, Meth. : 578 (1794). Type: *Baccharoides anthelmintica* (L.) Moench = *Vernonia*
anthelmintica (L.) Willd.
Ascaricida Cass., Dict. Sci. Nat. 3, suppl. : 38 (Jan. 1817), nom. superfl. pro *Baccharoides* Moench.
Vernonia Schreb. subgen. *Lepidaploa* Cass., Bull. Sci. Soc. Philom. Paris 1817: 66 (April/May 1817). Lectotype
(selected by Robinson, 1980:): *Vernonia albicaulis* Vahl ex Pers. [= *Lepidaploa glabra* (Willd.) H. Rob.]
Isonema Cass., Bull. Sci. Soc. Philom. Paris 1817: 152 (1817), nom. illegit. non R.Br. (1810). Type: *Isonema ovata*
Cass. = *Vernonia chinensis* (Less.) Less.
Lepidaploa (Cass.) Cass., Dict. Sci. Nat. 36: 20 (1825).
Cyanthillium Blume, Bidj.: 889 (1826). Type: *Cyanthillium villosum* Blume = *Vernonia chinensis* (Less.) Less.
Vernonia Schreb. sect. *Tephrodes* DC., Prodr. 5: 24 (1836). Lectotype (selected by Jones, 1981): *Vernonia cinerea*
(L.) Less.
Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC., Prodr. 5: 26 (1836).
Cyanopsis Blume ex DC., Prodr. 5: 69 (1836), nom. illegit. superfl. non Cass. (1817). Lectotype (selected by
Jones, 1980): *Cyanopsis villosa* (Blume) DC. = *Vernonia chinensis* (Less.) Less.
Flustula Raf., Sylva Tell. : 116 (1838)[1836]. Type: *Fustula tomentosa* Raf., nom. illegit. = *Conyza arborescens* L. =
Vernonia arborescens (L.) Sw.

Candidea Tenora, Atti Reale Accad. Sci. Sez. Soc. Reale Borbon 4 (Cl. Bot.): 104, t. 1, 2 (1839). Type: *Candidea senegalensis* Tenora = *Vernonia tenoreana* Oliver

Claotrachelus Zoll. & Moritz ex Zoll., Natuur-Geneesk. Arch. Ned Indië 2: 263 (1845). Type: *Claotrachelus rupestris* Zoll. & Moritz ex Zoll. = *Vernonia zollingeriana* Sch.Bip.

Leiboldia Schltldl, Linnaea 19: 742 (1847), nom. nud.

Stenocephalum Sch.Bip., Jahresber. Pollichia 20-21: 385 (1863)[30 March 1864]. Type: *Stenocephalum apiculatum* (Mart. ex DC.) Sch.Bip. = ***Vernonia apiculata*** Mart. ex DC.

Vernonia sect. *Leiboldia* [Schltldl.] Benth. & Hook. f., Gen. Pl. 2: 228 (1873). Type: not stated.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. ser. *Macrocephalae* Benth. & Hook.f., Gen. Pl. 2(1): 229 (1873). Type: not selected.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. ser. *Macrolepidae* Benth. & Hook.f., Gen. Pl. 2(1): 229 (1873). Type: not stated. Lectotype (Jones, 1979: 440): *Vernonia chamaepeuce* Sch.Bip.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. ser. *Scorpioideae* Benth. & Hook. subser. *Foliatae* Benth. & Hook.f., Gen. Pl. 2(1): 229 (April 1873).

Vernonia Schreb. sect. *Stenocephalum* (Sch.Bip.) Baker in Mart., Fl. Bras. 6(2): 25 (1873).

Vernonia Schreb. sect. *Lepidaploa* subsect. *Oligocephalae* Baker in Mart., Fl. Bras. 6(2): 46 (1873), p.p. (= *Lessingianthus* subg. *Oligocephalus*)

Seneciodes L. ex Post & Kuntze, Lex. Gen. Phan. 2: 515 (1903). Type: *Seneciodes cinerea* (L.) Post & Kuntze = *Vernonia cinerea* (L.) Less.

Triplotaxis Hutch., Bull. Misc. Inform. Kew 1914(10): 355 (1914). Type: not stated. Lectotype (selected by Jeffrey, 1988: 221): *Triplotaxis stellulifera* (Benth.) Hutch. = *Vernonia stellulifera* (Benth.) C. Jeffrey

Vernonia Schreb. sect. *Vernonia* subsect. *Sagraeanae* Ekman, Ark. Bot. 13(15): 11 (1914). Type: *Vernonia sagraeana* DC.

Vernonia Schreb. sect. *Vernonia* subsect. *Arborescentes* Ekman, Ark. Bot. 13(15): 27 (1914). Type: *Vernonia arborescens* (L.) Sw.

Vernonia Schreb. sect. *Vernonia* subsect. *Pallescentes* Ekman, Ark. Bot. 13(15): 88 (1914). Type: *Vernonia pallescens* Gleason

Vernonia Schreb. sect. *Vernonia* subsect. *Polyanthes* Ekman, Ark. Bot. 13(15): 89 (1914). Type: *Vernonia baccharoides* Kunth = ***Vernonia patens*** Kunth

Vernonia Schreb. sect. *Vernonia* subsect. *Noveboracenses* Ekman, Ark. Bot. 13(15): 95 (1914). Type: as for genus.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Brevifoliae* Cabrera, Darwiniana 6(3): 303 (1944). Type: not stated. Lectotype (selected by Jones, 1979: 438): *Vernonia brevifolia* Less.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Sellowianae* Cabrera, Darwiniana 6(3): 306 (1944). Type: *Vernonia sellowii* Less.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Chamaedrys* Cabrera, Darwiniana 6(3): 307 (1944). Type: not stated. Lectotype (selected by Jones, 1979: 436): *Vernonia chamaedrys* Less.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Remotiflorae* Cabrera, Darwiniana 6(3): 311 (1944). Type: not stated. Lectotype (selected by Jones, 1979: 441): ***Vernonia remotiflora*** Rich.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Echioides* Cabrera, Darwiniana 6(3): 327 (1944). Type: *Vernonia echioides* Less.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Flexuosae* Cabrera, Darwiniana 6(3): 329 (1944). Type: not stated. Lectotype (selected by Jones, 1979: 442): *Vernonia cognata* Less. Note: Jones (1981: 215) cited the lectotype as *V. flexuosa* Sims.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Nitidulae* Cabrera, Darwiniana 6(3): 347 (1944). Type: not stated.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Laurifoliae* Cabrera, Darwiniana 6(3): 350 (1944). Type: not selected. Note: Of the two species originally included in this subsection one, *V. fulva* Griseb., is the type of *Quechualia* H. Rob.

Vernonia Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Nudiflorae* Cabrera, Darwiniana 6(3): 353 (1944). Type: not stated. Lectotype (selected by Jones, 1979: 437): *Vernonia nudiflora* Less.

Vernonia Schreb. sect. *Vernonia* subsect. *Stenocephalum* (Sch.Bip.) S. B. Jones, Rhodora 81(No. 828): 437 (1979).

Vernonia Schreb. sect. *Vernonia* subsect. *Nudiflora* Cabrera ser. *Brevifoliae* (Cabrera) S. B. Jones, Rhodora 81(No. 828): 438 (1979).

Vernonia Schreb. sect. *Vernonia* subsect. *Nudiflorae* Cabrera ser. *Verbascifoliae* S. B. Jones, Rhodora 81(No. 828): 438 (1979), 'as to type but not as to intent', q.v. Robinson (1988: 956). Type: *Vernonia verbascifolia* Less.

- Vernonia* Schreb. sect. *Vernonia* subsect. *Nudiflorae* Cabrera ser. *Subulatae* S. B. Jones, *Rhodora* 81(No. 828): 439 (1979). Type: *Vernonia subulata* Baker
- Vernonia* Schreb. sect. *Vernonia* subsect. *Scorpioides* (Benth. & Hook.f.) Ekman ser. *Remotiflorae* (Cabrera) S. B. Jones, *Rhodora* 81(No. 828): 441 (1979).
- Vernonia* Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Flexuosae* (Cabrera) S. B. Jones, *Rhodora* 81(No. 828): 442 (1979).
- Vernonia* Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Aureae* S. B. Jones, *Rhodora* 81(No. 828): 442 (1979). Type: *Vernonia aurea* Mart. ex DC.
- Vernonia* Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Canescentes* S. B. Jones, *Rhodora* 81(No. 828): 443 (1979). Type: **Vernonia canescens** Kunth
- Vernonia* Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Foliatae* (Benth. & Hook. f.) S. B. Jones, *Rhodora* 81(No. 828): 443 (1979). Type: *Vernonia argyropappa* Buek = **Vernonia salzmännii** DC.
- Vernonia* Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Sagraeanae* (Ekman) S. B. Jones, *Rhodora* 81(No. 828): 444 (1979).
- Vernonia* Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Arborescentes* (Ekman) S. B. Jones, *Rhodora* 81(No. 828): 445 (1979).
- Vernonia* Schreb. sect. *Vernonia* subsect. *Scorpioides* Ekman ser. *Pallescentes* (Ekman) S. B. Jones, *Rhodora* 81(No. 828): 445 (1979).
- Vernonia* Schreb. subsect. *Orbivestus* S. B. Jones, *Rhodora* 83(No. 833): 61 (1981). Lectotype (selected by Jeffrey, 1988): *Vernonia karaguensis* Oliv. & Hiern
- Vernonia* Schreb. subsect. *Hilliardiana* S. B. Jones, *Rhodora* 83(No. 833): 66 (1981). Lectotype (selected by Jeffrey, 1988): *Webbia oligocephala* DC. = *Vernonia oligocephala* (DC.) Sch.Bip. ex Walp.
- Vernonia* Schreb. subsect. *Tephrodes* (DC.) S. B. Jones, *Rhodora* 83(No. 833): 70 (1981).
- Echinocoryne* H. Rob., Proc. Biol. Soc. Washington 100(3): 586 (1987). Type: *Echinocoryne holosericea* (Mart. ex DC.) H. Rob. = *Vernonia holosericea* Mart. ex DC.
- Cyrtocymura* H. Rob., Proc. Biol. Soc. Washington 100(4): 849 (1987). Type: *Conyza scorpioides* Lam. = *Cyrtocymura scorpioides* (Lam.) H. Rob. = **Vernonia scorpioides** (Lam.) Pers.
- Eirmocephala* H. Rob., Proc. Biol. Soc. Washington 100(4): 853 (1987). Type: *Eirmocephala brachiata* (Benth.) H. Rob. = *Vernonia brachiata* Benth.
- Lessingianthus* H. Rob., Proc. Biol. Soc. Washington 101(4): 939 (1988). Type: *Lessingianthus argyrophyllus* (Less.) H. Rob. = *Vernonia argyrophylla* Less.
- Lessingianthus* H. Rob. subg. *Oligocephalus* H. Rob., Proc. Biol. Soc. Washington 101(4): 949 (1988). Type: *Lessingianthus simplex* (Less.) H. Rob. = **Vernonia simplex** Less.
- Chrysolaena* H. Rob., Proc. Biol. Soc. Washington 101(4): 956 (1988). Type: *Chrysolaena flexuosa* (Sims) H. Rob. = *Vernonia flexuosa* Sims
- Acilepidopsis* H. Rob., *Phytologia* 67(4): 289 (1989). Type: **Vernonia echitifolia** Mart. ex DC.
- Vernonanthura* H. Rob., *Phytologia* 73(2): 66 (1992). Type: *Baccharis brasiliiana* L. = *Vernonanthura brasiliiana* (L.) H. Rob. = **Vernonia brasiliiana** (L.) Druce
- Anteremanthus* H. Rob., Proc. Biol. Soc. Washington 105: 646 (1992). Type: *Anteremanthus hatschbachii* H. Rob. = **Vernonia hatschbachii** (H. Rob.) D. J. N. Hind
- Mesanthophora* H. Rob., *Novon* 2(2): 172 (1992). Type: *Mesanthophora brunneri* H. Rob.
- Dasyanthina* H. Rob., Proc. Biol. Soc. Washington 106: 778 (1993). Type: **Vernonia serrata** Less.
- Vernonia* Schreb. subsect. *Argenteae* Cabrera, *Candollea* 54(1): 109 (1999). Type: **Vernonia argentea** Less.
- Type (conserved): *Serratula novaboracensis* L. = *Vernonia novaboracensis* (L.) Michx.

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- Note: The name '*Lessingianthus velascensis* H.Rob.' appears in Killeen & Schulenberg (1998: 240), although I am unable to trace this name in Robinson (1999) or the major names database, IPNI (as of VI/2009). There is a herbarium name '*Vernonia velascens* Hieron.' according to Robinson (1999), which is referred to *V. scabrifolius*.

Vernonia acilepis Benth. in Oersted, Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1852(5–7): 68 (1852)[1853]
= **Vernonia remotiflora** Rich.

Vernonia albifila Gleason, Bull. Torrey Bot. Club 59: 374 (1932) = **Vernonia yurimaguasensis** Hieron.

Vernonia amplexicaulis R. E. Fr., Ark. Bot. 5(13): 5 (1906). Type: 'Argentinae prov. Jujuy; Quinta pr. Laguna de la Brea, loco aperto in silva densa subtropica [19/7 01; FR. 249].' Holotype: S.

**Vernonia canaminina* Gleason, Amer. J. Bot. 10(6): 309 (1923). Type: [Bolivia:] 'Canamina, alt. 4,500 ft., White 752 (type, in the herbarium of the New York Botanical Garden).' Holotype: NY (00274755); isotype: US (01120924).

Vernonanthura amplexicaulis (R. E. Fr.) H. Rob., Phytologia 73(2): 68 (1992).

Vernonanthura canaminina (Gleason) H. Rob., Phytologia 73(2): 69 (1992).

Argentina, Bolivia (La Paz), Paraguay.

1370 m.

July–October.

***Vernonia apiculata** Mart. ex DC., Prodr. 5: 51 (1836). Type: '(Mart.! herb.) ... · in campis Brasiliae prope Barreiros Minarum Novarum legit cl. Martius. ... (v.s. h. acad. reg. Monac.)'. Holotype: M; isotype: G-DC (one leaf and a few florets!)

Vernonia monticola Mart. ex DC., Prodr. 5: 18 (1836). Type: '(Mart.! herb.), ... † in monte Itambe prov.

Minarum Brasiliae, legit cl. Martius. ... An *Chrysocoma adpressa* Arrab. fl. flum. 8. t. 35? (v.s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC (fragments in capsules including one capitulum).

Stenocephalum monticola (Mart. ex DC.) Sch.Bip., Jahresber. Pollichia 20-21: 386 (1863)[30 March 1864].

Stenocephalum apiculatum (Mart. ex DC.) Sch.Bip., Jahresber. Pollichia 20-21: 387 (1863)[30 March 1864].

Cacalia apiculata (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 969 (1891).

Cacalia monticola (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Bolivia (La Paz, Santa Cruz), Brazil, Paraguay, Venezuela.

Cerrado and cerradão.

340 m.

April–May.

Vernonia araneosa Baker in Mart., Fl. Bras. 6(2): 32 (1873) = **Vernonia dura** Mart. ex DC.

**Vernonia arborescens* (L.) Sw., Fl. Ind. Occ. 3: 1320 (1806). Note: Although listed by Foster (1959: 220) this taxon is restricted, apparently, to the Antilles. Its original inclusion is based on Rusby's listing of *Bang* 1207 (Rusby, 1896 : 52). Gleason (1923) neither listed the species nor the *Bang* collection. It may of course refer to *V. canescens*, which wasn't listed by either Foster or Gleason.

Vernonia arborescens* Sw. var. *cuneifolia* Britton, Bull. Torrey Bot. Club 18: 331 (1891) = **Vernonia canescens Kunth

Vernonia argentea Gillies ex Hook. & Arn., Companion Bot. Mag. 1(No. 4): 108 (1835), nom. nud. pro syn., non Less. (1831: 672) = **Hyalis argentea** D. Don ex Hook. & Arn.

Vernonia argyropappa* Buek, Index Gen. Sp. Syn. in DC., Prodr. 2: praef. 5 (1840) = **Vernonia salzmännii DC.

***Vernonia aristosquamosa** Britton, Bull. Torrey Bot. Club 18: 332 (1891). Type: 'Yungas, 6,000 ft. ([Rusby] 1657).' Holotype: NY (00274582); isotype: NY (00274583), US (01401270).

Lepidaploa aristosquammosa (Britton) H. Rob., Proc. Biol. Soc. Washington 103(2): 482 (1990).

Bolivia (La Paz).

Vernonia aschenborniana Schauer, Linnaea 19: 714 (1847) = **Vernonia patens** Kunth

Vernonia assana Mart. ex DC., Prodr. 5: 38 (1838) = **Vernonia brasiliana** (L.) Druce

Vernonia asteriflora Mart. ex DC., Prodr. 5: 29 (1836). Type: '(Mart.! herb.) ... ■ in editis campos prov. Minarum gener. Brasiliae. ... (v.s. in h. Acad. reg. monac.)'. Holotype: M; isotype: G-DC (one leaf and one fragmented capitulum).

Cacalia asteriflora (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 969 (1891).

**Vernonia kuntzei* Hieron., Bot. Jahrb. Syst. 22(4–5): 678 (1897). Types: 'Bolivia: in der Sierra von Santa Cruz bei 1600, 2600 und 3000 m Höhe (O. Kuntze, Mai 1892).' Lectotype (selected by Jones, 1982: 110): 'BOLIVIA: Sierra von Santa Cruz, 3000 m alt., in 1892, Kuntze s.n.', B† (seen only as photographs in GH and MO);

isolectotype: NY (00274868). Material in US (00702216), which is possibly an isolectotype, has no elevation specified. Note: Jones (1982: 110) lectotypified this name based material which had already been destroyed during WW2. An isosyntype, collected as 1600 m, also exists in NY (00274867).

Cacalia kuntzei (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 138 (1898).

Vernonia asteriflora Mart. ex DC. ssp. *kuntzei* (Hieron.) S. B. Jones, Brittonia 34(1): 110 (1982).

Lessingianthus asteriflorus (Mart. ex DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 940 (1988).

Bolivia (Chuquisaca, Santa Cruz), Brazil, Paraguay.

Open areas in cloud forest.

2500–3000 m.

April–May.

Note: This taxon is far more variable than indicated by Jones (1982: 110) and should be studied more thoroughly throughout its range, especially since much material in Bolivia does not strictly fall into the range of 'ssp. *kuntzei*', species since the leaves are still pubescent when old, rather than glabrous.

Vernonia asteriflora Mart. ex DC. ssp. *kuntzei* (Hieron.) S. B. Jones, Brittonia 34(1): 110 (1982) = **Vernonia asteriflora** Mart. ex DC.

Vernonia asterotrichia Poepp., Nov. Gen. Sp. Pl. 3: 41 (1843) = **Piptocarpha asterotrichia** (Poepp.) Baker

***Vernonia auriculata** Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 163 (March–April 1879); Symb. Fl. Argent. : 163 (1879). Type: '[Bolivia:] O.: Tarija, Cuesta del Tambo.' Holotype: *Lorentz & Hieronymus* 874, GOET; isotypes: K × 2, S. Note: the type database in GOET notes the country of origin as 'Argentina', although clearly Tarija (Bolivia) on the isotypes in K.

Cacalia auriculata (Griseb.) Kuntze, Revis. Gen. Pl. 2: 969 (1891).

Vernonanthura auriculata (Griseb.) H. Rob., Phytologia 73(2): 69 (1992).

Bolivia (Tarija).

Vernonia baccharoides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 4 (ed. folio): 32 (1818) = **Vernonia patens Kunth

***Vernonia bakerana** Britton, Bull. Torrey Bot. Club 18: 331 (1891). Type: [Bolivia:] 'Yungas, 6,000 ft. ([*Rusby*] 2147).' Holotype: NY (00274588).

Lepidaploa bakerana (Britton) H. Rob., Proc. Biol. Soc. Washington 103(2): 482 (1990).

Bolivia (La Paz).

La Paz: Muñecas, 1300 m, 20 April 2005, *Fuentes* et al. 7042 (K, MO).

Vernonia bangii* Rusby, Mem. Torrey Bot. Club 6(1): 52 (1896) = **Vernonia patens Kunth

Vernonia beckii (H. Rob.) D. J. N. Hind, Kew Bull. 63(3): 515 (2008)[Jan 2009].

Lepidaploa beckii H. Rob., Proc. Biol. Soc. Washington 103(2): 482 (1990). Type: 'Bolivia: La Paz: Prov. Nor Yungas, Suapi 16 km hacia Santa Rosa, 1650 m, bosque motañoso, sub-arbusto de 2 m erecto, frutos, en el borde del camino, 25.9.1987, *St. G. Beck* 13640'. Holotype: US (03143669); isotype: LPB.

Bolivia (La Paz).

Vernonia boliviana* Britton, Bull. Torrey Bot. Club 18: 332 (1891) = **Critoniopsis boliviana (Britton) H. Rob.

***Vernonia brachylepis** Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 164 (1879); Symb. Fl. Argent. : 164 (1879). Type: 'O.: Tarija, Cuesta del Tambo.' Holotype: *Lorentz* 625. Note: The type database in GOET has the country of origin as 'Bolivia?' Note: this species was listed in Foster (1958: 221). Robinson (1999) suggested it was a *Vernonanthura*, but no equivalent species listed.

Cacalia brachylepis (Griseb.) Kuntze, Revis. Gen. Pl. 2: 969 (1891).

Bolivia (Tarija).

***Vernonia brasiliiana** (L.) Druce, Rep. Bot. Exch. Club Brit. Isles 3: 426 (1914).

Baccharis brasiliiana L., Sp. Pl., ed. 2: 1205 (1763). Type: 'Habitat in Brasilia.' Lectotype (selected by Keeley in Jarvis & Turland 1998: 355): [icon] 'Tremate Brasiliensibus' in Piso, Hist. Rer. Nat. Brasil. 2: 81 (1648).

Vernonia scabra Pers., Syn. Pl. 2: 404 (1807), nom. illegit. citing *Baccharis brasiliiana* L. in synonymy.

- Vernonia odoratissima* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 32 (1818). Type: 'Crescit in siccis prope Caracas, Ibague et Honda, inter 200 et 700 hex. ■Floret Februario.' Holotype: P-Bonpl.
- Vernonia assans* Mart. ex DC., Prodr. 5: 38 (1838). Type: '(Mart.! herb.), ... ■in campis desertis Minarum gener. Brasiliae collegit cl. Martius. ... (v.s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC (two leaves and an inflorescence branch).
- Vernonia odoratissima* Kunth var. a. *caracasana* Sch.Bip., Linnaea 20: 508 (1847). Type: 'Columbia, ad Caracas locis siccis c. g. in Valle etc. fl. Jan. (flores albidis, extus subroseis): Moritz n. 836.' Holotype: ?B†.
- Vernonia odoratissima* Kunth var. b. *guianensis* Sch.Bip., Linnaea 20: 508 (1847). Type: 'Guiana angl. Taiutu. Fl. Mart. 1842: Rich. Schomburgk n. 530.' Holotype: ?B†.
- Cacalia amoena* Mart. ex Baker in Mart., Fl. Bras. 6(2): 100 (1873), nom. nud. pro syn.
- Eupatorium obovatum* Willd. ex Baker in Mart., Fl. Bras. 6(2): 100 (1873), nom. nud. pro syn.
- Conyza clethrifolia* [as *clethraefolia*] Willd. ex Baker in Mart., Fl. Bras. 6(2): 100 (1873), nom. nud. pro syn.
- Cacalia brasiliana* (L.) Kuntze, Revis. Gen. Pl. 2: 968 (1891).
- ?*Vernonia salvifolia* [as *salviaefolia*] Chodat, Bull. Herb. Boissier, ser. 2, 1(4): 410 (1901). Types: [Paraguay:] 'In campo pr. San Bernardino, Jul., [Hassler] 549; *Balansa*, 808, fleurs blanchâtres exhalant une odeur rappelant celle de la vanille. L'Assomption, dans les basfonds argileux un peu humides. Juill.' Syntypes: G. Lectotype (selected by Ramella et al., 2009: 161): *Balansa* 808, G (00093320); isolectotypes: BAF, BM, BR, LIL, P, S, SI.
- Vernonanthura brasiliana* (L.) H. Rob., Phytologia 73(2): 69 (1992).
- Argentina, Bolivia (Bení, Santa Cruz), Brazil, Colombia, French Guiana, Guyana, Paraguay, Suriname, Venezuela.
- Roadside and river margins, cerrado, scrub, riverbanks.
- 50–1700 m.
- June–August, but flowering sporadically throughout the year..
- ****Vernonia brevipetiolata*** Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 85 (1873). Types: 'Habitat in campis siccis prov. Minas Geraës, e. gr. ad Caldas: *Regnell* III. 663, *Claussen*, *Riedel* 1118; ad Lagoa Santa: *Warming* (forma foliis angustioribus oblanceolatis, maxima 6–9 lin. latis).' *Cacalia brevipetiolata* (Sch.Bip. ex Baker) Kuntze, Revis. Gen. Pl. 2: 969 (1891).
- Lessingianthus brevipetiolatus* (Sch.Bip. ex Baker) H. Rob., Proc. Biol. Soc. Washington 101(4): 941 (1988). Bolivia (?), Brazil.
- **Vernonia breviramosa* Rusby, Bull. New York Bot. Gard. 8(No. 28): 123 (1912) = ***Vernonia cincta*** Griseb.
- ****Vernonia buchtienii*** Gleason, Amer. J. Bot. 10: 302 (1923). Type: [Bolivia:] '*Buchtien* 1528, collected near Mapiri, at an altitude of 700 meters, and deposited in the herbarium of the New York Botanical Garden.' Holotype: NY (00274751); isotype: US (01097423).
- Lepidaploa buchtienii* (Gleason) H. Rob., Proc. Biol. Soc. Washington 103(2): 483 (1990). Bolivia (La Paz).
- 700 m.
- Vernonia bullata* Benth., Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1852(5-7): 67 (1852)[1853] = ***Vernonia canescens*** Kunth
- Vernonia caducissima* Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 73 (1873), nom. nud. pro syn. = ***Vernonia salzmännii*** DC.
- Vernonia cajamarcensis* H. Rob., Phytologia 53(6): 393 (1983) = ***Critoniopsis cajamarcensis*** (H. Rob.) H. Rob.
- **Vernonia canaminina* Gleason, Amer. J. Bot. 10: 309 (1923) = ***Vernonia amplexicaulis*** R. E. Fr.
- Vernonia canescens*** Kunth in Humb., Bonpl. & Kunth., Nov. Gen. Sp. Pl. 4 (ed. folio): 27 (1818). Type: 'Crescit prope Guancabamba Peruvianorum in regione temperata, alt. 127 hex. ■Floret Aprili.' [*Humboldt & Bonpland* 'no. 3529. Guancabamba'] Holotype: P-Bonpl.
- **Vernonia mollis* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 28 (1818). Type: 'Crescit et floret cum præcedente. ■ [= *Vernonia canescens*] [*Humboldt & Bonpland* 'in calidis Gonzanamae'; B-W: 'Gonzanama']. Holotype: P-Bonpl; isotype: B-W.
- Vernonia bullata* Benth., Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1852(5-7): 67 (1852)[1853]. Type: 'Paa Bjergene syd for Cartago i Costa-Rica (5000)'. Holotype: ?C.

**Vernonia arborescens* Sw. var. *cuneifolia* Britton, Bull. Torrey Bot. Club 18: 331 (1891). Type: [Bolivia:] 'Reis, 1,500 ft. ([Rusby] 2148).' Holotype: NY (00274560); isotype: NY (00277663 – ex College of Pharmacy Herbarium).

Cacalia bullata (Benth.) Kuntze, Revis. Gen. Pl. 2: 969 (1891)

Cacalia canescens (Kunth) Kuntze, Revis. Gen. Pl. 2: 969 (1891).

Cacalia mollis (Kunth) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Vernonia sodiroi Hieron. ex Sodiro, Bot. Jahrb. Syst. 29(1): 1 (1900*). Type: [Ecuador:] 'Crescit in regiona subandina locis temperatis, alt. s.m. 160–200 m (*S.[odiro]* n. 1/3).' Holotype: B†. [*Note: See Reference section concerning problem with date of publication]

Vernonia volubilis Hieron., Bot. Jahrb. Syst. 36(5): 460 (1905). Type: 'Peruvia: prope Tambillo, mense Julio florens (*J.[elski]* n. 775).' Holotype: B.

Vernonia hirsutivena Gleason, Bull. New York Bot. Gard. 4(14): 175 (1906). Type: [Mexico] 'Gaumer 1325, from Yot Tzonot, Yucatan; in the herbarium of the New York Botanical Garden.' Holotype: NY (00274527).

**Vernonia patuliflora* Rusby, Bull. New York Bot. Gard. 4(14): 376 (1906). Type: [Bolivia:] ' "A slender shrub, 6–10 ft. high, with blue flower, growing in sand and gravel near river. Rather scarce." Coroico, August 23, 1894. ([Bang] No. 2396).' Holotype: NY (00274607); isotypes: F (163946), LD, NY (00274608), US (00032990).

Vernonia purpusii Brandege, Univ. Calif. Publ. Bot. 6: 197 (1915). Type: [Mexico:] 'Collected on Cerro del Boqueron, Chiapas. [*Purpus*] No. 7189. Type, Herb. Univ. Calif. No. 174998.' Holotype: UC (174998).

Vernonia cuneifolia (Britton) Gleason, Amer. J. Bot. 10(6): 301 (1923), comb. illegit., non Gardner.

**Vernonia pseudomollis* Gleason, Amer. J. Bot. 10: 307 (1923). Type: 'Yungas, alt. 6000 ft., Rusby 1658 (type, in the herbarium of Columbia University); Apolo, Williams 1432.' Holotype: LNC (transferred to USNC, part of the Smithsonian Institution, Paleobiology Department); isotype: NY (00274625 – ex College of Pharmacy Herbarium), US (00032551). Jones (1980: 45) suggested that the holotype is in NY, which is contrary to the indications in the protologue and subsequent history.

**Vernonia rusbyi* Gleason, Amer. J. Bot. 19: 753 (1932), as nom. nov. for *Vernonia cuneifolia* (Britton) Gleason

Vernonia polypleura S. F. Blake, J. Wash. Acad. Sci. 28: 478 (1938). Type: 'MEXICO: Mt. Orando, Chiapas, 23 Dec. 1936, E. Matuda 730 (type no. 1,686,105, U.S. Nat. Herb., dupl. herb. Univ. Mich.).' Holotype: US (1686105); isotype: MICH.

Vernonia medialis Standley & Steyerl., Publ. Field Mus. Nat. Hist., Bot. ser. 23(3): 148 (1944). Type: 'Guatemala: Dept. Retalhuleu: Damp thicket, Río Coyote, along road 4 km. west of Retalhuleu, alt. about 300 meters, February 17, 1941, Paul C. Standley 87473'. Holotype: F (1111469).

Vernonia spiritu-sancti Cuatrec., Bot. Jahrb. Syst. 77: 58 (1956). Type: 'Colombia; Dept. Magdalena: Sierra de Perijá, Espiritu Santo Valley, 15 km. east of Codazzi, 10 km. from Venezuelan border. Subtropical forest 1250 m. alt. Herb. 6 feet high. Corolla rose-violet. Collected 19. II. 1945 MARTIN GRANT 10999.' Holotype: F (1423967).

Vernonia unillensis Cuatrec., Bot. Jahrb. Syst. 77: 59 (1956). Type: 'Colombia; Comis Vaupés: Calar, orillas del río Urilla, matorralles a 240 m. alt. Gran bejuco. Flor lila intenso. Colect. 30. X. 1939. J. CUATRECASAS 7344.' Holotype: US (1797477); isotype: F (1306002).

Lepidaploa canescens (Kunth) H. Rob., Proc. Biol. Soc. Washington 103(2): 483 (1990).

Bolivia (La Paz, Santa Cruz), Colombia, Costa Rica, Ecuador, Guatemala, Mexico, Panama, Peru, Venezuela.

Note: Foster (1958) recognized *V. patuliflora* as a synonym of *V. cordiifolia*. However, *V. cordiifolia* is restricted to Columbia, and *V. patuliflora* is recognized as a synonym of *V. canescens*.

Vernonia cardenasii H. Rob. Phytologia, 49(3): 262 (1981) = **Quechualia cardenasii** (H. Rob.) H. Rob.

Vernonia centauroioides Sch.Bip., Bull. Soc. Bot. France 12: 82 (1865); Linnaea 34(5): 536 (Feb. 1866), nom. nud. (based on Mandon 288 bis) = ?

****Vernonia centaurosidea*** Hieron., Bot. Jahrb. Syst. 40(3): 353 (1908). Type: 'Bolivia: in faucibus rivi Toldos haud procul a Bermejo, alt. s. m. 1900 m (F. FIEBRIG n. 2258; 26. m. Nov. 1903).' Holotype: B†. Bolivia (?).

Note: This name is not listed in Robinson (1999)! Hieronymus clearly cited '2258' in the protologue, yet it is equally clear that the sheet photographed in B was '2248'.

Vernonia centriflora Link & Otto, Ic. Pl. Select. pl. 55 (Dec. 1828/Jan 1829) = ***Vernonia scorpioides*** (Lam.) Pers.

Vernonia chromolepis Gardner, London J. Bot. 5: 224 (1846) = ***Vernonia rubricaulis*** Humb. & Bonpl.

Vernonia chrysophylla Gardner, London J. Bot. 6: 417 (1847) = **Vernonia obovata** Less.

Vernonia cincta Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 162 (March–April 1879); Symb. Fl. Argent. : 162 (1879). Types: '[Argentina:] T.: Cuesta de Periquillo. (Paraguay: *Bal[ansa]* 879.)'. Syntypes: GOET. Note: other than the *Balansa* syntype, the other is *Lorentz & Hieronymus* 1061 (GOET 6121).

Cacalia cincta (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 138 (1898).

**Vernonia breviramosa* Rusby, Bull. New York Bot. Gard. 8(No. 28): 123 (1912). Type: [Bolivia:] ' "Eight feet high; Apolo, 4800 ft., July 1, 1902" ([R.S. Williams] No. 1431). Very near, if not the same as *Mathews*' No. 1365.' Holotype: NY (00274600); isotypes: UC (946277), US (01097401). Note: This name was not listed in Robinson (1987b, 1999); Foster (1958: 221) suggested that it was a synonym of *Vernonia scorpioides* (Lam.) Pers. although it is clearly *V. cincta*.

Vernonia scorpioides (Lam.) Pers. var. *cincta* (Griseb.) Cabrera, Darwiniana 6: 338 (1944).

Cyrtocymura cincta (Griseb.) H. Rob., Proc. Biol. Soc. Washington 100(4): 851 (1987).

Argentina, Bolivia (Chuquisaca, La Paz, Santa Cruz), Paraguay.

Dry valleys, amongst rocks, pathsides, roadsides, shallow soils.

200–2140 m.

November–January (–July), but probably flowering throughout most of the year.

Note: Robinson (1987: 851) treated *V. cincta* (as *Cyrtocymura cincta*) as distinct from *V. scorpioides* in an interesting key.

Vernonia conwayi* Rusby, Bull. New York Bot. Gard. 8(No. 28): 125 (1912) = **Critoniopsis jubifera (Rusby) H. Rob.

**Vernonia cordiifolia* [as *cordiaefolia*] Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 29 (1818). Note: Foster (1958) listed *Vernonia cordiifolia*, recorded only from Colombia by Robinson (1999), based on Gleason's inclusion of the species in his synopsis, synonymizing *V. patuliflora*, now considered a synonym of *V. canescens*. Gleason's cited material is best referred to the latter. However, Beck 13605, determined by H. Robinson is referred to *V. cordiifolia*.

***Vernonia coriacea** Less., Linnaea 6(4): 661 (1831). Types: '(v.sp. s. plura.)'. Syntypes: B†. Note: Jones (1982: 104) assigned a neotype: *Pohl* 430, F (880576). Note: The photo in F of one sheet in B is of a *Sellow* collection (*Sellow* 5469. Brasilia).

Vernonia hecatantha DC., Prodr. 5: 53 (1836) [corr. as *hexacantha* 5: 696]. Type: 'part. ign. ... (v.s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC (one leaf and a fragmented capitulum).

Cacalia coriacea (Less.) Kuntze, Revis. Gen. Pl. 2: 969 (1891).

Lessingianthus coriaceus (Less.) H. Rob., Proc. Biol. Soc. Washington 101(4): 942 (1988).

Bolivia (La Paz), Brazil, Peru.

Grassland, rocky soils, dry hillsides.

650–1900 m.

March–April.

Wood & Harley 18104, La Paz, 10.4.2002

Wood et al. 20583, La Paz, 1.4.2004

Britton (1891) cited 'Reis, 1,500 ft. ([Rusby] 1588).'

***Vernonia costata** Rusby, Mem. Torrey Bot. Club 6(1): 53 (1896). Type: [Bolivia:] 'Mapiri, July–August, 1892 ([Bang] 1472)'. Holotype: NY (00274781); isotypes: K, LD × 2, NY (00274782), US (00967293), Z (000004048).

Lepidaploa costata (Rusby) H. Rob. Proc. Biol. Soc. Washington 103(2): 486 (1990).

Bolivia (Bení, La Paz), Peru.

July–August.

Bení: General José Ballivian, 21–22 Octubre 2003, *Fuentes* 5509 (K, LPB, MO)

Vernonia cotaniensis Hieron., Bot. Jahrb. Syst. 40(3): 352 (1908) = **Vernonia ligulifolia** Mart. ex DC.

***Vernonia crassifolia** Rusby, Bull. New York Bot. Gard. 8(No. 28): 124 (1912). Type: [Bolivia:] ' "Ten feet high; Apolo, 4800 ft., July 12, 1902" ([R.S. Williams] No. 1513)'. Holotype: NY (00274783); isotypes: K, US (01134572).

Lepidaploa crassifolia (Rusby) H. Rob., Proc. Biol. Soc. Washington 103(2): 486 (1990).

Bolivia (La Paz).
1460 m.
July.

Vernonia crenata Gardner, London J. Bot. 5: 218 (1846) = **Vernonia ferruginea** Less.
Vernonia cuneifolia (Britton) Gleason, Amer. J. Bot. 10(6): 301 (1923), comb. illegit., non Gardner. = **Vernonia canescens** Kunth

***Vernonia deflexa** Rusby, Bull. New York Bot. Gard. 4(14): 376 (1907). Type: [Bolivia:] '([Bang] No. 2038).'
Holotype: NY (00274794); isotype: F (163821), K, NY (00274793), US (00033031).
Lepidaploa deflexa (Rusby) H. Rob., Proc. Biol. Soc. Washington 103(2): 486 (1990).
Bolivia (La Paz).

Vernonia densevillosa Mart. ex DC., Prodr. 5: 43 (1836) = **Vernonia obovata** Less.
Vernonia densevillosa Mart. ex DC. [var.] *β angustior* DC., Prodr. 5: 43 (1836) = **Vernonia obovata** Less.

***Vernonia densipaniculata** Rusby, Bull. New York Bot. Gard. 8(No. 28): 126 (1912). Type: [Bolivia:] ' "Four ft. high; Cargadira, 8000 ft., July 29, 1902" ([R.S. Williams] No. 1534).'
Holotype: ?NY.
Lepidaploa densipaniculata (Rusby) H. Rob., Proc. Biol. Soc. Washington 103(2): 486 (1990).
Bolivia (La Paz).
2440 m.
July–August.
La Paz: Franz Tamayo, 1850-2020 m, 27 Junio 2002, Fuentes et al. 4637 (K, MO)

Vernonia desertorum Mart. ex DC., Prodr. 5: 43 (1836). Type: '■ in deserto trans flumen Sancti Francisci prov. Minarum gener. Brasiliae legit cl. Martius. ... (v. s. in h. Acad. reg. Monac.)' Holotype: M; isotypes G-DC (as one flowering shoot), P.
Vernonia desertorum Mart. ex DC. var. *γ longipes* Baker in Mart., Fl. Bras. 6(2): 48 (1873). Types: Habitat locis arenosis prope missionem Douro prov. Goyaz, cum varietatibus praecentibus ['var. *α campestris* Baker', q.v.]: Gardner 3248; inter Rio Urú et Rio das Pedras: Burchell 7383.' Lectotype (selected by Jones, 1981: 218): Gardner 3248, BM; isolectotypes: BR, K.
Cacalia desertorum (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).
Lessingianthus desertorum (Mart. ex DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 950 (1988).
Chrysolaena desertorum (Mart. ex DC.) Dematteis, Ann. Bot. Fennici 44(1): 62 (2007).
Bolivia (Bení, La Paz, Santa Cruz), Brazil.
Cerrado, cerrado de altitude, campos rupestres, grassland.
700–1380 m.
June–December (–February).

Vernonia desertorum Mart. ex DC. var. *γ longipes* Baker in Mart., Fl. Bras. 6(2): 48 (1873) = **Vernonia desertorum** Mart. ex DC.

Vernonia digitata* Rusby, Bull. New York Bot. Gard. 8: 125 (1912) = **Vernonia megaphylla Hieron.

Vernonia dura Mart. ex DC., Prodr. 5: 59 (1836). Type: '(Mart. herb.!) ... ■ in campis Brasiliae ad Contendas prov. Minar. General. legit cl. Martius. ... (v. s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC (fragments of two leaves and a capitulum).

Vernonia subsessilis Walp., Linnaea 14: 312 (1840), nom. illegit., non DC. (Prodr. 5: 62, 1836). Type: 'In Brasiliae Praya da Praya Vermelho legit Luschnath.' Note: Both Baker (1873: 33), Robinson (1999: 107) and the TROPICOS data base cited, incorrectly, that this name was published in Linnaea 20: 312 (1847) – a paper on *Utricularia*! De Candolle's plant was from India.

Vernonia araneosa Baker in Mart., Fl. Bras. 6(2): 32 (1873). Type: 'Habitat in Brasilia meridionali, statione accuratis non indicata: Pohl 670.' Holotype: K.

Cacalia araneosa (Baker) Kuntze, Revis. Gen. Pl. 2: 969 (1891).

Cacalia dura (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Lessingianthus durus (Mart. ex DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 942 (1988).

Bolivia (Santa Cruz), Brazil.

Cerrado, sandy soils.
490–660 m.
March–July.

***Vernonia echitifolia** Mart. ex DC., Prodr. 5: 60 (1836). Type: '(Mart.! herb.) ... ■ in montibus prov. Minar. Gener. brasiliae legit cl. Martius. ... (v.s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC (two leaves and a fragmented capitulum).

Cacalia echitifolia (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

**Cacalia hieronymi* Kuntze, Revis. Gen. Pl. 3(3): 138 (1898). Type: 'Bolivia: Provinz Ost-Velasco 200 m, in Sümpfen.' ['Bolivia. Provinz Ost-Velasco, in Sümpfen, 200 m, Jul 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 328]. Holotype: NY (00162849); isotype: NY(00162848).

Acilepidopsis echitifolia (Mart. ex DC.) H. Rob., Phytologia 67(4): 291 (1989).
Argentina, Bolivia (Santa Cruz), Brazil, Paraguay.

Vernonia edulis (Aubl.) Steud., Nom. Bot., ed. 2, 2: 753 (1841) = **Pacourina edulis** Aubl.

Vernonia ehretiifolia Gardner, London J. Bot. 6: 420 (1847), nom. illegit., non Benth. (1840) = **Vernonia varroniifolia** DC.

Vernonia erigerontis Mart. ex DC., Prodr. 5: 43 (1836), nom. nud. pro syn. = **Vernonia simplex** Less.

Vernonia eriolepis Gardner, London J. Bot. 5: 224 (1846). Types: 'HAB. Serra de Araripe, Province of Ceara. October 1838. ([Gardner] n. 1718). Near Papinhacauga, Province of Minas Geraes. August 1840. ([Gardner] n. 4765).'

Vernonia riedelii Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 64 (1873). Types: 'Habitat locis non indicatis Brasiliae centralis: Riedel 854, Pohl 425, 426; prov. Minas Geraes, in sylvis prope Lagoa Santa: Warming; prov. Mato Grosso ad Cuiaba: Manso 54; prov. S. Paulo ad Cachoeira: Burchell 5560 (forma squamis multo minus dense pubescentibus)'. Syntype: Riedel 854, K; Pohl 425, K × 2; Pohl 426, K × 2; Burchell 5560, K; Manso 54, BR.

Vernonia oblongifolia Pohl ex Baker in Mart., Fl. Bras. 6(2): 64 (1873), nom. nud. pro syn.

Cacalia eriolepis (Gardner) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Cacalia riedelii (Sch.Bip. ex Baker) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Lepidaploa eriolepis (Gardner) H. Rob., Proc. Biol. Soc. Washington 103(2): 487 (1990).
Bolivia (Santa Cruz), Brazil.
[Atlantic rainforest].

50–500 m.

July–September.

Vernacular name: CAMBARAZINHO (Cabrera & Klein, 1980).

***Vernonia ferruginea** Less., Linnaea 4(2): 271 (1829). Types: 'E Brasilia tropica Sellow. spec. ∞.' Syntypes: B†.

**Vernonia polycephala* DC., Prodr. 5: 39 (1836). Type: '■ in collibus aridis circa Bahiam Brasiliae legit cl. Salzmann [6]. ... (v.s.)'. Holotype: G-DC; isotype: K × 2.

Vernonia crenata Gardner, London J. Bot. 5: 218 (1846). Type: '[Brazil:]'HAB. Common near San Romão, on the banks of the San Francisco. July 1840.' [Gardner] 1716. Isotypes: NY × 3.

Cacalia ferruginea (Less.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Vernonanthura ferruginea (Less.) H. Rob., Phytologia 73(2): 70 (1992).
Bolivia (Santa Cruz), Brazil, Paraguay, Peru.

Vernonia flavescens Less., Linnaea 6(4): 657 (1831) = **Vernonia scorpioides** (Lam.) Pers.

Vernonia fournetii H. Rob. & B. Kahn, Phytologia 58(4): 252 (1985). Type: 'BOLIVIA: La Paz: Route de Coroico, km 64, alt. 2650 m. Herbacée de 1 m de haut en buisson. Feuilles alternes de 10 – 12 cm de long, acuminées, pétiole de 8 – 10 mm de long. Fleur mauves en racème, cauliflores. 2/8/1984. A. Fournet A.F. 429'. Holotype: US (02990136); isotype: IBBA.

Lepidaploa fournetii (H. Rob. & B. Kahn) H. Rob., Proc. Biol. Soc. Washington 103(2): 487 (1990).
Bolivia (La Paz).

Vernonia fulva* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 164 (March–April 1879), Symb. Fl. Argent. 164 (1879) = **Quechualia fulva (Griseb.) H. Rob.

Vernonia fulva* Griseb. f. *tomentosa* J. Koster, *Blumea* 5(3): 643 (1945). = *Quechualia fulva*** (Griseb.) H. Rob.

Vernonia glabrata Less., *Linnaea* 4(2): 294 (1829). Types: 'E Brasilia tropica *Sellow* (V. sp. ∞.).

Vernonia radula Mart. ex DC., *Prodr.* 5: 52 (1836). Type: ■ in editis prope Sanctam-Barbaram ad fl. Sabucahy prov. Minarum General. legit cl. *Martius*. ... (v. s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC (as one leaf and fragments of florets).

Cacalia glabrata (Less.) Kuntze, *Revis. Gen. Pl.* 2: 970 (1891).

Cacalia radula (Mart. ex DC.) Kuntze, *Revis. Gen. Pl.* 2: 971 (1891).

Vernonia glabrata Less. var. *oxyphylla* Chodat, *Bull. Herb. Boissier*, ser. 2, 1(4): 408 (1901). Types: [Paraguay:] 'In dumetis pr. Sapucay, [*Hassler*] 1892; B. *Balansa*, 778, l'Assomption, dans les champs en friche.' Lectotype (selected by Ramella et al., 2009: 160): *Hassler* 1892, G (00093883); isolectotype: P.

Vernonia glabrata Less. var. *puberula* Chodat, *Bull. Herb. Boissier*, ser. 2, 2(3): 304 (1902). Types: [Paraguay:] 'Caaguazu, dans les prairies marécageuses, Avril 1876, 780, B. *Balansa*; tige souvent ligneuse à la base, l'Assomption, dans les champs en friche, Février, Id. 778.' Lectotype (selected by Ramella et al., 2009: 160): *Balansa* 778, G (000993814); isolectotype: P, S.

Vernonia glabrata Less. var. *bracteata* Chodat, *Bull. Herb. Boissier*, ser. 2, 3(7): 641 (1903). Types: [Paraguay:] 'Suffrutex 0,5-1, flos roseo-violaceus, in campo silvatico Corillera de Altos, Febr., [*Hassler*] n. 3847; suffrutex 1-2, petala violaceo-purpurea, in campis pr. Valenzuela, Jan., [*Hassler*] n. 6983.' Syntypes: G. Lectotype (selected by Ramella et al., 2009: 160): *Hassler* 3847, G (00093927); isolectotypes: G (00093925, 00093926), LIL, UC (944660). Isosyntype (*Hassler* 6983): UC (944600).

Vernonia glabrata Less. var. *cuneifolia* Chodat, *Bull. Herb. Boissier*, ser. 2, 3(7): 641 (1903). Type: [Paraguay:] 'Suffrutex 0,6-1, petala violaceo-purpurea in campis in regione cursus superioris fluminis Apa. Jan., [*Hassler*] n. 8008a.' Holotype: G; isotype: UC (944658).

Vernonia glabrata Less. var. *serrata* Chodat, *Bull. Herb. Boissier*, ser. 2, 3(7): 641 (1903). Type: [Paraguay:] 'Suffrutex 0,6-1,5, flors purpureo-violaceus in campis siccis pr. flumen Apa, Nov., [*Hassler*] n. 8008.' Holotype: G; isotype: UC (944712).

Vernonia oxyodonta Malme, *Ark. Bot.* 24A(6): 19 (1932). Types: [Brazil: Rio Grande do Sul:] 'Cruz Alta, in paludibus graminosis 19¹⁵/₁₀₂ ([*Regnell*] II: 1091), 19¹⁸/₁₀₂ ([*Regnell*] II: 1091a).'

Vernonia glabrata Less. var. *angustifolia* Cabrera, *Darwiniana* 6(3): 317 (1944). Type: 'Argentina. Misiones: Garupá, *Rodríguez* 85, 19-II-1930.' Holotype: LP (58474); isotypes: LP (12554), SI.

Lessingianthus glabratus (Less.) H. Rob., *Proc. Biol. Soc. Washington* 101(4): 942 (1988).

Argentina, Bolivia (Bení, La Paz, Santa Cruz), Brazil, Paraguay, Uruguay.

Wet grassland.

700-900 m.

December-March.

Vernacular name: CAMBARAZINHO (Cabrera & Klein, 1980).

Note: Ramella et al. (2009: 162) indicated that *V. glabrata* var. *puberula* Chodat is a synonym of *V. oxyodonta* Malme, which they recognized as a separate species from *V. glabrata*.

Vernonia glabrata Less. var. *angustifolia* Cabrera, *Darwiniana* 6(3): 317 (1944) = ***Vernonia glabrata*** Less.

Vernonia glabrata Less. var. *bracteata* Chodat, *Bull. Herb. Boissier*, ser. 2, 3(7): 641 (1903) = ***Vernonia glabrata*** Less.

Vernonia glabrata Less. var. *cuneifolia* Chodat, *Bull. Herb. Boissier*, ser. 2, 3(7): 641 (1903) = ***Vernonia glabrata*** Less.

Vernonia glabrata Less. var. *oxyphylla* Chodat, *Bull. Herb. Boissier*, ser. 2, 1(4): 408 (1901) = ***Vernonia glabrata*** Less.

Vernonia glabrata Less. var. *puberula* Chodat, *Bull. Herb. Boissier*, ser. 2, 2(3): 304 (1902) = ***Vernonia glabrata*** Less.

Vernonia glabrata Less. var. *serrata* Chodat, *Bull. Herb. Boissier*, ser. 2, 3(7): 641 (1903) = ***Vernonia glabrata*** Less.

****Vernonia grandiflora*** Less., *Linnaea* 6(4): 660 (1831). Types: '*Sellow* in Brasilia. (v.sp. s. plura.)'. Syntypes: B†.

Lessingianthus grandiflorus (Less.) H. Rob., *Proc. Biol. Soc. Washington* 101(4): 943 (1988).

Bolivia (Santa Cruz), Brazil, Paraguay. Note: Cabrera & Dematteis (2009: 154) considered this species to be restricted to the south of Brazil and to Paraguay, but is clearly widespread in the cerrados of southeastern Bolivia.

Cerrado (frequently burnt).

200–510 m.

August–March.

Arroyo & Roth 2713, Santa Cruz, 15.9.2003

Vernonia guianensis Badillo, Bol. Soc. Venez. Ci. Nat. 10: 282 (1946) = **Vernonia salzmännii** DC.

Vernonia haenkeana DC., Prodr. 5: 37 (1836) = **Vernonia patens** Kunth

Vernonia hecatantha DC., Prodr. 5: 53 (1836) [corr. as *hexacantha* 5: 696] = **Vernonia coriacea** Less.

Vernonia herbacea* (Vell.) Rusby, Mem. Torrey Bot. Club 4(3): 209 (1895) = **Vernonia obovata Less.

Vernonia herbertii Cuatrec., Bot. Jahrb. Syst. 77(1): 55 (1956) = **Vernonia salzmännii** DC.

Vernonia herzogii Ekman ex Herzog, Pflanzenw. Bolivischen Anden : 189 (1923), nom. nud. = **Quechualia fulva** (Griseb.) H. Rob.

Vernonia hexantha (Sch.Bip.) Baker in Mart., Fl. Bras. 6(2): 27 (1873) = **Vernonia megapotamica** Spreng.

Vernonia hirsutivena Gleason, Bull. New York Bot. Gard. 4(14): 175 (1906) = **Vernonia canescens** Kunth

Vernonia hirtiflora Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 70 (1873) = **Vernonia remotiflora** Rich.

Vernonia intermedia DC., Prodr. 5: 27 (1836) = **Vernonia rubricaulis** Humb. & Bonpl.

Vernonia intermedia DC. var. β *ramosior* DC., Prodr. 5: 28 (1836) = **Vernonia rubricaulis** Humb. & Bonpl.

***Vernonia ixiamensis** Rusby, Bull. New York Bot. Gard. 8(No. 28): 125 (1912). Type: [Bolivia:] ‘ “Five ft. high; Ixiamas, 1500 ft., Dec. 24, 1901” ([R. S. Williams] No. 284).’ Holotype: NY (00274861); isotype: K, US (01097396).

Lessingianthis ixiamensis (Rusby) H. Rob., Proc. Biol. Soc. Washington 101: 944 (1988).

Bolivia (La Paz, Santa Cruz).

460 m.

December–January.

Vernonia jubifera* Rusby, Mem. Torrey Bot. Club 6(1): 53 (1896) = **Critoniopsis jubifera (Rusby) H. Rob.

Vernonia krukovii (H. Rob.) D. J. N. Hind, Kew Bull. 63(3): 516 (2008)[Jan 2009].

Lepidaploa krukovii H. Rob. Phytologia 78(5): 394 (1995). Type: ‘BOLIVIA. La Paz: Prov. Laraceja, Copacabana (about 10 km S of Mapiri), elev. 850-950 m, 8 Oct. – 15 Nov. 1939, Krukoff 11010’. Holotype: US (02250185); isotype: ?NY.

Bolivia (La Paz).

850–950 m.

October–November.

Vernonia kuntzei* Hieron., Bot. Jahrb. Syst. 22(4–5): 678 (1897) = **Vernonia asteriflorus Mart. ex DC.

Vernonia laevigata Mart. ex DC., Prodr. 5: 56 (1836). Type: [Brazil:] ‘(Mart. ! herb.) ... ■ in alpestribus prope Gongonhas do campo prov. Minar. Gener. legit. cl. Martius. ... (v. s. in h. Acad. reg. Monac.)’ Holotype: M; isotype: G-DC (portion of flowering shoot).

Vernonia laevigata Mart. ex DC. var. β *bupleurifolia* DC., Prodr. 5: 56 (1836). Type: ‘ ■ cum var. α ? legit cl.

Martius. ... (v. s. in h. Acad. reg. Monac.)’. Holotype: M; isotype: G-DC (fragments).

Lessingianthus laevigatus (Mart. ex DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 944 (1988).

Bolivia (Santa Cruz), Brazil.

Vernonia lanceolaris DC., Prodr. 5: 37 (1836) = **Vernonia patens** Kunth

Vernonia lanifera Cristóbal & Dematteis, Darwiniana 40(1–4): 51. (2002). Type: ‘Argentina. Misiones. Dep. San Javier, Ayo. Portera, 10 km E de San Javier. 21-I-1976, Krapovickas & Cristóbal 28821’. Holotype: CTES; isotypes: C, G, SI.

Argentina, Bolivia (Santa Cruz), Brazil.

January–April.

***Vernonia laurifolia** DC., Prodr. 5: 30 (1836). Type: '■ Patr. ign. ... (v.s. in h. Acad. reg. monac.)'. Holotype: M; isotype: G-DC (one leaf and two fragmented capitula).

Cacalia laurifolia (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Lessingianthus laurifolius (DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 944 (1988).

Bolivia (La Paz), Brazil, Peru.

1800–2020 m.

June–July.

Britton (1891) cited 'Yungas, 4,000 ft. ([Rusby] 1617).'

La Paz: Franz Tamayo, 1850–2020 m, 28 Junio 2002, *Fuentes* 4651 (K, MO)

***Vernonia lehmannii** Hieron., Bot. Jahrb. Syst. 19(1): 44 (1894). Type: 'Columbia: crescit prope Popayan, alt. s. m. 1500–2000 m ([Lehmann] n. 4666). –Floret mensibus Octobri–Martio.'

Cacalia lehmannii (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 138 (1898).

Lepidaploa lehmannii (Hieron.) H. Rob., Proc. Biol. Soc. Washington 103(2): 489 (1990).

Bolivia (Santa Cruz), Colombia, Ecuador, Venezuela. Note: Robinson (1999) cited only Colombia, Ecuador and Venezuela. The reference to Bolivia was provided in Foster (1958) based on a Kuntze collection from Santa Cruz cited in Gleason (1923: 306).

1500–2000 m.

October–March.

Vernonia leonensis Cabrera, Candollea 54(1): 105 (1999) = **Vernonia remotiflora** Rich.

Vernonia lewisii (H. Rob.) D. J. N. Hind, Kew. Bull. 63(3): 516 (2008)[Jan 2009].

Lepidaploa lewisii H. Rob., Phytologia 78(5): 394 (1995). Type: 'Bolivia: La Paz: Prov. Inquisivi: Quebrada Jancha Kaihua, along a ravine joining Rio Ocsalla c. 3 km down river from Laguna Huara Huarani, 10 km N of Choquetanga, along upper edge of ravine cloud forest, *Clethra*, *Hesperomeles*, *Weinmannia*, *Saracha*, *Berberis*, *Gynoxys*, *Myrica* are all common, 16°45'S, 67°17'W, 3,400 – 3,600 m, vine over small trees, inflorescence white, 3 Sept. 1991, Marko Lewis 39696'. Holotype: US (03258991); isotypes: LPB, MO.

Bolivia (La Paz).

3400–3600 m.

August–September.

***Vernonia ligulifolia** [as *ligulaefolia*] Mart. ex DC., Prodr. 5: 45 (1836). Type: '(Mart.! herb.), ... ■ in editis campis prov. Minarum general. ... (v.s. in h. Acad. reg. monac.)'. Holotype: M; isotype: G-DC (one leaf and fragments of a capitulum).

Cacalia ligulifolia (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Vernonia cotaniensis Hieron., Bot. Jahrb. Syst. 40(3): 352 (1908). Type: 'Peruvia: habitat prope Tambo Cotani in via a Sandia ad Chunc hus mayo, alt. s. m. 1500 m (A. WEBERBAUER n. 1290; 25. m. Jul. 1902)'. Holotype: B†.

Lessingianthus ligulifolius (Mart. ex DC.) H. Rob., Proc. Biol. Soc. Washington 101: 944 (1988).

Bolivia (Santa Cruz), Brazil, Peru.

1500 m.

July.

Vernonia linariifolia DC., Prodr. 5: 28 (1836) = **Vernonia psilophylla** DC.

Vernonia lithospermoides Baker in Mart., Fl. Bras. 6(2): 66 (1873) = **Vernonia remotiflora** Rich.

Vernonia longeracemosa Mart. ex DC., Prodr. 5: 42 (1836), nom. nud. pro syn. = **Vernonia scorpioides** (Lam.) Pers.

Vernonia longicuspis (Dematteis) D. J. N. Hind, Kew Bull. 65(2): 349 (2010).

Lessingianthus longicuspis Dematteis, Edinb. J. Bot. 65(3): 365 (2008). Type: 'Bolivia: Santa Cruz, Angel Sandoval Province, Santo Corazón, nacientes del río del mismo, 7 km al NO del pueblo, cerrado con *Callisthene*, *Curatella* y *Quelea*, 470 m, hierba de flores moradas, 1 v 1997, A. Fuentes, I. Garcia & C. Cabrera 1863'. Holotype: CTES; isotype: USZ.

Bolivia (Santa Cruz), Brazil.

Cerrado.

470 m.

March–May.

Note: The maps in Dematteis' paper (Dematteis, 2008: 362) show the symbols for this species (as *L. longicuspis*) transposed with those of *Lessingiathus arctatus* Dematteis!

Vernonia mandonii Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5) 534 (1865), nom. nud. (based on Mandon 234) = **Vernonia mandonii** Sch.Bip. ex Gleason

***Vernonia mandonii** Sch.Bip. ex Gleason, Amer. J. Bot. 10: 300 (key lead), 301 (text)(1923). Type: 'Near Sorata, province of Larecaja, Mandon 234'. Holotype: P; isotypes: GOET, K, NY (00274879, 00274880, 00274881, 00274882), US (01692015). [Gleason merely mentioned an isotype (without location, presumably NY), and I assume the holotype would be where Schultz Bipontinus herbarium ended up, via Herb. Cosson – P.]

Vernonia mandonii Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5) 534 (1865), nom. nud. (based on Mandon 234).

Lepidaploa mandonii (Sch.Bip. ex Gleason) H. Rob., Proc. Biol. Soc. Washington 103(2): 489 (1990).
Bolivia (La Paz).

***Vernonia mapirensis** Gleason, Amer. J. Bot. 10: 307 (1923). Type: 'Vicinity of Mapiri, Buchtien 2462, 1533 (type, in the herbarium of the New York Botanical Garden)'. Holotype: NY (00274883); isotype: US (01097428).

Lepidaploa mapirensis (Gleason) H. Rob., Proc. Biol. Soc. Washington 103(2): 489 (1990).
Bolivia (La Paz), Peru.

Note: Jones (1980: 33) included *Vernonia trichoclada* Gleason in synonymy of *V. mapirensis*, a position maintained by Dillon & Hensold (1993). Robinson (1990) provided a short commentary on the differences between the two taxa.

***Vernonia mattogrossensis** Hieron., Bot. Jahrb. Syst. 22(4–5): 696 (1897). Type: 'Brasilien: in der Provinz Matto Grosso an nicht genauere angegebenen Orte (O. KUNTZE, Juli 1892)'. Holotype: B†.
Cacalia mattogrossensis (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898).
Bolivia (Santa Cruz), Brazil.

Note: According to Robinson (1999: 99) this is close to *V. patens*, albeit as a species of *Vernonanthura*.

Vernonia medialis Standley & Steyerem., Publ. Field Mus. Nat. Hist., Bot. ser. 23(3): 148 (1944) = **Vernonia canescens** Kunth

***Vernonia megaphylla** Hieron., Verh. Bot. Vereins Prov. Brandenburg 48: 195 (1907). Type: 'Peruvia: Pongo de Cainarachi, am Flußufer, Departement Loreto ([E. Ullé] n. 6386 – September 1902)'. Holotype: ?

**Vernonia digitata* Rusby, Bull. New York Bot. Gard. 8(No. 28): 125 (1912). Type: [Bolivia:] 'Six feet high; Mapiri, 1600 ft., Sept. 24, 1901' ([R.S. Williams] No. 713)'. Holotype: NY (00274800); isotypes: K, US (01134571).

Eirmocephala megaphylla (Hieron.) H. Rob., Proc. Bio. Soc. Wash. 100(4): 854 (1987).
Bolivia (La Paz), Ecuador, Peru.
490 m.

September–October.

Vernonia megapotamica Spreng., Syst. Veg., ed. 16, 3: 437 (1826). Type: [Brazil:] 'Ad fl. magnum Amer. austr. (Rio Grande. Sello)'.
Vernonia megapotamica Spreng. var. β *brevifolia* DC., Prodr. 5: 51 (1836). Type: 'cum var. α [■] in Brasiliâ meridionali ad Rio Grande. ... (v.s. comm. à Mus. reg. Berol.)]. Holotype: G-DC.

Vernonia megapotamica Spreng. var. γ *melanotricha* DC., Prodr. 5: 51 (1836). Type: '■ in Brasiliâ prov. Sancti-Pauli in campis ad Lorena. Vern. Candolliana Mart. herb.! ... (v.s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC (fragments).

Stenocephalum brevifolium (DC.) Sch.Bip., Jahresber. Pollichia 20-21: 387 (1863)[30 March 1864].

Stenocephalum megapotamicum (Spreng.) Sch.Bip., Jahresber. Pollichia 20-21: 388 (1863)[30 March 1864].

Stenocephalum melanotrichum (DC.) Sch.Bip., Jahresber. Pollichia 20-21: 388 (1863)[30 March 1864].

Stenocephalum penicillatum Sch.Bip., Jahresber. Pollichia 20-21: 389 (1863)[30 March 1864]. Type: 'Vernonia p. Sz-Bip. in litt. ad. am. Weddell! ... Brasilia, Min. Ger., Campos: Weddell! n. 1235 in herb. mus. paris., cujus benignitati specimen debeo.' Holotype: P.

Stenocephalum hexanthum Sch.Bip., Jahresber. Pollichia 20-21: 390 (1863)[30 March 1864]. Type: 'Vernonia h. Sz-Bip. in herb. horti petropol. ... Brasilia, prov. S. Pauli, in campis siccis pr. Sorocaba Jan. 1826: Riedel! in herb. horti petropol. (habeo speciem gracilem, inter alia involucris foliolis adpressis rotundatis ab aliis distinctam e herb. petropol.)' Holotype: LE.

Vernonia hexantha (Sch.Bip.) Baker in Mart., Fl. Bras. 6(2): 27 (1873).

Cacalia hexantha (Sch.Bip.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Cacalia megapotamica (Spreng.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Vernonia megapotamica Spreng. var. *hexantha* (Sch.Bip.) Cabrera, Darwiniana 6: 301 (1944).

Argentina, Bolivia (Santa Cruz), Brazil, Paraguay, Uruguay.

Grassland, transition zone between Bosque Chiquitano and cerrado, rocky soil.

800–1200 m.

December–March.

Vernacular names: CAMBARAZINHO (Cabrera & Klein, 1980).

Note: *V. hexantha* is treated as a separate species in the *Flora of Paraguay* account, but is retained here as part of *V. megapotamica*. Its treatment as a variety of *V. megapotamica* is found in *Flora Illustrada Catarinense*.

Vernonia megapotamica Spreng. var. β *brevifolia* DC., Prodr. 5: 51 (1836) = **Vernonia megapotamica** Spreng.

Vernonia megapotamica Spreng. var. *hexantha* (Sch.Bip.) Cabrera, Darwiniana 6: 301 (1944) = **Vernonia megapotamica** Spreng.

Vernonia megapotamica Spreng. var. γ *melanotricha* DC., Prodr. 5: 51 (1836) = **Vernonia megapotamica** Spreng.

***Vernonia membranacea** Gardner, London J. Bot. 5: 217 (1846). Type: [Brazil:] 'HAB. Dry wooded places between the Rio Celaro and San Romão, to the west of the Rio San Francisco. June 1840.' [Gardner] 4772.

Vernonia neriifolia Gardner, London J. Bot. 5: 217 (1846). Type: 'HAB. On the banks of the Rio Claro, on the western confines of the province of Minas Geraes. June, 1840.' [Gardner] 4776.

Vernonia ruficoma Schldtl. ex Baker in Mart., Fl. Bras. 6(2): 105 (1873), nom. illegit. pro *V. membranacea*.

Vernonia ruficoma Schldtl. ex Baker var. β *neriifolia* (Gardner) Baker in Mart., Fl. Bras. 6(2): 106 (1873).

Vernonia rufopapposa Hieron., Bot. Jahrb. Syst. 22(4–5): 699 (1897). Type: 'Brasilien: in Matto Grosso, bei c. 200 m Höhe (O. KUNTZE, Juli 1892).' holotype: B (presumably destroyed); isotype: NY?

*?*Vernonia rufopapposa* Hieron. var. *latifolia* Hieron., Bot. Jahrb. Syst. 22(4–5): 700 (1897). Type: 'Bolivien: in Ost-Velasco bei c. 200 m Höhe (O. Kuntze, Juli 1892).' Holotype: B†.

Cacalia rufipapossa [sic! – but noting original spelling!](Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898).

Vernonanthura membranacea (Gadner) H. Rob., Phytologia 73(2): 71 (1992).

Bolivia (La Paz, Santa Cruz), Brazil.

Note: Robinson (1999) included *V. squamipes* Rusby within the synonymy of *V. membranacea*, but clearly with the attenuate base to the involucre and numerous gradate phyllaries on the pedicel beneath the capitula of *V. squamipes* are remarkably different to those of *V. membranacea*. *Vernonia membranacea* is, however, present in Bolivia.

Vernonia micradenia DC., Prodr. 5: 38 (1836) = **Vernonia patens** Kunth

Vernonia miersiana Gardner, London J. Bot. 4: 115 (1845) = **Vernonia salzmännii** DC.

Vernonia mollis* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 28 (1818) = **Vernonia canescens Kunth

Vernonia monsonensis Hieron., Bot. Jahrb. Syst. 40(3): 355 (1908) = **Vernonia patens** Kunth

Vernonia monticola Mart. ex DC., Prodr. 5: 18 (1836) = **Vernonia apiculata** Mart. ex DC.

***Vernonia myriocephala** DC., Prodr. 5: 40 (1836). Type: '■ inter Oeruanas Orinocences herb. Haenkenani adest. ... (v.s. in h. Haenk. à cl. de Sternberg missum.)'. Holotype: PR; isotype: G-DC (two leaves and an apical portion of an inflorescence).

Cacalia myriocephala (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Lepidaploa myriocephala (DC.) H. Rob., Proc. Biol. Soc. Washington 103(2): 490 (1990).

Bolivia (Cochabamba, La Paz), Peru.

Vernonia neriifolia Gardner, London J. Bot. 5: 217 (1846) = **Vernonia membranacea** Gardner
Vernonia oblongifolia Pohl ex Baker in Mart., Fl. Bras. 6(2): 64 (1873), nom. nud. pro syn. = **Vernonia eriolepis**
Gardner

Vernonia obovata Less., Linnaea 4(2): 279 (April 1829). Types: 'E Brasilia tropica misit *Sellow*. (v.sp.∞).'
Syntypes B†. Jones (1981: 215) noted 'HOLOTYPE: probably not extant' failing to note that Lessing had indicated several specimens. Jones (1981: 215) selected a neotype: 'BRAZIL: *Riedel* 1178, GH [13733]';
isoneotype: P.

Chrysocoma herbacea Vell., Fl. Flum. : 330 (1825)[7 Sept.- 28 Nov. 1829]. Type: 'Habitat locis, et floret mensibus supra citatis. [Habitat campis apricis mediterraneis. Floret Nov.]'.

Vernonia densevillosa Mart. ex DC., Prodr. 5: 43 (1836). Types: '(Mart.! herb.), ... in campis altis ad Serro Frio prov. Minar. general. legit cl. *Martius*, et in campis editis prov. Sancti-Pauli cl. *Lund* [872]! ... (v.s. in h. Acad. reg. Monac.)'. Syntypes: *Martius* s.n., M; isosyntype: G-DC (fragments). Syntype: *Lund* 872, G-DC.

Vernonia densevillosa Mart. ex DC. [var.] β *angustior* DC., Prodr. 5: 43 (1836). Type: 'cum. var. α. ... (v.s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC (fragments only).

Vernonia chrysophylla Gardner, London J. Bot. 6: 417 (1847). Type: 'HAB. Chapada de Mangabeira, Province of Goyaz, October, 1839.' [*Gardner*] 3255. Holotype: BM; isotypes: BR, G, NY × 2, P, S, W.

Vernonia quindecimflora Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); Linnaea 34(5): 535 (Feb. 1866), nom. nud. (based on *Mandon* 235).

Vernonia obovata Less. var. β *angustior* (DC.) Baker in Mart., Fl. Bras. 6(2) 92 (1873).

Vernonia obovata Less. var. γ *chrysophylla* (Gardner) Baker in Mart., Fl. Bras. 6(2): 92 (1873).

Cacalia obovata (Less.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

**Vernonia paucifolia* Rusby, Mem. Torrey Bot. Club 3(3): 50 (1893). Type: [Bolivia:] 'Yungas, 1890 ([*Bang*] 247).'
Holotype: NY(00274610); isotypes: BM, BR, G, K, M, NY (00274611).

**Vernonia herbacea* (Vell.) Rusby, Mem. Torrey Bot. Club 4(3): 209 (1895).

Chrysoleaena herbacea (Vell.) H. Rob., Proc. Biol. Soc. Washington 101(4): 956 (1988).

Bolivia (Bení, La Paz, Santa Cruz), Brazil, Peru.

Cerrado, grassland.

550–610 m.

(July–) September–December.

Vernonia obovata Less. var. β *angustior* (DC.) Baker in Mart., Fl. Bras. 6(2) 92 (1873) = **Vernonia obovata** Less.

Vernonia obovata Less. var. γ *chrysophylla* (Gardner) Baker in Mart., Fl. Bras. 6(2): 92 (1873) = **Vernonia obovata** Less.

***Vernonia obtusata** Less., Linnaea 6(4): 662 (1831). Type: '*Sellow* in Brasilia. (v. sp. 1 s.)'. Holotype: B†.

Cacalia obtusata (Less.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

**Vernonia subacuminata* Hieron., Bot. Jahrb. Syst. 22(4–5): 691 (1897). Type: 'Bolivien: in Ost-Velasco bei 200 m über Meer (O. Kuntze, Juli 1892).'
Holotype: NY (00277709); isotype: B†.

Cacalia subacuminata (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 140 (1898).

Lessingianthus obtusatus (Less.) H. Rob., Proc. Biol. Soc. Washington 101(4): 946 (1988).

Bolivia (Santa Cruz), Brazil.

Stony grassland, cerrado.

750 m.

April–May.

Santa Cruz: *Wood* et al. 18258 (K), *Wood* et al. 18268 (K).

Vernonia odoratissima Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 32 (1818) = **Vernonia brasiliiana** (L.) Druce

Vernonia odoratissima Kunth var. a. *caracasana* Sch.Bip., Linnaea 20: 508 (1847) = **Vernonia brasiliiana** (L.) Druce

Vernonia odoratissima Kunth var. b. *guianensis* Sch.Bip., Linnaea 20: 508 (1847) = **Vernonia brasiliiana** (L.) Druce

Vernonia onopordioides Baker in Mart., Fl. Bras. 6(2): 36 (1873). Types: 'Habitat prope urbem Cuiaba prov. Mato Grosso: *Patricio da Silva Manso*; in prov. Minas Geraës, in campis ad Lagoa Santa: *Warming*; in colla Morro Manoel Gomez (prov.?): *Pohl*; in Brasilia occidentali, statione accuratius non indicata: *Tamberlik*.'

Cacalia onopordioides (Baker) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Lessingianthus onopordioides (Baker) H. Rob., Proc. Biol. Soc. Washington 101(4): 946 (1988).

Bolivia (Santa Cruz), Brazil.

Cerrado, rocky grassland.

630–1200 m.

February–May.

Vernonia otavalensis Gilli, Feddes Repert. 94: 313 (1983) = **Baccharis latifolia** (Ruiz & Pav.) Pers. [ASTEREAE]

Vernonia ovata Less., Linnaea 4(3): 294 (1829) = ?**Vernonia remotiflora** Rich.

Vernonia oxyodonta Malme, Ark. Bot. 24A(6): 19 (1932) = **Vernonia glabrata** Less.

Vernonia pacchensis Benth., Pl. Hartweg. : 134 (1844) = **Vernonia patens** Kunth

Vernonia patens Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 32 (1818). Type: 'Crescit in America meridionali. ■ Holotype: P-Bonpl.

**Vernonia baccharoides* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 32 (1818). Type:

[Colombia:] 'Crescit in montosis Andium Novo-Granatensium juxta Gonzanama et Salto del Fraile, alt.

1080 hex. ■ Floret Septembri.' [*Humboldt & Bonpland* 'n. 3438. Salto del Frayle']. Holotype: P-Bonpl.

Vernonia lanceolaris DC., Prodr. 5: 37 (1836). Type: '■ in Mexico ex h. *Haenke*. ... (v.s. in h. *Haenke* à cl.

Sternberg missum.)' Holotype: PR; isotype: G-DC (one leaf and an inflorescence branch).

Vernonia haenkeana DC., Prodr. 5: 37 (1836). Type: '■? inter Peruanas orinocenses in herb. habet cl. *Haenke*. ...

(v.s. in h. *Haenke* à cl. *Sternberg* missum.)'. Holotype: PR; isotype: G-DC (two leaves and a portion of an inflorescence).

Vernonia micradenia DC., Prodr. 5: 38 (1836). Type: '■ in Amer. calid. fortè Peruvia legit cl. *Poeppig*. (pl. exs. n. 1215.) ... (v.s. comm. à cl. *Poeppig*.)' Holotype: G-DC.

Vernonia aschenborniana Schauer, Linnaea 19: 714 (1847). Type: 'Mexico: *Aschenb[orn]*. exs. n. 712. ■'

Vernonia pacchensis Benth., Pl. Hartweg. : 134 (1844). Type: '[*Hartweg* 753] Frutex 6–8-pedalis, in montibus Paccha.'

Vernonia stuebelii Hieron., Bot. Jahrb. Syst. 21(4): 337 (1895). Type: 'Peruvia: crescit in monte Cerro de la Campana inter Moyobamba et fluvium Rio Huallago sito, ubi floret mense Julio ([*Stuebel*] coll. Peruv. n. 58b).' Holotype: B†.

Vernonia weberbaueri Hieron., Bot. Jahrb. Syst. 40(3): 354 (1908). Type: 'Peruvia: infra praedium Hacienda Idma dictum prope Santa Ana Depart. Cuzco, prov. Convencion, in graminosis pajonales dictis, alt. s. m. 1200–1300 m (A. WEBERBAUER n. 5023; 28. m. Jun. 1905).' Holotype: B†.

Vernonia monsonensis Hieron., Bot. Jahrb. Syst. 40(3): 355 (1908). Type: 'Peruvia: habitat prope Monson, Dep. Huánaco, prov. Huamalies, in graminosis, alt. s. m. 900–1200 m (A. WEBERBAUER n. 3489; 2/ m/ Aug. 1903).' Holotype: B.

Vernonia salamana Gleason, Bull. Torrey Bot. Club 46: 242 (1919). Type: 'Maxon & Hay 3385, collected on dry plains near Salamá, Guatemala, January 22, 1905, and deposited in the herbarium of the New York Botanical Garden.' Holotype: NY (00274540); isotypes: F (1442569 – fragments and a photograph of the holotype), US (473368).

Vernonia vargasii Cuatrec., Bot. Jahrb. Syst. 77: 83 (1956). Type: 'Perú, Dep. Cuzco: prov. Urubamba: Muchupiccho, borde del bosque, 2040 m. alt. Arbusto 2–4 mts. Collect. 16–17. VIII-1946 CÉSAR VARGAS 6236.' Holotype: F (1485279).

Cacalia aschenborniana (Schauer) Kuntze, Revis. Gen. Pl. 2: 969 (1891).

Cacalia baccharoides (Kunth) Kuntze, Revis. Gen. Pl. 2: 969 (1891).

Cacalia haenkeana (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Cacalia lanceolaris (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Cacalia micradenia (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Cacalia patens (Kunth) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

**Vernonia bangii* Rusby, Mem. Torrey Bot. Club 6(1): 52 (1896). Type: [Bolivia:] 'Between Mapiri and Tipuani, July–Aug. 1892 ([*Bang*] 1483).' Holotype: NY (00274589); isotypes: F (77692), LD, NY (00274590), US (00046787), Z (000004041).

Vernonanthura patens (Kunth) H. Rob., Phytologia 73(2): 72 (1992).

'Mexico, Central America, Andean South America south to Bolivia' (Robinson 1999: 85). Bolivia (La Paz, Pando, Santa Cruz), Colombia, Guatemala, Mexico, Peru.

Cerrado, cerradão, sclerophyllous woodland, chaparral, grassland, pampa, 'Chapparal esclerófilo del cerrado Chiquitano'.

500–2100 m.

Probably flowering throughout the year.

Vernacular name: PAICHANÉ (Navarro, 2002: 131).

Vernonia patuliflora* Rusby, Bull. New York Bot. Gard. 4(14): 376 (1907) = **Vernonia canescens Kunth

Vernonia paucifolia* Rusby, Mem. Torrey Bot. Club 3(3): 50 (1893) = **Vernonia obovata Less.

Vernonia paucisquamata Rusby, Bull. New York Bot. Gard. 4(14): 376 (1907) = **Critoniopsis boliviana** (Britton) H. Rob.

Vernonia paulina Mart. ex Baker in Mart., Fl. Bras. 6(2): 49 (1873), nom. nud. pro syn. = **Vernonia psilophylla** DC.

Vernonia phylliciformis (Meyen) Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19 (Suppl. 1): 252 (1843) = **Parastrephia lucida** (Meyen) Cabrera

Vernonia phylliciformis (Meyen) Walp. var. *resinosa* Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19 (Suppl. 1): 253 (1843) = **Parastrephia lucida** (Meyen) Cabrera

***Vernonia pinguis** Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 165 (March-April 1879), Symb. Fl. Argent. : 165 (1879). Types: 'O.: Oran, versus S. Andres; Tarija, Cuesta del Tambo.' Syntypes: *Lorentz & Hieronymus* 457, 886, 946, all in GOET. All syntypes are marked 'Argentina' in the type database, GOET.

Vernonanthura pinguis (Griseb.) H. Rob., Phytologia 73(2): 73 (1992).

Argentina, Bolivia (Chuquisaca, Tarija).

Humid deciduous forest, rocky slopes.

700–1700 m.

July–October.

Vernonia poeppigiana DC., Prodr. 5: 20 (1836) = **Piptocarpha poeppigiana** (DC.) Baker

Vernonia poeppigiana DC., Prodr. 5: 5 (1836), nom. illegit., non *V. poeppigiana* DC. (Prodr. 5: 20)[= **Piptocarpha poeppigiana** (DC.) Baker] = **Vernonia salzmanni** DC.

Vernonia polycephala* DC., Prodr. 5: 39 (1836) = **Vernonia ferruginea Less.

Vernonia polypleura S. F. Blake, J. Wash. Acad. Sci. 28: 478 (1938) = **Vernonia canescens** Kunth

Vernonia praecox (Kuntze) Schumann, Just's Bot. Jahresber. 26(1): 382 (1900) = **Vernonia squamulosa** Hook. & Arn.

***Vernonia prenanthoides** Gleason, Amer. J. Bot. 10: 308 (1923). Type: 'Rurrenabaque, alt. 1,000 ft., *Rusby* 756 (type, in the herbarium of the New York Botanical Garden), *Rusby* 757.' Holotype: NY (00274624); isotype: US (01120934).

Vernonanthura prenanthoides (Gleason) H. Rob., Phytologia 73(2): 73 (1992).

Bolivia (Bení).

Vernonia pseudoincana (Hieron.) Cabrera, Candollea 54(1): 110 (1999) = **Vernonia rubricaulis** Humb. & Bonpl.

Vernonia pseudomollis* Gleason, Amer. J. Bot. 10: 307 (1923) = **Vernonia canescens Kunth

Vernonia psilophylla DC., Prodr. 5: 28 (1836). Type: '■ in prov. Rio-Grande Brasiliae. ... (v. s. in h. reg. Par. ex Mus. imp. Bras. [755])'. Holotype: P; isotype: G-DC (flowering shoot and leaf fragments).

Vernonia psilophylla DC. [var.] β? *paulina* DC., Prodr. 5: 28 (1836). Type: '■ in editis campos prov. S^t.-Pauli Brasiliae legit cl. *Martius*. ... (v. s. in h. Acad. reg. Monac.)' Holotype: M; isotype: G-DC (one leaf and a few florets).

Vernonia psilophylla DC. [var.] γ? *leiolepis* DC., Prodr. 5: 28 (1836). Type: '■ in Rio-Grande. ... (v. s. in h. Mus. reg. Par. ex Mus. imp. Bras.)'. Holotype: P; isotype: G-DC (one flowering shoot and fragments of one capitulum).

Vernonia linariifolia [as *linariaefolia*] DC., Prodr. 5: 28 (1836). Type: '■ Brasiliâ. ... (v.s.)'. Holotype: G-DC.

Vernonia paulina Mart. ex Baker in Mart., Fl. Bras. 6(2): 49 (1873), nom. nud. pro syn.

Vernonia psilophylla DC. var. γ *megaphylla* Baker in Mart. Fl. Bras. 6(2): 49 (1873). Types: 'Habitat in Serra de Clahura, prov. (?): Sello. Praeterea legit Lund, verisimiliter in prov. S. Paulo (Herb. Warming).'

Cacalia psilophylla (DC.) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Lessingianthus psilophyllus (DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 947 (1988).

Bolivia (Santa Cruz), Brazil.

Note: Dematteis (2008) has pointed out salient differences between *Vernonia graminifolia* Gardner and the more widespread *V. psilophylla*; the two species are maintained separate here. *Vernonia linariifolia* is not mentioned in Robinson (1988, 1999).

Vernonia psilophylla DC. [var.] γ ? *leiolepis* DC., Prodr. 5: 28 (1836) = **Vernonia psilophylla** DC.

Vernonia psilophylla DC. var. γ *megaphylla* Baker in Mart. Fl. Bras. 6(2): 49 (1873) = **Vernonia psilophylla** DC.

Vernonia psilophylla DC. [var.] β ? *paulina* DC., Prodr. 5: 28 (1836) = **Vernonia psilophylla** DC.

Vernonia purpusii Brandege, Univ. Calif. Publ. Bot. 6: 197 (1915) = **Vernonia canescens** Kunth

**Vernonia pycnantha* Benth., Pl. Hartweg. : 134 (1844) = *Critoniopsis pycnantha* (Benth.) H. Rob. – but see note under *Critoniopsis*

Vernonia quindecimflora Sch.Bip., Bull. Soc. Bot. France 12: 81 (1865); *Linnaea* 34(5) 535 (1865), nom. nud. (based on Mandon 235) = **Vernonia obovata** Less.

Vernonia radula Mart. ex DC., Prodr. 5: 52 (1836) = **Vernonia glabrata** Less.

***Vernonia remotiflora** Rich., Act. Soc. Hist. Nat. Paris 1: 112 (1792). Type: not cited. Note: Pruski (1998: 480) selected 'FRENCH GUIANA. Cayenne: 1792, *LeBlond* 136' as the lectotype in G; isolectotype: US (ex P).

?*Vernonia ovata* Less., *Linnaea* 4(3): 294 (1829). Types: 'E Brasilia misit Sellow. (v. sp. 2.)'. Syntypes: B†.

Vernonia sessiliflora [Willd. ex] Less., *Linnaea* 4(3): 309 (1829). Type: '(W. herb. N. 14830.) ... Hoffmannsegg e Brasilia reportavit. – (v.sp. 1.)'. Holotype: B-W.

Vernonia tricholepis DC., Prodr. 5: 54 (1836). Types: '■ in siccis insulae Cayennae (*Leprieur!* [Synanthera N. 2]) et in montosis prope Rio de Contas prov. Bahiensis Brasiliae (*Martius*). *Vern. patula* Mart.! herb. (v.s.)'. Syntype: *Leprieur* 2, G-DC. Syntype: *Martius*, M; isosyntype: G-DC (two flowering shoots).

Vernonia acilepis Benth. in Oerst., Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1852(5-7): 68 (1852)[1853]. Type: 'Voxer imellem Graasset i Savannerne paa Skraaningen af Vulkanen Masaya (c. 2000)'; blomstrer i December.' Holotype: ?C.

Vernonia lithospermoides Baker in Mart., Fl. Bras. 6(2): 66 (1873). Type: 'Habitat in jugo montium ad Pedra Branca prope Caldas prov. Minas Geraës: *Regnell* III. 658.' Holotype: location unknown.

Vernonia hirtiflora Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 70 (1873). Types: 'Habitat in paludosis prope Paranagoa prov. Piauhy: *Gardner* 1642; loco Brasiliae non indicato: *Pohl* 655.' Syntypes: K.

**Vernonia setos squamosa* Hieron., Bot. Jahrb. Syst. 22(4-5): 684 (1897). Types: [Argentina:] 'Tucuman: bei los Nogales nörlich von der Stadt Tucuman (LOR.[ENTZ] u. HIERON.[YMUS], 14. Dec. 1873, n. 972). Salta: bei Nogalitos am Rio Yadasco (LOR.[ENTZ] u. HIERON.[YMUS], 7./8. Febr. 1873, n. 1205).'

Cacalia acilepis (Benth.) Kuntze, Revis. Gen. Pl. 2: 969 (1891).

Cacalia hirtiflora (Sch.Bip. ex Baker) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Cacalia lithospermoides (Baker) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Cacalia remotiflora (Rich.) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Cacalia sessiliflora ([Willd. ex] Less.) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Vernonia remotiflora Rich. var. *aristifera* Cabrera, Darwiniana 6: 326 (1944). Type: [Argentina:] 'Salta: Dep.

Orán, Campo Grande, S. *Venturi* 5534, 23-XI-1927'. Syntypes: 'SI, LIL.' Note: Cabrera recognized that this variety was part of *Vernonia setos squamosa* Hieron and included the *Lorentz & Hieronymus* syntype as one of the paratypes: 'Nogalitos, cerca del río Yadasco, P. G. *Lorentz et G. Hieronymus* 1205, II-1873 (Cotipo de *V. setos squamosa* Hieron.: CORD).'

Lepidaploa remotiflora (Rich.) H. Rob., Proc. Biol. Soc. Washington 103(2): 491 (1990).

Vernonia leonensis Cabrera, *Candollea* 54(1): 105 (1999). Type: 'PARAGUAY. Chaco: "Cerro León, desde lomada al S hasta meseta central", 18.V.1988, *Charpin, A. & L. Ramella* 21749'. Holotype: G; isotype: SI. Argentina, Bolivia (La Paz, Santa Cruz), Brazil, Cayenne, Guyana, Paraguay, Venezuela.

September–February, but probably flowering throughout the year.

Note: Robinson (1999: 97) queried *V. leonensis* Cabrera and suggested its synonymy with *V. remotiflora*.

Cabrera & Dematteis (2009) provided a narrower view of *V. remotiflora*, separating out *V. setos squamosa* Hieron. (restricted to Argentina, Bolivia and Paraguay).

Vernonia remotiflora Rich. var. *aristifera* Cabrera, Darwiniana 6: 326 (1944) = **Vernonia remotiflora** Rich.

Vernonia retrosetosa H. Rob., Phytologia 45(2): 159 (1980). Type: 'PERU: Puno: Prov. Sandia, bajando de Valle Grande. Habitat bosque ralo. Alt. 2000 m. 7 Agosto 1957. C. Vargas C. 11844'. Holotype: US.

Lepidaploa retrosetosa (H. Rob.) H. Rob., Proc. Biol. Soc. Washington 103(2): 491 (1990).

Bolivia (?), Peru.

2000 m.

July–August.

Vernonia riedelii Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 64 (1873) = **Vernonia eriolepis** Gardner

***Vernonia robusta** Rusby, Mem. Torrey Bot. Club 6(1): 54 (1896). Type: [Bolivia:] 'Between Guanai and Tipuani, April to June, 1892 ([Bang] 1424)'. Holotype: NY (00277656); isotypes: F (77663), K, NY (00277655), US (00046784), Z × 2 (000004073, 000004074).

Lessingianthus robustus (Rusby) H. Rob., Proc. Biol. Soc. Washington 101(4): 947 (1988).

Bolivia (La Paz, Santa Cruz).

Cerrado.

470–790 m.

March–April.

Vernonia rojasii Cabrera, Darwiniana 4(1): 133 (1940). Type: 'Paraguay. – Chaco Paraguayo: Puerto Casado, campo bajo, leg. T. Rojas, no 2212, XII-1916'. Holotype: 'Cabr.' = LP (58868); isotype: SI.

Mesanthophora rojasii (Cabrera) H. Rob., Smithsonian Contr. Bot. 89: 76 (1999).

Bolivia (Santa Cruz), Paraguay.

Vernonia rotundifolia Less., Linnaea 4(2): 254 (1829) = **Piptocarpha rotundifolia** (Less.) Baker

***Vernonia rubricaulis** Humb. & Bonpl., Pl. Aequinoct. 2: 66, pl. 99 (1809). Type: 'Habitat in calidis regni Bogatensis, juxtae Ybague. ... Le plante que je viens décrire est originaire du royaume de la Nouvelle-Grenade: nous l'avons trouvée formant de très-jolis massifs dans les prairies qui avoisinent de petite ville d'Ybague, au pied de la Cordillère de Quindin, à la hauteur absolue de 4100 mètres. [Humboldt & Bonpland]' Holotype: P-Bonpl.

Vernonia rubricaulis Humb. & Bonpl. f. I. *bonplandiana* Less., Linnaea 4(3): 300 (1829). Type: not specified.

Note: Lessing cited 'Sellow in pluribus locis Brasiliae meridionalis v. c. ad ripas fl. Paraguay etc. Jan. et Febr.' that most likely includes the type/s.

Vernonia rubricaulis Humb. & Bonpl. f. II. *latifolia* Less., Linnaea 4(3): 300 (1829). Type: not specified. Note:

Lessing cited 'Sellow in pluribus locis Brasiliae meridionalis v. c. ad ripas fl. Paraguay etc. Jan. et Febr.' that most likely includes the type/s.

Vernonia rubricaulis Humb. & Bonpl. f. III. *squarrosa* Less., Linnaea 4(3): 300 (1829). Type: not specified. Note:

Lessing cited 'Sellow in pluribus locis Brasiliae meridionalis v. c. ad ripas fl. Paraguay etc. Jan. et Febr.' that most likely includes the type/s.

Vernonia rubricaulis Humb. & Bonpl. f. IV. *plantaginoides* Less., Linnaea 4(3): 300 (1829). Type: not specified.

Note: Lessing cited 'Sellow in pluribus locis Brasiliae meridionalis v. c. ad ripas fl. Paraguay etc. Jan. et Febr.' that most likely includes the type/s.

Vernonia intermedia DC., Prodr. 5: 27 (1836). Type: 'in prov. Rio-Grande Brasiliae. ... (v.s. in h. Mus. reg. Par. à Mus. imp. Bras.)' Holotype: P; isotype: G-DC (three leaves and one inflorescence branch fragment).

Vernonia intermedia DC. var. *β ramosior* DC., Prodr. 5: 28 (1836). Type: 'in prov. Rio-Grande Brasiliae. ... (v. s. in Mus. reg. Paris. ex Mus. imp. Bras.)'. Holotype: P; isotype: G-DC (fragments).

Vernonia chromolepis Gardner, London J. Bot. 5: 224 (1846). Type: [Brazil:] '[Gardner] 4796. ... Hab. On the banks of the Rio Urucuya, near San Romão. Province of Minas Geraes. June 1840.' Holotype: BM; isotypes" G, K, NY × 3 (00274758, 00274759 – ex RBG, Kew, Herb. Benthamianum!, 00894731), P, S, W.

Vernonia rubricaulis Humb. & Bonpl. var. *β denudata* Baker in Mart., Fl. Bras. 6(2): 80 (1873). Type: [Uruguay:] 'Hab. in prov. Montevideo: Sello.' Holotype: K; isotype: BR.

Cacalia intermedia (DC.) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Cacalia rubricaulis (Humb. & Bonpl.) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Vernonia rubricaulis Humb. & Bonpl. var. *australis* Hieron., Bot. Jahrb. Syst. 22(4–5): 688 (1897). Types: '[Argentina:] Misiones: bei El Primer Misionero (NIEDERL.[EIN], Febr. 1884, n. 482). Entrerios: bei Concepcion del Uruguay häufig im Ufergebüsch (LOR.[ENTZ], März, April 1875, n. 25; NIEDERL.[EIN], 1. Mai 1880, n. 164). Uruguay: bei San José del Uruguay (SELLOW); am Arroyo del Palmar im Palmar Grande (LOR.[ENTZ], 2. Febr. 1876, n. 679?); bei Rincon de San Gines unweit Mercedes (CORN. OSTEN, 31. Jan. 1892, n. 2908).' Syntypes: ?. Note: Dematteis cited "'Argentina. Entre Ríos. Concepción del Uruguay. 1875" Lorentz s.n.', CORD as the lectotype. It should be noted, however, that this Lorentz syntype was numbered, as '25'; the source of lectotypification was not noted.

Vernonia rubricaulis Humb. & Bonpl. var. *glomerata* Hieron., Bot. Jahrb. SYst. 22(4–5): 689 (1897). Type: [Argentina:] ,Misiones: bei El Primer Misionero (NIEDERL.[EIN], Febr. 1885, n. 483).' Holotype: ? [TO CHECK]

Vernonia rubricaulis Humb. & Bonpl. var. *pseudo-incana* Hieron., Bot. Jahrb. Syst. 22(4–5): 689 (1897). Types: [Argentina:] ,Buenos Aires: bei Mercedes (HOLMBERG). Corrientes: bei der Stadt Corrientes (NIEDERL.[EIN], 18. Jan. 1883); zwischen Corrientes und Santa Ana (NIEDERL.[EIN], 22. Jan. 1883). Salta: auf Bergwiesen in der Nähe der Stadt Salta (LOR.[ENTZ] u. HIERON.[YMUS], Ende Nov. 1873, n. 109).' ... ,Entrerios: beim Puerto de Brete (LOR.[ENTZ], 9. Febr. 1878, n. 1611); bei Costa Moreira (LOR.[ENTZ], 26. Jan. 1878, n. 1566). Santa Fé: bei Cañada de Gomez (GALANDER, Dec. 1877). Córdoba: zwischen Malagueña und Córdoba (HIERON.[YMUS], 13. Jan. 1881); bei Tronco Pozo unweit Carroya (GALANDER, 27. Nov. 1880).' Syntypes: ?CORD. Note: Hieronymus recognized two (unnamed) varieties, ,a.' and ,b.', the separation of the syntypes being highlighted in the citation above by the ellipsis.

Cacalia rubricaulis (Humb. & Bonpl.) Kuntze var. *pseudo-incana* (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898).

Lessingianthus rubricaulis (Kunth) H. Rob., Proc. Biol. Soc. Washington 101(4): 948 (1988).

Vernonia pseudoincana (Hieron.) Cabrera, Candollea 54(1): 110 (1999).

Argentina, Bolivia (Bení, La Paz, Santa Cruz), Brazil, Colombia, Paraguay, Peru, Uruguay.

Disturbed ground, roadsides.

0–1000 m.

October–May.

Vernacular name: CAMBARAZINHO (Cabrera & Klein, 1980).

Note: Robinson (1999: 104) linked *V. rubricaulis* var. '*pseudincana* Hieron.' as a synonym of *V. rubricaulis*. However, Cabrera (1999: 110) raised the variety to the level of species, *V. pseudoincana* (Hieron.) Cabrera noting mostly differences of degree, a view accepted by Dematteis (2004); I have maintained Robinson's view.

Vernonia rubricaulis Humb. & Bonpl. var. *australis* Hieron., Bot. Jahrb. Syst. 22(4–5): 688 (1897) = **Vernonia rubricaulis** Humb. & Bonpl.

Vernonia rubricaulis Humb. & Bonpl. f. I. *bonplandiana* Less., Linnaea 4(3): 300 (1829) = **Vernonia rubricaulis** Humb. & Bonpl.

Vernonia rubricaulis Humb. & Bonpl. var. β *denudata* Baker in Mart., Fl. Bras. 6(2): 80 (1873) = **Vernonia rubricaulis** Humb. & Bonpl.

Vernonia rubricaulis Humb. & Bonpl. var. *glomerata* Hieron., Bot. Jahrb. SYst. 22(4–5): 689 (1897) = **Vernonia rubricaulis** Humb. & Bonpl.

Vernonia rubricaulis Humb. & Bonpl. f. II. *latifolia* Less., Linnaea 4(3): 300 (1829) = **Vernonia rubricaulis** Humb. & Bonpl.

Vernonia rubricaulis Humb. & Bonpl. f. IV. *plantaginoides* Less., Linnaea 4(3): 300 (1829) = **Vernonia rubricaulis** Humb. & Bonpl.

Vernonia rubricaulis Humb. & Bonpl. var. *pseudoincana* Hieron., Bot. Jahrb. Syst. 22(4–5): 689 (1897) = **Vernonia rubricaulis** Humb. & Bonpl.

Vernonia rubricaulis Humb. & Bonpl. f. III. *squarrosa* Less., Linnaea 4(3): 300 (1829) = **Vernonia rubricaulis** Humb. & Bonpl.

Vernonia ruficoma Schltdl. ex Baker in Mart., Fl. Bras. 6(2): 105 (1873), nom. illegit. pro **V. membranacea** = **Vernonia membranacea** Gardner

Vernonia ruficoma Schltdl. ex Baker var. β *neriifolia* (Gardner) Baker in Mart., Fl. Bras. 6(2): 106 (1873) = **Vernonia membranacea** Gardner

Vernonia rufopapposa Hieron., Bot. Jahrb. Syst. 22(4–5): 699 (1897) = **Vernonia membranacea** Gardner

Vernonia rufopapposa* Hieron. var. *latifolia* Hieron., Bot. Jahrb. Syst. 22(4–5): 700 (1897) = **Vernonia membranacea Gardner

Vernonia rusbyi* Gleason, Amer. J. Bot. 19: 753 (1932), as nom. nov. for *Vernonia cuneifolia* (Britton) Gleason, comb. illegit. = **Vernonia canescens Kunth

Vernonia salamana Gleason, Bull. Torrey Bot. Club 46: 242 (1919) = **Vernonia patens** Kunth

***Vernonia saltensis** Hieron., Bot. Jahrb. Syst. 22(4–5): 691 (1897). Type: [Argentina:] ‘Salta: im Gebüsch an den Flussufern bei San José (LOR. u. HIERON., 10. Febr. 1875, n. 227).’ Holotype: B†.

Lessingianthus saltensis (Hieron.) H. Rob., Proc. Biol. Soc. Washington 101(4): 948 (1988).

Argentina, Bolivia (Santa Cruz), Paraguay.

Bosque seco interandino del Río Grande (Río Grande interandean dry forest), Bosque seco Boliviano-Tucumano del subandino inferior (Boliviano-Tucumano lower subandean dry forest), scrub woodland in the interandean valleys, transition between Bosque Chiquitano and chaqueño.

240–1650 m.

February–August.

?*Vernonia salviifolia* [as *salviaefolia*] Chodat, Bull. Herb. Boissier, ser. 2, 1(4): 410 (1901) = **Vernonia brasiliana** (L.) Druce

Vernonia salzmännii DC., Prodr. 5: 55 (1836). Type: ‘in umbrosis circa Bahiam Bras. semel legit cl.

Salzmann [47]. ... (v.s.).’ Holotype: G-DC.

Vernonia poeppigiana DC., Prodr. 5: 55 (1836), non *V. poeppigiana* DC. (Prodr. 5: 20)[= **Piptocarpha poeppigiana** (DC.) Baker]. Type: ‘in Americà calidiore verisim in Peruvia legit cl. Poeppig. (pl. exs. n. 1204). ... (v.s. comm. à cl. inv.).’ Holotype: G-DC.

Vernonia argyropappa Buek, Ind. Gen. Sp. Syn. in DC., Prodr. 2: Praef. 5 (1840), nom. nov. pro **Vernonia salzmännii** DC. (Prodr. 5: 55)

Vernonia miersiana Gardner, London J. Bot. 4: 115 (1845). Type: [Brazil:] ‘[Gardner] 5769 ... HAB. Moist open places in woods on the Organ Mountains, at an elevation of about 3500 feet. Fl. March.’

Vernonia virens Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 71 (1873). Types: ‘Habitat prov. Goyaz in ditione fluv. Tocantins in sylvis ad Aldeia de Graciosa: Burchell 8825; loco Brasiliae non indicato: Pohl 522.’

Syntypes: K.

Vernonia virens Sch.Bip. ex Baker var. β *megacephala* Baker in Mart., Fl. Bras. 6(2): 71 (1873). Type: [Brazil:] ‘Ad Cuiaba prov. Mato Grosso: Manso 12.’ Holotype: ?BR.

Vernonia caducissima Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 73 (1873), nom. nud. pro syn.

Cacalia argyropappa (Buek) Kuntze, Revis. Gen. Pl. 2: 969 (1891).

Cacalia salzmännii (DC.) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Cacalia virens (Sch.Bip. ex Baker) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Vernonia velutina Hieron., Bot. Jahrb. Syst. 22(4–5): 697 (1897). Type: ‘Brasilien: in der Sierra da Estrella, Prov. Rio de Janeiro (GLAZIOU, 22. Juni 1873, n. 6612).’ Holotype: B†; isotypes: K, P.

Vernonia guianensis Badillo, Bol. Soc. Venez. Ci. Nat. 10: 282 (1946). Type: [Venezuela:] Edo. Bolívar: Cumbre del Sororopan-tepui, 2240 m., 13 de noviembre de 1944 (*J. Steyermark* 60069, tipo).’ Holotype: VEN.

Vernonia herbertii Cuatrec., Bot. Jahrb. Syst. 77(1): 55 (1956). Type: ‘Colombia; Dep. Atlántico: región de Santa Marta. \pm 2000 ft. elev. Colect. H. H. Smith 655’. Holotype: F (137694).

Lepidaploa salzmännii (DC.) H. Rob., Proc. Biol. Soc. Washington 103(2): 492 (1990).

Bolivia (Santa Cruz), Brazil, Colombia, Mexico, Paraguay, Peru, Venezuela. Robinson (1990: 492) cited the distribution as ‘Central America, Colombia, Peru, Brazil.’

***Vernonia santacruzensis** Hieron., Bot. Jahrb. Syst. 22(4–5): 699 (1897). Type: ‘Bolivien: bei Santa Cruz de la Sierra um 2800 m Höhe (*O. Kuntze*, Mai 1892).’ Holotype: ?B (destroyed?); isotype: NY (00277666).

Cacalia santacruzensis (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898).

Vernonanthura santacruzensis (Hieron.) H. Rob., Phytologia 76(1): 29 (1994).

Bolivia (Santa Cruz).

Open scrub, steep sandstone hills.

800–1400 m.

June–September.

Vernonia scabra Pers., Syn. Pl. 2: 404 (1807), nom. illegit. citing *Baccharis brasiliiana* L. = **Vernonia brasiliiana** (L.) Druce

Vernonia scabrifoliata Hieron., Bot. Jahrb. Syst. 22(4-5): 677 (1897). Type: 'Brasilien: in Mattogrosso (O. KUNTZE, 10. Juli 1892.)' Holotype: B†. Note: In F there is a photograph of the 'type' of '*Vernonia velascens*' which, according to Robinson is referable to this name. There is not label in the photograph, merely the name on the ruler.

Cacalia scabrifoliolata (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898).

Lessingianthus scabrifoliatus (Hieron.) H. Rob., Phytologia 76: 29 (1994).

Bolivia (Santa Cruz), Brazil.

Cerrado.

June-July.

***Vernonia scorpioides** (Lam.) Pers., Syn. Pl. 2: 404 (1807).

Conyza scorpioides Lam., Encycl. 2: 88 (1786). Type: 'Cette plante croît au Brésil. Commerson. ■ (v.s.)'.

Holotype: P-LA (313/9).

Vernonia subrepanda Pers., Syn. Pl. 2: 404 (1807). Type: '(Herb. Juss.) Hab. in Brasilia.' Holotype: P-JU.

Vernonia tournefortioides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 27 (1818). Type: 'Crescit in America meridionali. ■ Holotype: P-Bonpl.; isotype: B-W [Marked as 'Caracas' this sheet was determined as Kunth's species by Schultz Bipontinus].

Lepidaploa scorpioides (Lam.) Cass., Dict. Sci. Nat. 26: 16 (1823), comb. inval. sub *Lepidaploa* – nom. inval.

Chrysocoma repanda Vell., Fl. Flum. : 327 (1825)[7 Sept. - 28 Nov. 1829]. Type: 'Habitat ad loca humida. Floret Mart. Apr.' [Fl. Flum. Ic. 8: tab. 13 (1831)].

Vernonia centriflora Link & Otto, Ic. Pl. Select. pl. 55 (Dec. 1828/Jan 1829). Type: 'Habitat in Brasilia ■ C. ... Semina accepimus e Brasilia, a viro clariss. Sello.' Holotype: B

Stahelina solodaginoidea Willd. ex Less., Linnaea 4(2): 281 (1829), nom. nud. pro syn. (based on B-W 15233)

Vernonia flavescens Less., Linnaea 6(4): 657 (1831). Type: '*V. scorpioides* (p. 282 excl. syn.)' Note this refers back to Linnaea 4: 282, and clearly excluded Lamarck's type. Lessing did, however, effectively cited several syntypes to his name: '*Beyrich* in Serra d'Estrella pr. Janeiro non rara. – *Sellow* misit e Brasilia (v. sp. ∞ s. etc.)' Syntypes: B†

Vernonia scorpioides (Lam.) Pers. var. *α centriflora* (Link & Otto) DC., Prodr. 5: 42 (1836).

Vernonia scorpioides (Lam.) Pers. var. *β subrepanda* (Pers.) DC., Prodr. 5: 42 (1836).

Vernonia scorpioides (Lam.) Pers. var. *γ? subtomentosa* DC., Prodr. 5: 42 (1836). Type: 'ad Caracas legit cl.

Vargas. [281] (v. s.)' Holotype: G-DC. Note: There are at least two other collections of this variety that were imaged in the de Candolle microfiche.

Vernonia scorpioides (Lam.) Pers. var. *δ? longifolia* DC., Prodr. 5: 42 (1836). Type: 'circa Bahiam in umbrosis legit cl. Salzmann. [18] (v. s.)' Holotype: G-DC; isotype: K.

Vernonia scorpioides (Lam.) Pers. var. *ε? longiracemosa* DC., Prodr. 5: 42 (1836). Types: 'in Brasiliâ, Peruviâ.

Vern. longiracemosa Mart.! herb. – *Vauth[ier]!* pl. exs. n. 262. *Poepp!* n. 33 (v. s.)' Syntypes: G-DC, although it is not clear where the Martius determination was drawn from. It is probable that de Candolle saw material from M; there is no duplicate in G-DC. Note: There are at least two other collections of this variety that were imaged in the de Candolle microfiche.

Vernonia longiracemosa Mart. ex DC., Prodr. 5: 42 (1836), nom. nud. pro syn.

Cacalia scorpioides (Lam.) Kuntze, Revis. Gen. Pl. 2: 971 (1891). [Note: the name '*C. scorpioides* OK' appeared in Revis. Gen. Pl. 1: 324 (1891), without mention of the basionym but also providing two named, but unranked infraspecific taxa: [unranked] *β surepanda* (Pers.) Kuntze, and [unranked] *γ subtomentosa* (DC.) Kuntze].

Cacalia tournefortioides (Kunth) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Cacalia scorpioides (Lam.) Kuntze var. *glabriuscula* Kuntze, Revis. Gen. Pl. 3(3): 139 (1898). Types: 'Brasilia: Itatiaia, Rio de Janeiro.' [BRAZIL. Itatiaia, 1200 m, Dec 1892, Kuntze s.n.; Rio de Janeiro, 300 m, Dec 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 328]. Syntype (Kuntze s.n., Rio de Janeiro): NY (00162853). Syntype (Kuntze s.n., Itatiaia): NY (00162852).

Cacalia scorpioides (Lam.) Kuntze var. *tomentosa* Kuntze, Revis. Gen. Pl. 3(3): 139 (1898). Type: 'Bolivia:

Tunarigebirge.' ['BOLIVIA. Tunarigebirge, 4 May 1892, Kuntze s.n.' – according to Wetter & Zanoni, 1985: 328]. Holotype: NY (00162854).

Cyrtocymura scorpioides (Lam.) H. Rob., Proc. Biol. Soc. Washington 100(4): 852 (1987).

Mexico, Central America, Colombia, Venezuela, Trinidad, south to Brazil, Argentina, Paraguay, Uruguay.
Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz).
0–1000 m.

July–January, although possibly flowering throughout the year.

Vernacular names: ENXUGA, ERVA-PREÁ, ERVA-SÃO-SIMÃO (Cabrera & Klein, 1980); HIERBA DE SAN SIMÓN (Freire et al., 2006).

Vernonia scorpioides (Lam.) Pers. var. *α centriflora* (Link & Otto) DC., Prodr. 5: 42 (1836) = **Vernonia scorpioides** (Lam.) Pers.

Vernonia scorpioides (Lam.) Pers. var. *cincta* (Griseb.) Cabrera, Darwiniana 6(3): 338 (1944) = **Vernonia cincta** Griseb.

Vernonia scorpioides (Lam.) Pers. var. *δ? longifolia* DC., Prodr. 5: 42 (1836) = **Vernonia scorpioides** (Lam.) Pers.

Vernonia scorpioides (Lam.) Pers. var. *ε? longiracemosa* DC., Prodr. 5: 42 (1836) = **Vernonia scorpioides** (Lam.) Pers.

**Vernonia scorpioides* (Lam.) Pers. var. *sororia* (DC.) Baker in Mart., Fl. Bras. 6(2): 101 (1873), given by Robinson as *Lepidaploa sororia* (only recorded for Brazil: Espírito Santo & Rio de Janeiro) is not considered a synonym of *Vernonia scorpioides*. Foster's (1958) reference to this species is probably based on Herzog 1670 (q.v. Koster, 1945: 642).

Vernonia scorpioides (Lam.) Pers. var. *β subrepanda* (Pers.) DC., Prodr. 5: 42 (1836) = **Vernonia scorpioides** (Lam.) Pers.

Vernonia scorpioides (Lam.) Pers. var. *γ? subtomentosa* DC., Prodr. 5: 42 (1836) = **Vernonia scorpioides** (Lam.) Pers.

Vernonia senecionifolia* Britton, Bull. Torrey Bot. Club 18: 331 (1891) = **Quechualia fulta (Griseb.) H. Rob.

Vernonia sericea L. C. Rich. var. *tarijensis* Griseb., Anh. Königl. Ges. Wis. Göttingen 24: 163 (1879) = **Vernonia tarijensis** (Griseb.) Hieron.

Vernonia sessiliflora [Willd. ex] Less., Linnaea 4(3): 309 (1829) = **Vernonia remotiflora** Rich.

Vernonia setos squamosa* Hieron., Bot. Jahrb. Syst. 22(4–5): 684 (1897) = **Vernonia remotiflora Rich.

***Vernonia simplex** Less., Linnaea 4(2): 280 (1829). Types: 'Quas inventor ipse pro formis ejusdem speciei habens sub eodem numero misit. – E Brasilia tropica misit Sellow spec. ∞.' Note: This whole citation appeared immediately after 'var. 2) *latifolia*'. Note: Jones (1981: 216) incorrectly stated 'HOLOTYPE: probably not extant' since Lessing clearly indicated his description was based on several specimens. Neotype (selected by Jones, 1981: 216): 'BRAZIL: Sellow 1831', G-DC ('as microfiche');

Vernonia simplex Less. var. 1) *angustifolia* Less., Linnaea 4(2): 281 (1829). Type: not cited, but see under species. Neotype (selected by Jones, 1981: 216): 'BRAZIL. SÃO PAULO, Pickel 1456', US.

Vernonia simplex Less. var. 2) *latifolia* Less., Linnaea 4(2): 281 (1829). Type: not cited, but see under species. Neotype (selected by Jones, 1981: 216): 'BRAZIL. GOIÁS: Gardner 3251', NY (00277678); isoneotypes: BM, BR, F, G, K, NY (00277679), P, S.

Vernonia erigerontis Mart. ex DC., Prodr. 5: 43 (1836), nom. nud. pro syn. sub *V. simplex*

Vernonia simplex Less. var. *γ regnellii* Baker in Mart., Fl. Bras. 6(2): 53 (1873). Types: [Brazil:] 'Habitat in prov. Minas Geraës, e. gr. in campis prope Caldas: Regnell III. 656 ex parte; Serra de Capivary: Sello; et in prov. S. Paulo, in campis ad Mugí: Lund.' Lectotype (selected by Jones, 1981: 216): 'BRAZIL. MINAS GERAIS: Regnell no. III 656', BR; isolectotypes: P, S, SP. Note: Anderberg et al., 1996: 167 gave the isolectotype in S as 'Regnell III 656a'

Cacalia simplex (Less.) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Vernonia sulcata Glaz., Bull. Soc. Bot. France 56, Mém. 3d: 373 (1909), nom. nud.

Lessingianthus simplex (Less.) H. Rob., Proc. Biol. Soc. Washington 101(4): 950 (1988).

Chrysoleaena simplex (Less.) Dematteis, Ann. Bot. Fenn. 44(1): 62 (2007).

Bolivia (Bení, La Paz, Santa Cruz), Brazil.

La Paz: Franz Tamayo, 2020 m, 12/2/2002, Miranda et al. 396 (K, LPB, MO).

Vernacular name: CAMBARAZINHO (Cabrera & Klein, 1980).

Cerrado, campos rupestres, grassland.

1259–2020 m.

June–February.

Note: Robinson (1999: 92) and Jones (1981: 217–218) have considered *Vernonia desertorum* Mart. ex DC. var. *macrocephala* Chodat a synonym of *V. desertorum*. However, Dematteis (2007: 59) recognized it at specific level as *Chrysoleaena guaranitica* Dematteis, apparently a Paraguayan endemic.

Vernonia simplex Less. var. 1) *angustifolia* Less., Linnaea 4(2): 280 (1829) = **Vernonia simplex** Less.

Vernonia simplex Less. var. 2) *latifolia* Less., Linnaea 4(2): 280 (1829) = **Vernonia simplex** Less.

Vernonia simplex Less. var. γ *regnellii* Baker in Mart., Fl. Bras. 6(2): 53 (1873) = **Vernonia simplex** Less.

Vernonia sodiroi Hieron. ex Sodiro, Bot. Jahrb. Syst. 29(1): 1 (1900*) = **Vernonia canescens** Kunth

Vernonia solomonii (H. Rob.) D. J. N. Hind, Kew Bull. 63(3): 516 (2008)[Jan 2009].

Lepidaploa solomonii H. Rob., Proc. Biol. Soc. Washington 103: 493 (1990). Type: 'Bolivia: La Paz: Prov. Murillo, 44.0 km below Lago Zongo dam, vicinity of Cahua hydroelectric plant, 16°06'S, 68°01'W, 1200 m, moist forest, disturbed, alternating with Chacos and secondary forest, shrub, 2 m, 12–15 Sep 1983, J.C.Solomon 10780'. Holotype: US (03149580); isotype: MO.

Bolivia (La Paz).

1200 m.

September.

***Vernonia sordidopapposa** Hieron., Bot. Jahrb. Syst. 22(4–5): 697 (1897). Type: 'Bolivien: an nicht genauer angegebenen Orte, bei 2600 m Höhe (O. Kuntze, 1./4. April 1892).'

Cacalia sordidopapposa (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 139 (1898).

Lepidaploa sordidopapposa (Hieron.) H. Rob., Proc. Biol. Soc. Washington 103: 493 (1990).

Bolivia (La Paz), Ecuador, Peru.

2600 m.

April.

Vernonia spiritu-sancti Cuatrec., Bot. Jahrb. Syst. 77: 58 (1956) = **Vernonia canescens** Kunth

***Vernonia squamipes** Rusby, Bull. New York Bot. Gard. 8(No. 28): 124 (1912). Type: [Bolivia:] ' "Six feet high, the stem 1 inch in diameter; Tumapasa, 1800 ft., Jan. 4, 1902" ([R.S. Williams] No. 522).' Holotype: NY (00277705); isotype: K.

Bolivia (La Paz).

550 m.

January.

Note: Robinson (1999) placed Rusby's taxon in the synonymy of *V. membranacea* Gardner, a taxon from which it differs significantly in the appearance of the involucre. *Vernonia squamipes* is significantly different in possessing an attenuate base to the involucre with numerous, gradate phyllaries, unlike the rounded base of the involucre in *V. membranacea*.

***Vernonia squamulosa** Hook. & Arn., Companion Bot. Mag. 2(No. 14): 44 (1836). Type: 'Plentiful in woods of Tucuman, Tweedie. (n. 1224).' Holotype: K.

Cacalia squamulosa (Hook. & Arn.) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Cacalia praecox Kuntze, Revis. Gen. Pl. 3(3): 139 (1898). Type: 'Argentina: Jujuy.' [Argentina. Jujuy, Oct. 1892, Kuntze s.n. (2 sheets) – according to Wetter & Zanone, 1985: 328] Holotype: NY (00162850); isotype: NY (00162851).

Vernonia praecox (Kuntze) Schumann, Just's Bot. Jahresber. 26(1): 382 (1900).

Vernonanthura squamulosa (Hook. & Arn.) H. Rob., Phytologia 73(2): 74 (1992).

Argentina, Bolivia (Chuquisaca, Cochabamba, Santa Cruz, Tarija), Paraguay.

Transition zone between Chaco and forest.

500–2000 m.

September–June, but given by Cabrera (1978) as May–October, suggesting it may well flower throughout the year.

Vernonia stuebelii Hieron., Bot. Jahrb. Syst. 21: 337 (1895) = **Vernonia patens** Kunth

Vernonia subacuminata* Hieron., Bot. Jahrb. Syst. 22(4–5): 691 (1897) = **Vernonia obtusata Less.

Vernonia subrepanda Pers., Syn. Pl. 2: 404 (1807) = **Vernonia scorpioides** (Lam.) Pers.

Vernonia subobscura Malme, Ark. Bot. 24A (8): 13 (1932). Types: [Brazil:] 'Cuyabá, in »cerrado« glareoso, 18²⁷/₃94 ([Regnell] I: s. n.), 19¹⁷/₆02 ([Regnell] II: s. n.); Aricá pr. Cuyabá, in »cerrado«, 19⁸/₅03 ([Regnell] II: s. n.). Syntypes: S.

Lessingianthus subobscura (Malme) H. Rob., Proc. Biol. Soc. Washington 101(4): 948 (1988). Note: This combination appeared as the binomial *Lessingianthus subobtusus* (Malme) H. Rob. based on '*Vernonia subobtusa* Malme' even though this binomial never appeared in Malme's account. It is viewed as a correctable error.

Bolivia (Santa Cruz), Brazil.

Cerrado.

490 m.

March–April.

Vernonia sulcata Glaz., Bull. Soc. Bot. France 56, Mém. 3d: 373 (1909), nom. nud. = **Vernonia simplex** Less.

***Vernonia tarijensis** (Griseb.) Hieron., Bot. Jahrb. Syst. 22(4–5): 682 (1897).

Vernonia sericea Rich. var. *tarijensis* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 163 (March–April 1879); Symb. Fl. Argent. : 163 (1879). Type: 'O.: Tarija. („Amer trop.‘)' Syntypes: Lorentz & Hieronymus 656, Lorentz 622, Lorentz 634, - all in GOET. Note: all are marked as 'Argentina' in the type database of material in GOET.

Cacalia tarijensis (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 140 (1989).

Lepidaploa tarijensis (Griseb.) H. Rob., Proc. Biol. Soc. Washington 103(2): 495 (1990).

Argentina, Bolivia (Tarija).

July.

Vernonia tereticaulis DC., Prodr. 5: 20 (1836) = **Piptocarpha poeppigiana** (DC.) Baker

Vernonia tournefortioides Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 27 (1818) =

Vernonia scorpioides (Lam.) Pers.

Vernonia tricholepis* DC., Prodr. 5: 54 (1836) = **Vernonia remotiflora Rich.

***Vernonia tristis** Hieron., Bot. Jahrb. Syst. 22(4–5): 683 (1897). Type: 'Bolivien: im Thal des Rio Juntas bei 1200 m Höhe (O. Kuntze, 13./21 April 1892).' Holotype: B†.

Cacalia tristis (Hieron.) Kuntze, Revis. Gen. Pl. 3(3): 140 (1898).

Lepidaploa tristis (Hieron.) H. Rob., Proc. Biol. Soc. Washington 103(2): 496 (1990).

Bolivia (?).

1200 m.

April.

Vernonia trixioides* Rusby, Mem. Torrey Bot. Club 6(1): 54 (1896) = **Quechualia trixioides (Rusby) H. Rob.

Vernonia unillensis Cuatrec., Bot. Jahrb. Syst. 77: 59 (1956) = **Vernonia canescens** Kunth

Vernonia vargasii Cuatrec., Bot. Jahrb. Syst. 77: 83 (1956) = **Vernonia patens** Kunth

***Vernonia varroniifolia** [as varroniaefolia] DC., Prodr. 5: 56 (1836). Type: '■patr. ign. ... (v.s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC.

Vernonia ehretiifolia Gardner, London J. Bot. 6: 420 (1847), nom. illegit., non Benth. (1840). Type: 'HAB. Woods near Villa de Arrayas, Province of Goyaz. April, 1840.' [Gardner] 3791.

Cacalia ehretiifolia (Gardner) Kuntze, Revis. Gen. Pl. 2: 970 (1891).

Cacalia varroniifolia (DC.) Kuntze, Revis. Gen. Pl. 2: 971 (1891).

Lessingianthus varroniifolius (DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 949 (1988).

Bolivia (Chuquisaca), Brazil, Paraguay.

Vernonia velutina Hieron., Bot. Jahrb. Syst. 22(4–5): 697 (1897) = **Vernonia salzmannii** DC.

Vernonia virens Sch.Bip. ex Baker in Mart., Fl. Bras. 6(2): 71 (1873) = **Vernonia salzmannii** DC.

Vernonia virens Sch.Bip. ex Baker var. β *megacephala* Baker in Mart., Fl. Bras. 6(2): 71 (1873) = **Vernonia salzmannii** DC.

Vernonia virentiformis Malme, Ark. Bot. 24A(8): 8 (1932). Type: [Brazil:] 'Santa Anna da Chapada, in silva clara, 19¹⁰/603 ([leg. ?] II: s. n.).' Holotype: ?S. Note: Anderberg et al. (1996: 168) note, interestingly, that this is a Malme collection and that it is an isotype even though Malme's Regnellian collections are in S. *Lepidaploa virentiformis* (Malme) H. Rob., Proc. Biol. Soc. Washington 103(2): 496 (1990). Bolivia (Bení), Brazil (Mato Grosso).

Vernonia virgulata Mart. ex DC., Prodr. 5: 42 (1836). Type: ' ? in editis prov. Minarum gener. Brasiliae. ... (v. s. in h. Acad. reg. Monac.)'. Holotype: M; isotype: G-DC (apex of flowering shoot and one loose capitulum). *Cacalia virgulata* (Mart. ex DC.) Kuntze, Revis. Gen. Pl. 2: 971 (1891). *Lessingianthus virgulatus* (Mart. ex DC.) H. Rob., Proc. Biol. Soc. Washington 101(4): 950 (1988). Bolivia (Santa Cruz), Brazil. Grassland, on rocky soils, in campos rupestres and cerrado. 700–1000 m. August–October.

Vernonia volubilis Hieron., Bot. Jahrb. Syst. 36(5): 460 (1905) = **Vernonia canescens** Kunth
Vernonia weberbaueri Hieron., Bot. Jahrb. Syst. 40(3): 354 (1908) = **Vernonia patens** Kunth
**Vernonia yungasensis* Britton, Bull. Torrey Bot. Club 18: 332 (1891) = *Critoniopsis yungasensis* (Britton) H. Rob.

Vernonia yurimaguasensis Hieron., Verh. Bot. Vereins Prov. Brandenburg 48: 195 (1907). Type: 'Peru: bei Yurimaguas im Departement Loreto ([E. Ule] n. 6270 – August 1902).' Holotype: ?
Vernonia albifila Gleason, Bull. Torrey Bot. Club 59: 374 (1932). Type: 'Killip & Smith 30101, from sandy woods at Manáos, State of Amazonas, Brazil, alt. 25 m., deposited in the herbarium of The New York Botanical Garden.' Holotype: NY (00274550).
Vernonanthura yurimaguasensis (Hieron.) H. Rob., Phytologia 73(2): 74 (1992). Bolivia (?), Brazil, Peru.

Viborgia Spreng., Nachr. I. Bot. Gart. Halle : 41 (1801), non *Viborgia* Moench (1794) = **Galinsoga** Ruiz & Pav.

Vigolina Poir. in Lam., Encycl. 8: 613 (1808) = **Galinsoga** Ruiz & Pav.
Vigolina acmella (Roth) Poir. in Lam., Encycl. 8: 613 (1808) = **Galinsoga parviflora** Cav.

Viguiera Kunth sect. *Diplostichis* S. F. Blake, Contr. Gray Herb. n.s. 18: 101 (1918) = **Hymenostephium** Benth. & Hook.f.

Viguiera Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): (1818).
Helianthus L. subgen. *Leighia* Cass., Dict. Sci. Nat. 25: 435 (1822). Note: Several authors (Blake, 1918; Saenz, 1979; Robinson & Moore, 2004, *Index Nominum Genericorum*) incorrectly attribute this reference as the place of publication of the genus *Leighia*. Cassini was quite specific in stating the rank at which it was recognized ('C'est un sous-genre, que nous proposons d'établir dans le genre *Helianthus*; ...'), something repeated in the Dictionnaire on p. 437 where all of the subgenera were listed. The subgeneric description Cassini provided was based on the entity he called '*Leighia elegans*, H. Cass.', strictly a species of *Helianthus*! The *Index Nominum Genericorum* entry is incorrect in stating that firstly, this was a generic description and, secondly that the lectotype is '*Leighia bicolor* Cass.' (following vide Pfeiffer, Nom. 2: 56. 1874), cited as a nom. illegit. (having cited *Helianthus angustifolius* L. in synonymy). Robinson & Moore (2004) cited the 'type' as *Helianthus linearis* Cav., which is incorrect as Cassini had clearly expressed doubt that this was conspecific with his '*Leighia elegans*'. Type: *Helianthus (Leighia) elegans* Cass. = *Viguiera linearis* (Cav.) Sch.Bip. ex Hemsl.
Leighia (Cass.) Cass., Dict. Sci. Nat. 38: 17 (1825), nom. illegit., non *Leighia* Scop. (1777). Note: When raised to generic rank it immediately became a later homonym of Scopoli's *Leighia*, a substitute name for *Kahiria* Forssk.

Type: *Viguiera helianthoides* Kunth = *Viguiera dentata* (Cav.) Spreng.

References

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- Robinson, H. (1972). Studies in the Heliantheae (Asteraceae). I. A new species of *Rhyssolepis*. *Phytologia* 24(3): 209–210.
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- Robinson, H. & A. J. Moore. (2004). New species and new combinations in *Rhyssolepis* (Heliantheae: Asteraceae). *Proc. Biol. Soc. Washington* 117(3):437–460.
- Saenz, A. A. (1979). El género *Viguiera* (Compositae) en la Argentina. *Darwiniana* 22(1–3): 45–66.
- Note: Robinson & Moore's (2004) transfer of many species of *Viguiera* to *Rhyssolepis* is not accepted in this account.
- ****Viguiera anchusifolia*** (DC.) Baker in Mart., *Fl. Bras.* 6(3): 222 (1884).
? *Rudbeckia densifolia* Sm., in Rees, *Encycl.* : 30 (1819). Type: not cited.
Leighia anchusifolia [as *anchusaefolia*] DC., *Prodr.* 5: 580 (1836). Type: '■ in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. ex h. Mus. imp. Bras. sub n. 875.)' Holotype: P; isotype: G-DC (fragments of leaf and capitula).
Leighia dissitifolia DC., *Prodr.* 5: 581 (1836). Type: '■ in brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. ex h. Mus. imp. Bras. n. 881.)' Holotype: P; isotype: G-DC.
Leighia lomatoneura DC., *Prodr.* 5: 581 (1836). Type: '■ in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. ex h. Mus. imp. Bras. sub n. 878.)' Holotype: P; isotype: G-DC (leaf fragments).
Leighia immarginata DC., *Prodr.* 5: 581 (1836). Type: '■ in Brasiliae prov. Rio-Grande. ... (v.s. in h. Mus. reg. Par. ex h. Mus. imp. Bras. sub n. 1052.)' Holotype: P; isotype: G-DC (leaf fragments).
Leighia stenophylla Hook. & Arn., *J. Bot. (Hooker)* 3(No. 22): 313 (1841). Types: 'Buenos Ayres and Monte Video; Tweedie, (n. 870 and 875)' Syntypes: K.
Leighia baldwiniana Nutt., *Trans. Amer. Phil. Soc.*, ser. 2, 7: 365 (1841). Type: '... collected in some parts of South America, by the late indefatigable Doctor Baldwin.' Holotype: ?BM.
Viguiera stenophylla (Hook. & Arn.) Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 193 (March–April 1879); *Symb. Fl. Argent.* : 193 (1879).
Helianthus angustifolius Spreng. ex Baker in Mart., *Fl. Bras.* 6(3): 221 (1884), nom. nud. pro syn. (sub *V. stenophylla* (Hook. & Arn.) Griseb.)
Helianthus montevidensis Spreng. ex Baker in Mart., *Fl. Bras.* 6(3): 221 (1884), nom. nud. pro syn. (sub *V. stenophylla* (Hook. & Arn.) Griseb.)
Viguiera dissitifolia (DC.) Baker in Mart., *Fl. Bras.* 6(3): 225 (1884).
Tridens varius Pohl ex Baker in Mart., *Fl. Bras.* 6(3): 225 (1884), nom. nud. pro syn. (sub *V. dissitifolia* (DC.) Baker)
Viguiera anchusifolia (DC.) Baker var. *genuina* S. F. Blake, *Contr. Gray Herb.* 54: 156 (1918).
Viguiera anchusifolia (DC.) Baker var. *immarginata* (DC.) S. F. Blake, *Contr. Gray Herb.* 54: 157 (1918).
Viguiera immarginata (DC.) Herter, *Revista Sudamer. Bot.* 7(6/8): 236 (1943).
Rhyssolepis anchusifolia (DC.) H. Rob. & A. J. Moore, *Proc. Biol. Soc. Washington* 117(3): 425 (2004).
Argentina, Bolivia (Tarija), Brazil, Uruguay. Foster (1958: 222) noted the species for Bolivia (based on a *Fries* 1203, from Tarija), yet Blake (1918: 156–157) noted only an 'Argentina, Brazil and Uruguay' distribution, which was only modified slightly by Magenta (2006) in her unpublished thesis with the addition of Paraguay; Magenta (2006) did not mention the *Fries* collection.
- Viguiera anchusifolia* (DC.) Baker var. *genuina* S. F. Blake, *Contr. Gray Herb.* 54: 156 (1918) = ***Viguiera anchusifolia*** (DC.) Baker
Viguiera anchusifolia (DC.) Baker var. *immarginata* (DC.) S. F. Blake, *Contr. Gray Herb.* 54: 157 (1918) = ***Viguiera anchusifolia*** (DC.) Baker

***Viguiera australis** S. F. Blake, Contr. Gray Herb. 54: 148 (1918). Type: 'BOLIVIA: cotana at Illimani, 2450 m., Nov. 1911, *Buchtien* 297'. As 'Type coll.: B.M., G., Mo.' [NY (00277935)] Lectotype: to be selected. Note: There is an unnumbered *Buchtien* collection, but with the same locality and date that is most probably an isosytype/isolectotype.

Helianthus floribundus E. Watson, Pap. Michigan Acad. Sci. 9: 405 (1929). Type: 'K. Fiebrig 2758, San Luis, Bolivia. Altitude 2,000 m.' Holotype: B†.

Rhysolepis australis (S. F. Blake) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 425 (2004).

Bolivia (La Paz), Chile. Robinson & Moore (2004: 425) reported this species only from Chile (but obviously not including *Helianthus floribundus* E. Watson); Magenta (2006) clearly recorded it for Bolivia.

Other paratypes cited by Blake include: 'do. *Buchtien* 3292 (US); Isla Titicaca, Lake Titicaca, 3840 m., March 1910, *Buchtien* 3064 (US); near La Paz, 3050 m., *Rusby* 1689 (G, US); without definite locality, *Bridges* (K).'

Viguiera bishopii H. Rob. Phytologia, 45(6): 458 (1980). Type: 'BOLIVIA: Cochabamba: 5 kms from Parotani, on road to Oruro. 9000 ft. Shrub to 1 m tall, flowers yellow. 2 Feb. 1978. R. M. King & L. E. Bishop 7574'.

Holotype: US (02813109).

Rhysolepis bishopii (H. Rob.) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 426 (2004).

Bolivia (Cochabamba).

Note: Magenta (2006: 290) was of the opinion that this species was probably conspecific with *V. lanceolata* Britton. Certainly there is much in the description of *V. lanceolata* and one of its synonyms, *V. mandonii* Sch.Bip. ex Rusby, to suggest that this may well be true.

Viguiera cabreræ H. Rob., Phytologia 36(3): 207 (1977) = **Hymenostephium debile** (Cabrera) Cabrera

Viguiera calva (Sch.Bip.) Britton, Bull. Torrey Bot. Club 19(5): 149 (1892), nom. illegit. = **Viguiera pazensis** Rudby.

Viguiera coraniana A. A. Saenz, Parodiana, 5(1): 26 (1987)[1988]. Type: 'BOLIVIA. Dep. Cochabamba, Prov. Chapare, Loc. Corani; leg. A. Krapovickas 8671, 19-I-1958.' Holotype: LIL (460475).

Bolivia (Cochabamba).

Viguiera debilis (Cabrera) Ariza Espinar, Kurtziana 21: 284 (1991) = **Hymenostephium debile** (Cabrera) Cabrera

Viguiera discoidea (Griseb.) S. F. Blake, Contr. Gray Herb. 54: 157 (1918) = **Viguiera tucumanensis** (Hook. & Arn.) Griseb.

Viguiera dissitifolia (DC.) Baker in Mart., Fl. Bras. 6(3): 225 (1884) = **Viguiera anchusifolia** (DC.) Baker

Viguiera emaciata (H. Rob. & A. J. Moore) D. J. N. Hind, Kew Bull. 63(3): 516 (2008)[Jan 2009].

Rhysolepis emaciata H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 434 (2004). Type: 'Bolivia, Cochabamba: 10 NE; 2465 m; Campero, pajonal de *Elyonurus tripsacoides*, 2 May 1999, *Antezana* 1276'.

Holotype: US (03376064); isotype: MO.

Bolivia (Cochabamba).

2465 m.

April – May.

Viguiera floribunda Gardner, London J. Bot. 7: 401 (1848) = **Aspilia floribunda** (Gardner) Baker

***Viguiera fusiformis** S. F. Blake, Contr. Gray Herb. 54: 145 (1918). Type: 'BOLIVIA: fields, neighborhood of Sorata, near Munaypata, Prov. Larecaja, 2650 m., Jan.-March 1859, *Mandon* 49'. As 'Type coll.: BM, G, K.';

[isotypes: GH (13991, 13992 – a fragment), NY (00277951, 00277952), S.] Lectotype: to be selected.

Bidens tuberosa Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); *Linnaea* 34(5): 528 (1866), nom. nud. based on *Mandon* 49.

Rhysolepis fusiformis (S. F. Blake) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 426 (2004).

Bolivia (La Paz).

2650 m.

January – March.

Viguiera glutinosa* Rusby, Mem. Torrey Bot. Club 4(3): 211 (1895) = **Flourensia heterolepis S. F. Blake
Viguiera gracilis Gardner, London J. Bot. 7: 402 (1848) = **Aspilia floribunda** (Gardner) Baker
Viguiera immarginata (DC.) Herter, Revista Sudamer. Bot. 7(6/8): 236 (1943) = **Viguiera anchusifolia** (DC.)
Baker

****Viguiera lanceolata*** Britton, Bull. Torrey Bot. Club 19(5): 149 (1892). Type: [Bolivia:] 'Yungas, 4,000 ft. ([Rusby] 2140).' Holotype: NY (00277970).

**Viguiera mandonii* Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 528 (Feb. 1866), nom. nud. (based on *Mandon* 35).

**Viguiera mandonii* Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 3(3): 60 (1893). Types: [Bolivia:] 'Vic. La Paz, 10,000ft., 1890 ([Bang] 382). = *Mandon* 35, not *Rusby* 1683 nor 1684.' Syntypes: NY (there are two specimens of *Bang* 382 and three of *Mandon* 35 in NY (00277974, 00277975, 00277976); isosyntypes: K. Isosyntype (*Bang* 382): US (00046109). Note: Some authors have taken *Mandon* 35 as a paratype, but I would argue that it is a syntype as Rusby made no clear declaration that *Bang* 382 was the 'type' collection.

Viguiera mandonii Sch.Bip. ex Klatt, Ann. K. K. Naturhist. Hofmus. 9: 361 (1894). nom. illegit. superfl. (based on *Mandon* 35).

Helianthus szyszylowiczii Hieron., Bot. Jahrb. Syst. 36(5): 491 (1905). Type: 'Peruvia: crescit prope Callacate (J.[elski] n. 732, m. Majo 1879).' Holotype: B†. Note: The photograph (in F) of the holotype collection indicates that this is an exceptionally broad leaf, quite unlike those of *V. lanceolata*.

Rhyssolepis lanceolata (Britton) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 429 (2004).
Bolivia (Cochabamba, La Paz), Peru.
3048 m.

****Viguiera macrorhiza*** Baker in Mart., Fl. Bras. 6(3): 225 (1884). Types: 'Habitat in Paraguay, in campis ad Caaguazu: *Balansa* n. 848!, 1139!' Syntypes: K; isosyntype (*Balansa* 848): G, NY, P. Lectotype: to be selected.
Viguiera hassleriana Chodat, Bull. Herb. Boissier ser. 2, 3(8): 724 (1903). Types: 'Suffrutex 0,3-0,8, petala lutea, in campo pr. flumen Tapiraguay, Aug., [*Hassler*] n. 4306; id. in campo pr. fl. Carimbatay, Sept., [*Hassler*] n. 4578.' Syntypes: BM, G.

Viguiera macrorhiza Baker var. *hassleriana* (Chodat) Hassl., Repert. Spec. Nov. Regni Veg. 14: 269 (1916).
Bolivia (?), Brazil, Paraguay.

**Viguiera mandonii* Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 528 (Feb. 1866), nom. nud. =
Viguiera lanceolata Britton

Viguiera mandonii* Sch.Bip. ex Rusby, Mem. Torrey Bot. Club 3(3): 60 (1893) = *Viguiera lanceolata*** Britton
Viguiera mandonii Sch.Bip. ex Klatt, Ann. K. K. Naturhist. Hofmus. 9: 361 (1894). nom. illegit. superfl. =
Viguiera lanceolata Britton

Viguiera mollis Griseb., Abh. Königl. Ges. Wiss. Göttingen 19(): (1874); Pl. Lorentz. : 136 (1874) = ***Viguiera tucumanensis*** (Hook. & Arn.) Griseb.

Viguiera oligodonta S. F. Blake, Contr. Gray Herb. 54: 146 (1918) = ***Viguiera tucumanensis*** (Hook. & Arn.)
Griseb.

****Viguiera pazensis*** Rusby, Mem. Torrey Bot. Club 3(3): 59 (1893). Types: [Bolivia:] 'Vic. La Paz, 10,000 ft., 1889 [*Bang*] (44). = *Rusby* 1683, 1684 and 2714.' Isosyntype (*Bang* 44): GH, NY, US, Z (000004098). Note: Material of the *Bang* 44 isosyntype in K is of two taxa, one determined by Blake as *V. pazensis*, the other is queried as '*V. punensis*'. Isosyntype material of this collection in NY appears to be of one taxon.

Sanvitalia helianthoides Rich. ex Willd., Sp. Pl. 3: 2190 (1803). Type: 'Habitat in Peru. (v.s.)'. Holotype: B-W (16312). Note: the sheet in B-W has '(Richard)' written at the bottom of it.

Helianthus procumbens Pers., Syn. Pl. 2: 475 (1807), nom. illegit. pro *S. helianthoides* Rich. ex Willd.

Helianthus calvus Sch.Bip., Bull. Soc. Bot. France 12: 79 (1865); Linnaea 34(5): 528 (Feb. 1866), nom. nud. (based on *Mandon* 34)

Helianthus atacamensis Phil., Anales Mus. Nac. Chile, Secc. 2, Bot. 8: 48 (1891). Type: 'Prope Atacama lectus. [*Philippi*, 1885]'. Holotype: SGO.

Viguiera calva (Sch.Bip.) Britton, Bull. Torrey Bot. Club 19(5): 149 (1892), nom. illegit. (based on both *Mandon* 34 and *Rusby* 1690). Note: '*Viguiera calva* Benth. & Hook.f.' is listed in *Index Kewensis* but was clearly neither described nor combined in *Genera Plantarum*. It was based on '*Helianthus calvus* Sch.Bip.' a nom. nud. (based on a *Mandon* collection, n. 34).

**Viguiera pflanzii* Perkins, Bot. Jahrb. Syst. 49: 226 (1913). Types: 'Bolivien: Pacla-La Paz, Ackerrain, 3700 m ü. M. (K. PFLANZ n. 48. – Im Juni 1909 blühend); Huancapampa, 3650, geht bis 3800 m ü. M., Acker K. PFLANZ n. 372. – Im April 1910 blühend).' Syntypes: B†.

Flourensia atacamensis (Phil.) Reiche, Anales Univ. Chile 112: 146 (1903).

Viguiera punensis S. F. Blake, Bot. Jahrb. Syst. 54, Beib. 119(3): 48 (1916). Type: 'Peru: Dept. Puno, Azangaro, abundant, rocky limestone meadows, alt. 4000 m. (WEBERBAUER n. 464).'

**Encelia soratensis* Rusby, Descr. New Sp. S. Amer. Pl. : 154 (1920). Type: "'In cultivated fields, Sorata, Bolivia, 7500 feet. October, 1902.'" (R.S.Williams, No. 1546.'). Holotype: NY (?00168358 – marked as 'probably Holotype'); isotypes: NY (?00168359 – marked as Holotype), US (01067692 – fragments including one leaf and a partial capitulum of the NY material NY - 00168358). Note: There are two contenders for holotype in NY, 00168358 and 00168359, the latter of which was originally determined as *Viguiera pflanzii*.

Viguiera procumbens (Pers.) S. F. Blake, Contr. US Natl. Herb. 26: 253 (1930).

Rhysolepis helianthoides (Rich.) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 427 (2004).

Argentina, Bolivia (Cochabamba, La Paz, Tarija), Chile, Ecuador, Peru.

Prepunean xeric scrub.

1900–4000 m.

October–June.

Note: Robinson & Moore's comments (2004: 427) have synonymized several names under '*Rhysolepis helianthoides* (L. Rich.) A. J. Moore & H. Rob.'; at the species level the earliest name in *Viguiera* is *V. pazensis* under which entry they appear here. Magenta (2006) in the discussion of the distribution of this extra-Brazilian taxon referred to it as *V. procumbens*.

Viguiera pflanzii* Perkins, Bot. Jahrb. Syst. 49: 226 (1913) = *Viguiera pazensis*** Rusby

Viguiera procumbens (Pers.) S. F. Blake, Contr. US Natl. Herb. 26: 253 (1930) = ***Viguiera pazensis*** Rusby

Viguiera punensis S. F. Blake, Bot. Jahrb. Syst. 54, Beib. 119(3): 48 (1916) = ***Viguiera pazensis*** Rusby

Viguiera ramosissima Gardner, London J. Bot. 7: 402 (1848) = ***Aspilia floribunda*** (Gardner) Baker

****Viguiera retroflexa*** S. F. Blake, Contr. Gray Herb. 54: 146 (1918). Type: 'BOLIVIA: Tarija, 1220 m., March 1864, Pearce'. As 'Type coll.: BM, K, tracing and fragm. G.', plus the paratype: 'without definite locality Bridges (K). Syntypes: K. Note: the Pearce syntype at K had a leaf and capitulum presented to Blake and is in GH (14033).

Rhysolepis retroflexa (S. F. Blake) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 431 (2004). Argentina, Bolivia (Tarija).

Viguiera squalida S. Moore, J. Bot. 42: 37 (1904). Type:

Viguiera weddellii Sch.Bip. ex S. F. Blake, Contr. Gray Herb. 54: 126 (1918). Type: 'BRAZIL: between Goyaz and Cujaba, Nov.-Dec. 1844, Weddell 2911'. Holotype: P.

Rhysolepis squalida (S. Moore) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 431 (2004).

Rhysolepis weddellii (Sch.Bip. ex Wedd.) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 432 (2004). Bolivia (Santa Cruz), Brazil (Goias, Mato Grosso).

Note: The synonymy followed here is that proposed by Magenta (2006).

Viguiera stenophylla (Hook. & Arn.) Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 193 (March-April 1879); Symb. Fl. Argent. : 193 (1879) = ***Viguiera anchusifolia*** (DC.) Baker

Viguiera stenophylla (Hook. & Arn.) Griseb. var. *discoidea* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 193 (March-April 1879); Symb. Fl. Argent. : 193 (1879) = ***Viguiera tucumanensis*** (Hook. & Arn.) Griseb.

Viguiera tucumanensis (Hook. & Arn.) Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 183 (1874); Pl. Lorentz.: 136 (1874).

Leighia tucumanensis Hook. & Arn., J. Bot. (Hooker): 3(No. 22): 314 (1841). Type: [Argentina:] '[In woods] Near Tucuman; Tweedie, (n. 1203.}'. Holotype: K.

Viguiera mollis Griseb., Abh. Königl. Ges. Wiss. Göttingen 19(): (1874); Pl. Lorentz. : 136 (1874). Note: *Viguiera mollis* was reported for Bolivia by Fries, based on Fries 1238, although not recorded by Foster (1958). Magenta (2006: 322) suggested that *V. mollis* was an example of the Yungas element of the genus and might well be a synonym of *V. tucumanensis*.

Viguiera stenophylla (Hook. & Arn.) Griseb. var. *discoidea* Griseb., Abh. Königl. Ges. Wiss. Göttingen 24(1): 193 (March-April 1879); Symb. Fl. Argent. : 193 (1879). Type: 'J.' Syntypes: Lorentz & Hieronymus 727 & 775, GOET.

Viguiera oligodonta S. F. Blake, Contr. Gray Herb. 54: 146 (1918). Type: 'ARGENTINA: in woods, St. Xavier, Tucuman, Tweedie 1202'. Holotype: K; isotype: G (fragm.).

Viguiera discoidea (Griseb.) S. F. Blake, Contr. Gray Herb. 54: 157 (1918).

Viguiera tucumanensis (Hook. & Arn.) Griseb. var. *discoidea* (Griseb.) Cabrera, Fl. Prov. Jujuy, INTA, 13(10): 371 (1978).

Viguiera tucumanensis (Hook. & Arn.) Griseb. var. *oligodonta* (S. F. Blake) Cabrera, Fl. Prov. Jujuy, INTA, 13(10): 371 (1978).

Rhysolepis tucumanensis (Hook. & Arn.) H. Rob. & A. J. Moore, Proc. Biol. Soc. Washington 117(3): 432 (2004). Argentina, Bolivia (Cochabamba).

Bosque seco interandino del Río Grande (Río Grande interandean dry forest), Matorral serial subhúmedo montano Boliviano-Tucumano.

2180–2500 m.

November–January.

Robinson & Moore (2004) only recorded this species from Argentina, but Mara Magenta in her thesis recorded the species and var. *discoidea* (here lumped together) for Bolivia. Cabrera (1978: 371–372) recorded only var. *oligodonta* from Argentina and Bolivia. The taxon's distribution in Bolivia was not stated. Navarro (2002: 364) recorded the species from the Río Grande dry forest from Cochabamba.

Viguiera tucumanensis (Hook. & Arn.) Griseb. var. *discoidea* (Griseb.) Cabrera, Fl. Prov. Jujuy, INTA, 13(10): 371 (1978) = ***Viguiera tucumanensis*** (Hook. & Arn.) Griseb.

Viguiera tucumanensis (Hook. & Arn.) Griseb. var. *oligodonta* (S. F. Blake) Cabrera, Fl. Prov. Jujuy, INTA, 13(10): 371 (1978) = ***Viguiera tucumanensis*** (Hook. & Arn.) Griseb.

Viguiera weddellii Sch.Bip. ex S. F. Blake, Contr. Gray Herb. 54: 126 (1918) = ***Viguiera squallida*** S. Moore

Villanova Ortega, Nov. Pl. Descr. Dec. 4: 47, t. 6 (1797), nom. rej., non Lag. (1816) = ***Parthenium*** L.

Villanova Lag., Gen. Sp. Pl. : 31 (1816) nom. con., non *Villanova* Ortega (1797), nom. rej.

Vazquezia Phil., Fl. Atacam. : 31 (1860); Reise Atacama: 205 (1860). Type: *Vazquezia/Vasquezia biternata* Phil. = ***Villanova oppositifolia*** Lag. Note: The spelling of the generic name appeared in the protologue as *Vazquezia*, although generitype appeared as *Vasquezia biternata* in the text but as *Vazquezia biternata* in the plate caption and on the plate itself.

Type: *Villanova alternifolia* Lag., type cons.

References

Blake, S. F. (1937). Eleven new Asteraceae from North and South America. J. Wash. Acad. Sci. 27(9): 374–391.

Robinson, H. (2006). *Villanova*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(2): 190(6).

Compositae-Heliantheae, Part II: genera M–Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 196–198.

Villanova dissecta (Hook.) DC., Prodr. 5: 75 (1836) = ***Villanova oppositifolia*** Lag.

****Villanova oppositifolia*** Lag., Gen. Sp. Pl. : 31 (1816). Type: 'Hab. in Peruvia ?' Holotype: MA.

Unxia dissecta Hook., Bot. Misc. 2: 227 (1831). Type: [Peru:] 'Hab. Lurin, near Lima. [September, 1830.

Cruickshanks].' Holotype: K.

Villanova dissecta (Hook.) DC., Prodr. 5: 75 (1836).

Vasquezia biternata Phil, Fl. Atacam. : 31 (1860); Reise Atacama: 205 (1860). Type: 'Prope Paposo in detritu ad basin montium litoralium inveni.' Holotype: SGO. Pizarro (1960: 165) cited two collections in SGO – 60540, 44004.

Chile, Bolivia (La Paz), Peru.

Disturbed areas, rocky ground, roadsides and path margins.

500–4000 m.

March–April.

Villanova titicacensis (Meyen & Walp.) Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 296 (1843).

Wedelia titicacensis Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 296 (1843).

Type: 'Peruvia: Laguna de Titicaca. (v.s.)'. Holotype: B†.

Vasquezia titicacensis (Meyen & Walp.) S. F. Blake, J. Wash. Acad. Sci. 27(9): 387 (1937).

Bolivia (Cochabamba, ?La Paz), Colombia, Peru.

Scrub, sandy and rocky areas, grassland, disturbed areas.

2000–4100 m.

Vilobia Strother, Brittonia 20(4): 343 (1968) = **Tagetes** L.

Vilobia praetermissa Strother, Brittonia 20(4): 343 (1968) = **Tagetes praetermissa** (Strother) H. Rob.

Virgaria Raf. ex DC., Prodr. 5: 243 (1836), nom. nud. pro syn. = **Symphotrichum** Nees

Virgulaster Semple, Phytologia 58(7): 430 (1985) = **Symphotrichum** Nees

Virgulus Raf., Fl. Tellur. : 46 (1836)[1837] = **Symphotrichum** Nees

Vittadinia A. Rich., Ess. Fl. Nouv.-Zel. : 250 (1832).

Vittadinia multifida Griseb., Abh. Königl. Ges. Wiss. Göttingen 19([1]): 171 (1874) = **Baccharis ulicina** Hook. & Arn.

Viviania Willd. ex Less., Linnaea 4(3): 318 (1829) = **Liabum** Adans.

W

Wahlenbergia Schumach., Beskr. Guin. Pl. : 387 (1827), non Schrad. ex Roth., nom. cons. (1827) = **Enydra** Lour.
Wahlenbergia globularis Schum. & Thonn. in Schum., Beskrivelse : 387 (1827), nom. illegit. superfl. (based on *Caesulia radicans* Willd.) = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera
Wahlenbergia glomerata Schum. ex DC., 5: 497 (1836), sphalm., as nom. nud. pro syn. (sub. *Cryphiospermum repens* P. Beauv.) = **Enydra sessilifolia** (Ruiz & Pav.) Cabrera

Wedelia sect *Stemmodon* Griseb., Fl. Brit. W. I. : 371 (1861) = **Sphagneticola** O. Hoffm.

Wedelia Jacq., Enum. Pl. Carib. 8: 28 (1760), nom. cons., non *Wedelia* Loefl. (1758) (= *Allionia* L.

[NYCTAGINACEAE])

Stemmodontia Cass., Bull. Sci. Soc. Philom. Paris 1817: 11 (1817). Type: *Stemmodontia scaberrima* Cass. = *Wedelia scaberrima* (Cass.) Benth.

Trichostemma Cass., Dict. Sci. Nat. 46: 409 (1827), non *Trichostema* L. (1753).

Trichostephium Cass., Dict. Sci. Nat. 55: 266 (1828), as nom. nov. pro *Trichostemma* Cass. Type: *Trichostemma hispidum* Cass. = *Wedelia trichostephia* DC.

Trichostephus Cass., Dict. Sci. Nat. 60: 618 (1830), orth. var. *Trichostephium* Cass.

Menotriche Steetz in Peters, Naturw. Reise mossambique, Bot. : 472 (1864). Type: *Menotriche strigosa* Steetz = *Wedelia menotriche* Oliv. & Hiern

Seruneum Rumpf ex Kuntze, Revis. Gen. Pl. 1: 364 (1891), nom. illegit. superfl. pro **Wedelia** Jacq.

Niebuhrria Neck. ex Britton, J. Bot. 39: 68 (1901), nom. illegit. non Scop. (1777). Type: not designated.

Type: *Wedelia fruticosa* Jacq.

References

Robinson, H. (1992). New combinations in *Elaphandra* Strother (Ecliptinae-Heliantheae-Asteraceae). *Phytologia* 72(2): 144–151.

Strother, J. L. (1991). Taxonomy of *Complaya*, *Elaphandra*, *logeton*, *Jefea*, *Wamalchitamia*, *Wedelia*, *Zexmenia*, and *Zyzyxia* (Compositae-Heliantheae-Eclitinae). *Syst. Bot. Monogr.* 33: 1–111.

Turner, B. L. (1992). New names and combinations in New World *Wedelia* (Asteraceae, Heliantheae). *Phytologia* 72(5): 389–395.

Note: These references are provided as a guide only, especially since the first and last recommended the wholesale transfer of *Aspilia* into *Wedelia*.

Wedelia annua Gilli, Feddes Repert. 94(5): 314 (1983) = **Heliopsis buphthalmoides** (Jacq.) Dunal

Wedelia attenuata (Gardner) B. L. Turner, *Phytologia* 72(5): 391 (1992) = **Aspilia attenuata** (Gardner) Baker

Wedelia aurantiaca (Griseb.) B. L. Turner, *Phytologia* 72(5): 391 (1992) = **Aspilia aurantiaca** Griseb.

Wedelia brachycarpa* Baker in Mart., Fl. Bras. 6(3): 181 (1884) = **Sphagneticola brachycarpa (Baker) Pruski

Wedelia brasiliensis (Spreng.) S. F. Blake, Contr. US Natl. Herb., 26: 250 (1930), comb. illegit. = **Sphagneticola trilobata** (L.) Pruski

?*Wedelia brasiliensis* (Spreng.) S. F. Blake var. *villosa* (Baker) S. F. Blake, J. Wash. Acad. Sci. 21: 332 (1954) = **Sphagneticola brachycarpa** (Baker) Pruski

Wedelia cardenasii (H. Rob.) B. L. Turner, *Phytologia* 72(5): 391 (1992) = **Aspilia cardenasii** H. Rob.

Wedelia carnosa Rich. in Pers., Syn. Pl. 2: 490 (1807), nom. illegit. superfl. = **Sphagneticola trilobata** (L.) Pruski

Wedelia carnosa Rich. [var.] β *triloba* Rich. ex DC., Prodr. 5: 538 (1836) = **Sphagneticola trilobata** (L.) Pruski

Wedelia crenata Rich. in Pers., Syn. Pl. 2: 490 (1807) = **Sphagneticola trilobata** (L.) Pruski

Wedelia discoidea Less., *Linnaea* 6(4): 728 (1831) = **Eleuthernathera ruderalis** (Sw.) Sch.Bip.

Wedelia floribunda (Gardner) B. L. Turner, *Phytologia* 72(5): 392 (1992) = **Aspilia floribunda** (Gardner) Baker

Wedelia gossweileri S. Moore, J. Bot. 56: 232 (1918) = **Blainvillea acmella** (L.) Philipson

***Wedelia holwayi** S. F. Blake, Bot. Gaz. 74: 420 (1922). Type: 'BOLIVIA. – Cochabamba, March 7, 1920, E.W.D. and M.M. Holway 376'. Holotype: US (01058597).
Argentina, Bolivia (Cochabamba).
March.

***Wedelia isolepis** S. F. Blake, Bot. Gaz. 74: 421 (1922). Type: 'BOLIVIA. – Soratá, April 14, 1920, E.W.D. and M.M. Holway 517'. Holotype: US (01058604); isotype: GH (14076).
Bolivia (La Paz).
April.

Wedelia leucoglossa (Malme) B. L. Turner, Phytologia 72(5): 393 (1992) = **Aspilia leucoglossa** Malme
Wedelia minor Hort. ex Hornem., Enum. Hort. Hafn. 2: 855 (1815) = **Melampodium divaricatum** (Rich. in Pers.) DC.

Wedelia ovatifolia Willd., Enum. Suppl. : 61 (1814), nom. nud. = **Melampodium divaricatum** (Rich. in Pers.) DC.

Wedelia paludicola Poepp., Nov. Gen. Sp. Pl. 3: 50 (1843) = **Sphagneticola trilobata** (L.) Pruski

Wedelia paludosa DC., Prodr. 5: 538 (1836) = **Sphagneticola trilobata** (L.) Pruski

?*Wedelia paludosa* DC. var. γ *villosa* Baker in Mart., Fl. Bras. 6(3): 181 (1884) = **Sphagneticola brachycarpa** (Baker) Pruski

Wedelia pilosa Baker in Mart., Fl. Bras. 6(3): 181 (1884) = **Sphagneticola trilobata** (L.) Pruski

Wedelia rudis (Baker) Benth. ex H. Rob., Phytologia 82(1): 61 (Sept. 1997), non (Oliv. & Hiern) Isawumi (Nov. 1997) [= *Aspilia rudis* Oliv. & Hiern]

Zexmenia rudis Baker in Mart., Fl. Bras., 6(3): 188 (1884). Types: 'Habitat ad ripas flum. Amazonum inter Santurem et Obidos: *Spruce* n. 353!, 480!; ad Montalegre in arenosis *Trail* n. 483!; prope Hyntanaham ad ripas fl. Purus: *Trail* n. 485!; prope Manáos: *Trail* n. 484!; in sepibus ripariis ad Coari et Eqa, in ditione fluminis Rio Negro: *Martius!*' Syntypes: K.

Wedelia rudis Benth. ex Baker in Mart., Fl. Bras. 6(3): 189 (1884), nom. nud. pro syn.

Zexmenia helianthoides (Kunth) B. D. Jacks. var. *rudis* (Baker) Hassl. f. *lanceolata* Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 178 (1915). Types: 'Paraguay: Centurion Parag. septentr., *Fiebrig* no. 4057 in herb. Hassler. Gran Chaco: Ad margines silvarum ad flumen Pilcomayo, *Rojas* no. 252.' Syntypes: G; isosynotype: (*Rojas* 252), NY (00278209).

Zexmenia helianthoides (Kunth) B. D. Jacks. var. *rudis* (Baker) Hassl. f. *subhastata* Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 178 (1915). Type: 'Paraguay: Centurion, in silvula campestre, *Fiebrig* no. 4599.'
Holotype: G.

Bolivia (?), Brazil, Colombia, Paraguay, Peru.

Riversides, woodland margins.

Wedelia titicacensis Meyen & Walp., Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 296 (1843) = **Villanova titicacensis** (Meyen & Walp.) Walp.

Wedelia triloba (Rich. ex DC.) Bello, Apuntes Fl. Puerto-Rico 1: 285 (1881) = **Sphagneticola trilobata** (L.) Pruski

Wedelia trilobata (L.) Hitchc., Rep. Missouri Bot. Gard. 4: 99 (1893) = **Sphagneticola trilobata** (L.) Pruski

Werneria Kuntze, Revis. Gen. Pl. 3(3): 184 (1898), orth. var. (but only as part of a binomial) = **Werneria** Kunth

Werneria Kunth subgen. *Euwerneria* (Gay) Rockh. sect. *Digitifoliae* Rockh., Bot. Jahrb. Syst. 70(3): (1939), nom. illegit. = **Xenophyllum** V. A. Funk

Werneria Kunth subgen. *Euwerneria* (Gay) Rockh. sect. *Aciculares* Rockh., Bot. Jahrb. Syst. 70(3): (1939), nom. illegit. = **Xenophyllum** V. A. Funk

Werneria Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 148 (1818).

Euryops Cass., Bull. Sci. Soc. Philom. Paris 1818: 141 (1818).

Oresigonia Willd. ex DC., Prodr. 6: 323 (1838), nom. nud. pro syn.

Oribasia Moç. & Sesse ex DC., Prodr. 6: 323 (1838), nom. nud. pro syn.

Werneria Kuntze, Revis. Gen. Pl. 3(3): 184 (1898), orth. var. (but only as part of a binomial)

- Werneria* Kunth subgen. *Anactis* (Gay) Rockh., Bot. Jahrb. Syst. 70(3): (1939), comb. illegit.
Werneria Kunth subgen. *Anactis* (Gay) Rockh. sect. *Pinnatifoliae* Rockh., Bot. Jahrb. Syst. 70(3): (1939), nom. illegit.
Werneria Kunth subgen. *Anactis* (Gay) Rockh. sect. *Integrifoliae* Rockh., Bot. Jahrb. Syst. 70(3): (1939), nom. illegit.
Werneria Kunth subgen. *Euwerneria* (Gay) Rockh., Bot. Jahrb. Syst. 70(3): (1939), comb. illegit.
Werneria Kunth subgen. *Euwerneria* (Gay) Rockh. sect. *Graminifoliae* Rockh., Bot. Jahrb. Syst. 70(3): (1939), nom. illegit.
Werneria Kunth subgen. *Euwerneria* (Gay) Rockh. sect. *Spathulifoliae* Rockh., Bot. Jahrb. Syst. 70(3): (1939), nom. illegit.

Note: Rockhausen's account (1939) provided a number of illegitimate infrageneric names (as only the name was proposed, lacking any Latin description, contrary to Art. 36 of the present ICBN, 2006).

Type: not stated. Lectotype (?selected by Cabrera, 1971: 275): ***Werneria graminifolia*** Kunth. Note: Funk (1997b) indicated that the type was *W. nubigena* Kunth although I have been unable to find any reference that lectotypified the genus based on this name.

References

- Cabrera, A. L. (1948). Las especies Argentinas del género *Werneria*. Notas Mus. La Plata, Bot. 13(No. 60): 49–61.
 Blake, S. F. (1928). New South American species of *Werneria*. J. Wash. Acad. Sci. 18(18): 485–498.
 Funk, V. A. (1997). *Werneria* s.l. (Compositae: Senecioneae) in Ecuador. In: Valencia, R. & H. Balslev (eds), Estudios sobre diversidad y ecología de plantas. Memorias del II Congreso Ecuatoriano de Botánica. Univ. Catól. Quito: 25–35.
 Rockhausen, M. (1940). Verwandtschaft und Gliederung der Compositen-Gattung *Werneria*. Bot. Jahrb. Syst. 70(3): 273–342.

Key to species

- | | | |
|-----|--|---------------------------|
| 1. | Capitula discoid | 2 |
| | Capitula radiate | 4 |
| 2. | Leaves entire | <i>W. melanandra</i> |
| | Leaves pinnatisect | 3 |
| 3. | Leaf lobes 15–20 | <i>W. heteroloba</i> |
| | Leaf lobes 4–6 | <i>W. solivifolia</i> |
| 4. | Leaves arranged distichously; capitula large (disc florets (50–75) 100–200) | <i>W. nubigena</i> |
| | Leaves rosetiform; capitula small to medium sized (disc florets 15–30) | 5 |
| 5. | Leaves linear | 6 |
| | Leaves oblanceolate or spatulate | 7 |
| 6. | Capitula sessile or very short-pedicellate; leaves 10–30 mm long; ray limb 4–6 mm long | <i>W. pygmaea</i> |
| | Capitula distinctly or long- pedicellate; leaves 40–60 mm long; ray limb c. 10 mm long | <i>W. villosa</i> |
| 7. | Capitula sessile | 8 |
| | Capitula conspicuously, sometimes long-, pedicellate | 9 |
| 8. | Leaves 6–8 mm long; capitula c. 6 mm tall | <i>W. aretioides</i> |
| | Leaves 10–12 mm long; capitula 10–13 mm tall | <i>W. pectinata</i> |
| 9. | Pedicels 10–40 mm long | 10 |
| | Pedicels 100–270 mm long | 11 |
| 10. | Capitula 18–20 mm tall; pedicel 10–40 mm long; leaves 30–70 mm long | <i>W. orbignyana</i> |
| | Capitula 8–12 mm tall; pedicel c. 25 mm long; leaves 30–35 mm long | <i>W. spathulata</i> |
| 11. | Leaves 60–100 mm long; achene glabrous; pedicel 100–200 mm long | <i>W. staticifolia</i> |
| | Leaves 180–200 mm long; achene densely sericeous setuliferous; pedicel 180–270 mm long | <i>W. plantaginifolia</i> |

Werneria apiculata Sch.Bip., Bonplandia 4(4): 52 (1856) = ***Werneria pygmaea*** Gillies ex Hook. & Arn.

***Werneria aretioides** Wedd., *Chloris Andina* 1: 86 (1856). Type: 'Hab. BOLIVIE: sur les montagnes des lagunas de Potosí! (*d'Orbigny*, n° 1400).' Holotype: P. Argentina, Bolivia (Oruro, Potosí), Chile, Peru.
Matorralies seriales orotrophicales altiplánico occidentales, Pajonal criorotropical norte-altiplánico (Sajama high-andean bunch-grassland), Sajama high-andean bunch-grassland.
4400–4900 m.
April.

Werneria articulata S. F. Blake, *Contr. U. S. Natl. Herb.* 22: 651 (1924), nom. nov. pro *W. lehmannii* Hieron. = **Xenophyllum humile** (Kunth) V. A. Funk

Werneria boraginifolia* Kuntze, *Revis. Gen. Pl.* 3(3): 184 (1898) = **Misbrookea strigosissima (A. Gray) V. A. Funk

Werneria brachypappus Sch.Bip., *Bonplandia* 4(4): 53 (1856), non Phil. (1873) (= *Werneria denticulata* S. F. Blake following Rockhausen, although not treated by him) = **Werneria pygmaea** Gillies ex Hook. & Arn.

**Werneria caespitosa* var. β *haenkei* Wedd., *Chloris Andina* 1: 83 (1856). Although listed by Foster (1958), Rockhausen (1939: 316) suggested that this is only a Peruvian taxon, although it is likely that the Bolivian record was based on *Troll* 2130; Rockhausen only recognized the species.

Werneria caulescens* (Wedd.) Rusby, *Bull. New York Bot. Gard.* 4(14): 398 (1907) = **Werneria villosa A. Gray

Werneria ciliata* Wedd. ex Sch.Bip., *Linnaea* 34(5): 530 (Feb. 1866), pro syn. = **Werneria pectinata Lingelsh.

Werneria ciliolata* A. Gray, *Proc. Amer. Acad. Arts* 5: 140 (1861) = **Xenophyllum ciliolatum (A. Gray) V. A. Funk

Werneria cortusifolia Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 19([1]): 194 (1874); *Pl. Lorent.* : 146 (1874) = **Senecio breviscapus** DC.

Werneria dactylophylla* Sch.Bip., *Bonplandia* 4(4): 52 (1856) = **Xenophyllum dactylophyllum (Sch.Bip.) V. A. Funk

Werneria dactylophylla* Sch.Bip. f. *glabriuscula* Rockh., *Bot. Jahrb. Syst.* 70: 286 (1939) = **Xenophyllum dactylophyllum (Sch.Bip.) V. A. Funk

Werneria dactylophylla Sch.Bip. var. *glanduloso-denticulata* Rockh., *Bot. Jahrb. Syst.* 70(3): 286 (1939) = **Xenophyllum dactylophyllum** (Sch.Bip.) V. A. Funk

?*Werneria decumbens* Hieron., *Bot. Jahrb. Syst.* 21(4): 364 (1896) = **Xenophyllum weddellii** (Phil.) V. A. Funk

Werneria digitata* Wedd., *Chloris Andina* 1: 86 (1856) = **Xenophyllum digitatum (Wedd.) V. A. Funk

Werneria digitata Wedd. var. *lanata* Rockh., *Bot. Jahrb. Syst.* 70(3): 287 (1939) = **Xenophyllum digitatum** (Wedd.) V. A. Funk

***Werneria heteroloba** Wedd., *Chloris Andina* 1: 88 (1856). Types: 'Hab. PÉROU: Cordillères du département de Cuzco! (*Gay*). – BOLIVIE: sur les pelouses marécageuses de la Lancha!, Cordillère de La Paz, avec le *W. pygmaea* (Wedd.); bord des eaux, dans les montagnes des lagunas de Potosí! (*d'Orbigny*, n° 1415).' Syntypes: P. *Werneria obtusiloba* S. F. Blake, *J. Wash. Acad. Sci.* 18(18): 489 (1928). Type: 'PERU: In sandy soil, with cushion and rosette plants, cordillera east of Carumas, Prov. Moquegua, alt. 4500-4600 m., 7-8 Mar. 1925, A. Weberbauer 7362'. Holotype: F (552591); isotype: US (44298).

Werneria heteroloba Wedd. var. *obtusiloba* (S. F. Blake) Rockh., *Bot. Jahrb. Syst.* 70(3): 283 (1939).

Werneria heteroloba Wedd. f. *microcephala* Rockh., *Bot. Jahrb. Syst.* 70: 283 (1939). Type: 'Chile: Lago Chungara, in Sümpfen, 4550 m ü.M. (C. TROLL Nr. 3222 – März 1927.)'.

Argentina, Bolivia (La Paz, Potosí), Chile, Peru.

Sandy soils.

4500–4600 m.

March.

Werneria heteroloba Wedd. f. *microcephala* Rockh., *Bot. Jahrb. Syst.* 70: 283 (1939) = **Werneria heteroloba** Wedd.

Werneria heteroloba Wedd. var. *obtusiloba* (S. F. Blake) Rockh., *Bot. Jahrb. Syst.* 70(3): 283 (1939) = **Werneria heteroloba** Wedd.

Werneria humilis Kunth in Humb., *Bonpl. & Kunth*, *Nov. Gen. Sp. Pl.* 4 (ed. folio): 150 (1818) = **Xenophyllum humile** (Kunth) V. A. Funk

Werneria humilis Kunth f. *articulata* (S. F. Blake) Rockh., *Bot. Jahrb. Syst.* 70(3): 294 (1939) = **Xenophyllum humile** (Kunth) V. A. Funk

?*Werneria juniperina* Hieron., Bot. Jahrb. Syst. 21(4): 365 (1896) = **Xenophyllum ciliolatum** (A. Gray) V. A. Funk

Werneria knocheae* Perkins, Bot. Jahrb. Syst. 49: 230 (1913) = **Werneria pectinata Lingelsh.

Werneria lehmannii Hieron., Bot. Jahrb. Syst. 28(5): 647 (1901), non Klatt (1894) = **Xenophyllum humile** (Kunth) V. A. Funk

Werneria lorentziana Hieron., Bot. Jahrb. Syst. 21: 364 (1896) = **Xenophyllum poposum** (Phil.) V. A. Funk

Werneria lycopodioides S. F. Blake, J. Wash. Acad. Sci. 18: 493 (1928) = *Xenophyllum ciliolatum* (A. Gray) V. A. Funk

Werneria macbridei Cuatrec., Collect. Bot. (Barcelona) 3(3): 294 (1953) = **Senecio repens** DC. var. **macbridei** (Cuatrec.) Cabrera

Werneria mandoniana* Wedd. ex Klatt, Ann. K. K. Naturh. Hofmus. Wien 9: 367 (1894) = **Werneria orbignyana Wedd.

Werneria marcida S. F. Blake, J. Wash. Acad. Sci. 18(18): 492 (1928) = **Xenophyllum marcidum** (S. F. Blake) V. A. Funk

***Werneria melanandra** Wedd., Chloris Andina 1: 88 (1856). Types: 'Hab. BOLIVIE: province de Carangas (d'Orbigny, n° 1395); pelouses humides de la Lancha!, dans la partie supérieure du ravin de Chuquiguillo, près de La Paz (Wedd.)'. Syntypes: P.

Bolivia (La Paz), Peru.

Puna Peruana.

Werneria mociniana DC., Prodr. 6: 324 (1838) = **Werneria nubigena** Kunth

***Werneria nubigena** Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 151 (1818). Type: [Ecuador:] 'Crescit in frigidis montis Chimborazi, alt. 1700 hex. (Regno Quitensi.) ■ Floret Junio.' [Humboldt & Bonpland P-Bonpl - '3191. Chimborazo'; B-W: '3191'] Holotype: P-Bonpl; isotype: B-W.

Werneria disticha Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): (1818). Type: 'Crescit in summo monte ignivomo Antisanæ, alt. 2100 hex. ■ Floret Junio. [Humboldt & Bonpland 2272]' Holotype: P-Bonpl; isotype: B-W.

Oresigonia latifolia Willd. ex DC., Prodr. 6: 324 (1838), nom. nud. pro syn.

Werneria mociniana DC., Prodr. 6: 324 (1838). Type: '■ in Mexico ad cacumen montis cuchumatanes. Orisaba acaulis Moc. Sess. et Cerv. incon fl. mex. ined. ... (v. ic. pict.)'

Oribasia acaulis Moc., Sesse & Cerv. ex DC., Prodr. 6: 324 (1838), nom. nud. pro syn.

Werneria nubigena Kunth var. *α vulgaris* Wedd., Chloris Andina 1: 80 (1855).

Werneria nubigena Kunth var. *β latifolia* Wedd., Chloris Andina 1: 80 (1855), nom. illegit. pro *Werneria disticha* Kunth

Werneria steubelii [as *stübelii*] Hieron., Bot. Jahrb. Syst. 21(4): 362 (1896). Type: 'Peruvia: crescit prope Challuayacu inter Pacasmayo et Moyobamba, alt. s. m. 3400 m, ubi floret mense Aprili-Junio ([Stübel] coll. peruv. n. 55c).'

Oresigonia grandiflora Willd. ex Rockh., Bot. Jahrb. Syst. 70(3): 301 (1939), nom. nud. pro syn.

Bolivia (Cochabamba, La Paz), Colombia, Ecuador, Guatemala, southern Mexico, Peru.

Puna Peruana, Pajonales húmedos de ladera.

3400 m.

April-June.

Werneria nubigena Kunth var. *β latifolia* Wedd., Chloris Andina 1: 80 (1855), nom. illegit. pro *Werneria disticha* Kunth = **Werneria nubigena** Kunth

Werneria nubigena Kunth var. *α vulgaris* Wedd., Chloris Andina 1: 80 (1855) = **Werneria nubigena** Kunth

Werneria obtusiloba S. F. Blake, J. Wash. Acad. Sci. 18(18): 489 (1928) = **Werneria heteroloba** Wedd.

***Werneria orbignyana** Wedd., Chloris Andina 1: 85 (1856). Type: 'Hab. BOLIVIE: au sommet de la Cordillère de La Paz! (d'Orbigny, n° 338).'

**Werneria mandoniana* Wedd. ex Klatt, Ann. K. K. Naturh. Hofmus. Wien 9: 367 (1894). Type: [Bolivia:] 'Hab.: Prov. Larecaja, viciniis Sorata, valle inter las trincheras de Chiliata et montem Hlampie, in scopulosis, Alt. Reg. alpina, 3800 m., leg. Mandon, Sept. 1858, Nr. 102.' Holotype: W; isotype: S, US × 2 (01706004 & 01803309).

Bolivia (La Paz), Peru.

***Werneria pectinata** Lingelsh., Repert. Nov. Spec. Regni Veg. 8(157/159): 6 (1910). Type: 'Bolivien: Am Chacaltaya, 4800 m (*Buchtien*, no. 1596!).' Holotype: ?; isotype: US (01098581).

**Werneria ciliata* Wedd. ex Sch.Bip., *Linnaea* 34(5): 530 (Feb. 1866), nom. nud. pro syn. (based on *Mandon* 99)

**Wereneria knocheae* Perkins, Bot. Jahrb. Syst. 49: 230 (1913). Types: 'Bolivien: Aguila, 17° südl. Breite, 67° westl. Länge, an der Cordillera Real, 5200 m ü. M. (EDITH KNOCHE n. 2, 14, 21. – Im April 1909 blühend).'
Syntypes: B†.

Bolivia (La Paz), Peru.

Puna Peruana.

5200 m.

April.

***Werneria plantaginifolia** Wedd. ex Klatt, Ann. K. K. Naturh. Hofmus. Wien 9: 367 (1894). Type: [Bolivia:] 'Hab.: Prov. Larecaja, viciniis Sorata, prope las trincheras de Chiliata, in graminosis, Reg. alpina, 3800 m., leg. *Mandon*, Mart.-Mai 1859, Nr. 89.' Holotype: W; isotypes: K, S.

Bolivia (La Paz), Peru.

Alpine grassland.

3800 m.

March–May.

Werneria poposa Phil., Anales Mus. Nac. Chile, Bot. 8: 40 (1891) = **Xenophyllum poposum** (Phil.) V. A. Funk

***Werneria pygmaea** Gillies ex Hook. & Arn., J. Bot. (Hooker) 3: 348 (1841). Type: 'Valle de los Ciegos, Andes of Mendoza; *Dr. Gillies*.'

Werneria rhizoma Remy in Gay, Hist. Chile, Bot. 4: 215 (1849). Type: [Chile:] 'Se halla en las cordilleras de Ovalle, á los Patos.' Holotype: P.

**Werneria apiculata* Sch.Bip., *Bonplandia* 4(4): 52 (1856). Type: 'Meine *Werneria apiculata* kommy unter 2 Nummern von sterilen Andenweiden vor.' [Note: In a later list of determinations it is clear that these were *Lechler* 1737 and 1964 from Peru. Inference from Schultz Bipontinus' paper (Schultz Bipontinus, 1856) is that these were collected between May (cf. *Lechler* 1710 – *Werneria brachypappa*) and June 1854 (cf. *Lechler* 1963 – *Achyropappus cryptocephalus*).] [Isosyntype (*Lechler* 1737): S]

Werneria pygmaea Gillies ex Hook. & Arn. var. ε *apiculata* (Sch.Bip.) Wedd., *Chloris Andina* 1: 84 (1856).

Werneria brachypappus Sch.Bip., *Bonplandia* 4(5): 53 (1856), non Phil. (1873). Type: [Peru:] '[*Lechler*] 1710a, in uliginosis Cord. de Tuno, Mai 1854 in Cherleria ähnlichen Rasen, ...' Holotype: ?P.

Argentina, Bolivia (Cochabamba, La Paz, Potosí), Chile, Colombia, Ecuador, Peru, Venezuela.

'Pajonales higrófilos de las vegas altoandinas de la Provincia Puneño Peruana' [Peruvian Puna Province altoandean hygrophilous meadows], 'Bofedales plantas altoandinos' [altoandean peat bogs].

3500–4800 m.

February–June.

Werneria pygmaea Gillies ex Hook. & Arn. ε *apiculata* (Sch.Bip.) Wedd., *Chloris Andina* 1: 84 (1856) =

Werneria pygmaea Gillies ex Hook. & Arn.

Werneria rhizoma Remy in Gay, Hist. Chile, Bot. 4: 215 (1849) = **Werneria pygmaea** Gillies ex Hook. & Arn.

Werneria rosenii R. E. Fr., Nova Acta Regiae Soc. Sci. Upsal., ser. 4, 1(1): 90 (1905) = **Xenophyllum rosenii** (R. E. Fr.) V. A. Funk

Werneria sedoides S. F. Blake, J. Wash. Acad. Sci. 18(18): 493 (1928) = **Xenophyllum marcidum** (S. F. Blake) V. A. Funk

Werneria setosa* Wedd. ex Sch.Bip., *Linnaea* 34(5): 530 (Feb. 1866), nom. nud. pro syn. = **Misbrookea strigosissima (A. Gray) V. A. Funk

***Werneria solivifolia** [as *solivaefolia*] Sch.Bip., *Bonplandia* 4(4): 53 (1856). Type: [Peru:] 'Nun kimmen noch zwei neue Wernerien zur Aburtheilungm welche mir unter [*Lehmann*] Nr. 1710, in uliginosis Cord. de Tuno, Mai 1854 in Cherleria ähnlichen Rasen, in welchen die kleinen Köpfchen versenkt waren, wachsend, mitgetheilt wurden.' Note: In a subsequent listing it appears that *Werneria brachypappa* was based on 1710a, and *W. solivaefolia*.

Bolivia (La Paz, Potosí), Peru.
May.

***Werneria spathulata** Wedd., *Chloris Andina* 1: 85 (1856). Type: 'Hab. BOLIVIE: partie supérieure du ravin de Chuquiaguillo, dans les pelouses un peu tourbeuses de la Lancha!, Cordillère de La Paz (Wedd.).' Holotype: P.

Argentina, Bolivia (La Paz), Chile, Peru.

Werneria staffordiae Sandwith, *Hooker's Ic. Pl.*, ser. 5, 5 (vol. 35 of whole work): tab. 3424 – pp. 1–2, (1950) =

Xenophyllum staffordiae (Sandwith) V. A. Funk

Werneria steubelii [as *stübelii*] Hieron., *Bot. Jahrb. Syst.* 21(4): 362 (1896) = **Werneria nubigena** Kunth

***Werneria staticifolia** [as *staticaeifolia*] Sch.Bip., *Bonplandia* 4(4): 53 (1856). Type: [Peru:] 'St. Gavan in summis Cordil. jugis Jul. 1854: *Lechler!* Nr. 2212.' Holotype: ?P.

Bolivia (La Paz), Peru.

July.

Werneria strigosissima* A. Gray, *Proc. Amer. Acad. Arts* 5: 140 (1861) = **Misbrookea strigosissima (A. Gray)

V. A. Funk

***Werneria villosa** A. Gray, *Proc. Amer. Acad. Arts* 5: 139 (1861). Type: 'High Andes of Peru near Alpamarca [Collections of the United States South Pacific Exploring Expedition under Captain Wilkes].' Holotype: GH.

**Werneria caulescens* Griseb., *Abh. Königl. Ges. Wiss. Göttingen* 24(1): 208 (March–April 1879); *Symb. Fl.*

Argent.: 208 (1879). Types: 'Syn. *W. nubigena* var. *caulescens* Wedd. ... S.: Nevado del Castillo. (And. boliv.)'

Note: Weddell (1856: 81) only indicated that four of his varieties of *Werneria nubigena* were represented by collections of *Gay* and *Dombey* from Peru. Bolivian collections listed, *Weddell* (3952, 4750) and *d'Orbigny* (336), were not related to specific varieties. Two subvarieties, *leioscapa* and *erioscapa* were also listed under var. δ *caulescens* – no type material was indicated.

Argentina, Bolivia (La Paz), Peru.

Puna Peruana.

3000–4500 m.

January–April.

Werneria weddellii Phil., *Anales Mus. Nac. Chile, Bot.* 8: 40 (1891) = **Xenophyllum weddellii** (Phil.) V. A. Funk

Werneria wernerioides (Wedd.) Kuntze, *Revis. Gen. Pl.* 3(3): 184 (1898) = **Senecio breviscapus** DC.

Wiborgia Roth, *Catal. Bot.* 2: 112 (1800), nom. rej., non *Viborgia* Moench (1794), nec *Wiborgia* Thunb. (1800)[LEGUMINOSAE], nom. cons. = **Galinsoga** Ruiz & Pav.

Wiborgia acmella Roth, *Catal. Bot.* 2: 112 (1800) = **Galinsoga parviflora** Cav.

Wiborgia brachystephana (Otto) Heynh., *Nomencl. Bot. Hort.*: 707 (1846), nom. illegit. = **Galinsoga quadriradiata** Ruiz & Pav.

Wiborgia? oblongifolia Hook., *Bot. Misc.* 2: 226 (1831) = **Eclipta prostrata** (L.) L.

Wiborgia parviflora (Cav.) Kunth in *Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 201 (1818) = **Galinsoga parviflora** Cav.

Wiborgia urticifolia Kunth in *Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl.* 4 (ed. folio): 201, t. 389 (1818) = **Galinsoga quadriradiata** Ruiz & Pav.

Wikstroemia Spreng., *Kongl. Vetensk. Akad. Handl.*: 167 (1821), nec *Wikstroemia* Schrader (1821), nom. rej. [THEACEAE], non *Wikstroemia* Endl. (1833), nom. cons. [THYMELEACEAE].

Willoughbya Neck. ex Kuntze, *Revis. Gen. Pl.* 1: 371 (1891) = **Mikania** Willd.

Willoughbya bangii Rusby, *Mem. Torrey Bot. Club* 3(3): 55 (1893) = **Mikania decora** Poepp.

Willoughbya banisteriae (DC.) Kuntze, *Revis. Gen. Pl.* 1: 371 (1891) = **Mikania banisteriae** DC.

Willoughbya charua (Griseb.) Kuntze, *Revis. Gen. Pl.* 1: 372 (1891) = **Ophryosporus charua** (Griseb.) Hieron.

Willoughbya cordifolia (L.f.) Kuntze, *Revis. Gen. Pl.* 3(3): 184 (1898) = **Mikania cordifolia** (L.f.) Willd.

Willoughbya dioscoreoides Rusby, Mem. Torrey Bot. Club 6(1): 58 (1896) = **Mikania dioscoreoides** (Rusby) B. L. Rob.

Willoughbya divaricata (Poepp.) Kuntze, Revis. Gen. Pl. 1: 372 (1891) = **Mikania parviflora** (Aubl.) H. Karst.

Willoughbya ferruginea Rusby, Mem. Torrey Bot. Club 6(1): 58 (1896) = **Mikania banisteriae** (Rusby) Buchtien

Willoughbya gabrieli (Baker) Kuntze, Revis. Gen. Pl. 1: 372 (1891) = **Mikania banisteriae** DC.

Willoughbya guaco (Humb. & Bonpl.) Kuntze, Revis. Gen. Pl. 1: 372 (1891) = **Mikania guaco** Humb. & Bonpl.

Willoughbya haenkeana (DC.) Kuntze, Revis. Gen. Pl. 1: 372 (1891) = **Mikania haenkeana** DC.

Willoughbya hieronymi Rusby, Bull. New York Bot. Gard. 4(14): 383 (1907) = **Mikania speciosa** DC.

Willoughbya houstonis (L.) Kuntze, Revis. Gen. Pl. 1: 373 (1891) = **Mikania houstoniana** (L.) B. L. Rob.

Willoughbya imrayana (Griseb.) Kuntze, Revis. Gen. Pl. 1: 372 (1891) = **Mikania hookeriana** DC.

Willoughbya lanuginosa (DC.) Kuntze, Revis. Gen. Pl. 1: 372 (1891) = **Mikania lanuginosa** DC.

Willoughbya leucophylla Rusby, Bull. New York Bot. Gard. 4(14): 382 (1907) = **Mikania leucophylla** (Rusby) B. L. Rob.

Willoughbya lindleyana (DC.) Kuntze, Revis. Gen. Pl. 1: 372 (1891) = **Mikania lindleyana** DC.

Willoughbya longiacuminata Rusby, Mem. Torrey Bot. Club 6(1): 59 (1896) = **Mikania longiacuminata** (Rusby) B. L. Rob.

Willoughbya longiflora Rusby, Bull. New York Bot. Gard. 4(14): 382 (1907) = **Mikania longiflora** (Rusby) B. L. Rob.

Willoughbya micrantha (Kunth) Rusby, Mem. Torrey Bot. Club 4(3): 211 (1895) = **Mikania micrantha** Kunth

Willoughbya officinalis (Mart.) Kuntze, Revis. Gen. Pl. 1: 372 (1891) = **Mikania officinalis** Mart.

Willoughbya phyllopora (Griseb.) Kuntze, Revis. Gen. Pl. 3(3): 184 (1898) = **Mikania urticifolia** Hook. & Arn.

Willoughbya platyphylla (DC.) Kuntze, Revis. Gen. Pl. 1: 372 (1891) = **Mikania hookeriana** DC.

Willoughbya polystachya (DC.) Kuntze, Revis. Gen. Pl. 1: 372 (1891). NB: Kuntze included *M. psilostachya* DC. and *M. scabra* DC. under this synonym and did not provide the combinations *W. psilostachya* and *W. scabra* as indicated by King & Robinson (1987: 573)

Willoughbya scandens (L.) Kuntze var. *congesta* (DC.) Kuntze, Revis. Gen. Pl. 3(3): 184 (1898) = **Mikania congesta** DC.

Willoughbya scandens (L.) Kuntze var. *periplocifolia* (Hook. & Arn.) Kuntze, Revis. Gen. Pl. 1: 372 (1891) = **Mikania periplocifolia** Hook. & Arn.

Willoughbya speciosa (DC.) Kuntze, Revis. Gen. Pl. 1: 373 (1891) = **Mikania speciosa** DC.

Willoughbya stipitata (Sch.Bip. ex Miq.) Kuntze, Revis. Gen. Pl. 1: 373 (1891) = **Mikania parviflora** (Aubl.) H. Karst.

Willoughbya trifolia Rusby, Bull. New York Bot. Gard. 4(14): 382 (1907) = *Mikania ternata* (Vell.) B. L. Rob.

Willoughbya variabilis (Meyen & Walp.) Kuntze, Revis. Gen. Pl. 1: 373 (1891) = **Mikania micrantha** Kunth

Willoughbya vitifolia (DC.) Kuntze, Revis. Gen. Pl. 1: 373 (1891) = **Mikania vitifolia** DC.

Wollastonia DC. ex Decne, Nouv. Ann. Mus. Paris 3: 414 (1834) = **Melanthera** Rohr

Woodvillea DC., Prodr. 5: 318 (1836) = **Erigeron** L.

Wuerschmittia Sch.Bip. ex Walp., Repert. 6: 161 (1846) = **Melanthera** Rohr

Wulffia Neck. ex Cass., Dict. Sci. Nat. 29: 491 (1823) = **Tilesia** G. Mey.

Wulffia baccata* (L.f.) Kuntze, Revis. Gen. Pl. 3(3): 184 (1898) = **Tilesia baccata (L.) Pruski

Wulffia baccata (L.f.) Kuntze var. *discoidea* S. F. Blake, J. Wash. Acad. Sci. 28: 491 (1938) = **Tilesia baccata** (L.) Pruski

Wulffia capitata (G. Mey.) Sch.Bip., Linnaea 21: 246 (1848) = **Tilesia baccata** (L.) Pruski

Wulffia debilis Cabrera, Notas Mus. La Plata, Bot. 2(16): 178 (1937) = **Hymenostephium debile** (Cabrera) Cabrera

Wulffia deltoidea (Michx.) Gómez [de la Maza], Dicc. Bot. Nom. Vulg. Cub. & Puerto-Riquiños: 26 (1889) = **Melanthera nivea** (L.) Small

Wulffia elongata Miq., Stirp. Surinam. Select. : 193 (1850) = **Tilesia baccata** (L.) Pruski

Wulffia hastata (Walter) Gómez [de la Maza], Anales Soc. Esp. Hist. Nat. 19: 274 (1890) = **Melanthera nivea** (L.) Small

Wulffia havanensis DC., Prodr. 5: 563 (1836) = **Tilesia baccata** (L.) Pruski
Wulffia [sub *Wulfia*] *longifolia* Gardner, London J. Bot. 7: 293 (1848) = **Tilesia baccata** (L.) Pruski
Wulffia maculata (Ker Gawl.) DC., Prodr. 5: 563 (1836) = **Tilesia baccata** (L.) Pruski
Wulffia membranifolia (Poir.) DC., Prodr. 5: 549 (1836) = **Tilesia baccata** (L.) Pruski
Wulffia platyglossa (Cass.) DC., Prodr. 5: 563 (1836) = **Tilesia baccata** (L.) Pruski
Wulffia quitensis Turcz., Bull. Soc. Imp. Naturalistes Moscou 24(1): 182 (1851) = **Tilesia baccata** (L.) Pruski
Wulffia scandens DC., Prodr. 5: 564 (1836) = **Tilesia baccata** (L.) Pruski
Wulffia [sub *Wulfia*] *suffruticosa* Gardner, London J. Bot. 7: 292 (1848) = **Tilesia baccata** (L.) Pruski

Wyomingia A. Nelson, Bull. Torrey Bot. Club 26(5): 249 (1899) = **Erigeron** L.

X

Xanthidium Delpino, Studi Lign. Anem. Comp. Artem. : 17 (1871) = **Ambrosia** L.

Xanthium L., Sp. Pl. : 987 (1753).

Xanthium L. sect. *Acanthoxanthium* DC., Prodr. 5: 523 (1836). Type: not cited. [Note: Frequently Millspaugh & Sherff (1918) are cited as having selected the lectotype as *Xanthium spinosum* L., but no such statement was made by them.]

Xanthium L. sect. II. *Akanthoplium* Wallr., Beitr. Bot. 1(2): 228/241 (1844), nom. illegit. superfl., based on *Xanthium* sect. *Acanthoxanthium* DC.

Acanthoxanthium (DC.) Fourr., Ann. Soc. Linn. Lyon, ser. 2, 17: 110 (1869). Type: *Acanthoxanthium spinosum* (L.) Fourr. = **Xanthium spinosum** L.

Lectotype (selected by Fourreau, Ann. Soc. Linn. Lyon., ser. 2, 17: 110 (1869)): **Xanthium strumarium** L.

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Note: Cronquist (1994: 64–65) accepted a broad species concept, although still accepting 3 spp. in the genus. The southern South American species, *X. ambrosioides* Hook. & Arn., is included within a slightly broader

concept of *X. spinosum* given in this checklist below. If considered as a separate entity it is easy to separate out; it is not present in Bolivia, but rather an endemic of Argentina (Patagonia).

Note: Names of hybrids have been omitted from the following list, and only one name could not be traced – *X. spinosum* L. 'forma *acutifolium* D. N. Christiansen 1929: 70', a name cited by Widder (1964: 76) as a synonym of *X. spinosum* L. var. *laciniatum* (Scheuerm. & Thell. ex Widder) Widder.

Key to species

- Petiole subtended by an axillary 3-fid spine; leaves narrowly rhomboid, discolorous, whitish beneath; bur beakless or with 1 beak *X. spinosum*
Plants spineless; leaves triangular, base cordate, concolorous; bur with 2 beaks *X. strumarium*

Xanthium acerosum Greene, Pittonia 4: 63 (1899) = **Xanthium strumarium** L.

Xanthium acutilobum Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser. 4(1): 6 (1918) = **Xanthium strumarium** L.

Xanthium acutum Greene, Pittonia 4: 62 (1899) = **Xanthium strumarium** L.

Xanthium affine Greene, Pittonia 4: 60 (1899) = **Xanthium strumarium** L.

Xanthium albinum (Widder) Scholz & Sukopp, Verh. Bot. Vereins Brandenb. 98-100: 47 (1960), nom. nov. = **Xanthium strumarium** L.

Xanthium albinum (Widder) H. Scholz ssp. *ripicola* (Holub) J. Dostal, Folia Mus. Rer. Nat. Bohem. Occid., Bot., 21: 12 (1984) = **Xanthium strumarium** L.

Xanthium ambrosioides Hook. & Arn., J. Bot. (Hooker) 3(No. 22): 310 (1841) = **Xanthium spinosum** L.

Xanthium americanum Walt., Fl. Carol. : 231 (1788) = **Xanthium strumarium** L.

Xanthium antiquorum Wallr., Beitr. Bot. 1(2): 229 (1844) = **Xanthium strumarium** L.

Xanthium arcuatum Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser. 4(1): 4 (1918) = **Xanthium strumarium** L.

Xanthium arenarium Lasch, Bot. Zeit. 14: 411 (1856) = **Xanthium strumarium** L.

Xanthium aridum St. John, Northw. Sci. 2(3): 93, fig. 4 (1928) = **Xanthium strumarium** L.

Xanthium armatum Humb. & Bonpl. ex Wallr., Beitr. Bot. 1(2): 242 (1844) = **Xanthium spinosum** L.

Xanthium artemisioides (Willd.) Delpino, Studi Lign. Anem. Comp. Artem. : 18 (1871) = **Ambrosia arborescens** Mill.

Xanthium australe Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser., 4(2): 37 (1919) = **Xanthium strumarium** L.

Xanthium barcinonense Sennen, Bull. Géogr. Bot. 24 (Nos. 295-297): 224 (1914) = **Xanthium strumarium** L.

Xanthium brasiliicum Vell., Fl. Flum. Icones 10: tab. 23 (1831) = **Xanthium strumarium** L.

Xanthium brevirostre Wallr., Beitr. Bot. 1(2): 228/235 (1844) = **Xanthium strumarium** L.

Xanthium bubalocarpon Bush, Rep. (Annual) Missouri Bot. Gard. 17: 123 (1906) = **Xanthium strumarium** L.

Xanthium californicum Greene, Pittonia 4: 62 (1899) = **Xanthium strumarium** L.

Xanthium calvum Millsp. & Sherff, Publ. Field Mus. Nat. Hist. Bot. Ser., 4: 35 (1919) = **Xanthium strumarium** L.

Xanthium campestre Greene, Pittonia 4: 61 (1899) = **Xanthium strumarium** L.

Xanthium canadense Mill., Gard. Dict., ed. 8, No. 2 (1768) = **Xanthium strumarium** L.

Xanthium canescens (Costa) Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 121 (1923) = **Xanthium spinosum** L.

Xanthium catharticum Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 216 (1818) = **Xanthium spinosum** L.

Xanthium cavanillesii Schouw, Ann. Sci. Nat. Bot. 12: 357 (1849) = **Xanthium strumarium** L.

Xanthium cenchroides Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser. 4(2) : 30 (1918) = **Xanthium strumarium** L.

Xanthium chasei Fernald, Rhodora 48: 66 (1946) = **Xanthium strumarium** L.

Xanthium chinense Mill., Gard. Dict. ed. 8: No. 4 (1768) = **Xanthium strumarium** L.

Xanthium chinense Mill. var. *globuliforme* C. Shull, Bot. Gaz. 83: 385 (1927) = **Xanthium strumarium** L.

Xanthium cloessplateaum D. Z. Ma, Acta Bot. Bor.-Occid. Sin. 11(4): 346 (1991) = **Xanthium strumarium** L.

Xanthium commune Britton, Man. Fl. North. States Canad.: 912 (1901) = **Xanthium strumarium** L.

Xanthium cordifolium Stokes, Bot. Mat. Med. 4: 380 (1812) = **Xanthium strumarium** L.

Xanthium crassifolium Millsp. & Sherff, Publ. Field Mus. Nat. Hist. Bot. Ser. 4(1): 5 (1818) = **Xanthium strumarium** L.

Xanthium cuneatum Moench, Meth. Suppl. : 300 (1802) = **Xanthium strumarium** L.

Xanthium curvescens Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser. 4(2): 25 (1919) = **Xanthium strumarium** L.

Xanthium cylindricum Millsp. & Sherff, Publ. Field. Mus. Nat. Hist., Bot. Ser. 4(1): 4 (1918) = **Xanthium strumarium** L.

Xanthium decalvatum Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 72 (1923) = **Xanthium strumarium** L.

Xanthium discolor Wallr., Beitr. Bot. 1(2): 232 (1844) = **Xanthium strumarium** L.

Xanthium echinatum Murray var. *cavanillesii* (Schouw) O. Bolòs & J. Vigo, Collect. Bot., 17(1): 90 (1987)[1988] = **Xanthium strumarium** L.

Xanthium echinatum Murray ssp. *italicum* (Moretti) O. Bolòs & J. Vigo, Collect. Bot., 17(1): 90 (1987)[1988] = **Xanthium strumarium** L.

Xanthium echinatum Murray var. *italicum* (Moretti) O. Bolòs & J. Vigo, Collect. Bot., 17(1): 90 (1987)[1988] = **Xanthium strumarium** L.

Xanthium fruticosum L.f., Suppl. Pl. : 418 (1782), based on **Ambrosia arborescens** Mill. = **Ambrosia arborescens** Mill.

Xanthium fuscescens Jord. & Fourr., Brev. Pl. Nov. fasc. 1: 36 (1866) = **Xanthium strumarium** L.

Xanthium glabratum Britton, Man. Fl. North. States Canad. : 912 (1901) = **Xanthium strumarium** L.

Xanthium glanduliferum Greene, Pittonia 4: 61 (1899) = **Xanthium strumarium** L.

Xanthium globosum C. Shull, Bot. Gaz. 59: 482 (1915) = **Xanthium strumarium** L.

Xanthium homothalamum Spreng., Neue Entdeck. 1: 259 (1819 or before Aug. 1820) = **Xanthium strumarium** L.

Xanthium inaequilaterum DC., Prodr. 5: 523 (1836) = **Xanthium strumarium** L.

Xanthium indicum DC., Prodr. 5: 523 (1836) = **Xanthium strumarium** L.

Xanthium inflexum Mack. & Bush, Rep. Missouri Bot. Gard. 1905, 106 (1905) = **Xanthium strumarium** L.

Xanthium italicum Moretti, Diar. Phys. Chem. Hist. Nat. 5: 8 (1822); De quibusdam plantis Italiae, Decas Quinta : 8 (1822) = **Xanthium strumarium** L.

Xanthium italicum Moretti var. *albinum* Widder, Repert. Spec. Nov. Regni Veg. 20: 105 (1923) = **Xanthium strumarium** L.

Xanthium japonicum Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 31 (1923) = **Xanthium strumarium** L.

Xanthium leptocarpum Millsp. & Sherff, Publ. Field Mus. Nat. Hist. Chicago, Bot. Ser. 4: 3 (1918) = **Xanthium strumarium** L.

Xanthium longirostre Wallr., Beitr. Bot. 1(2): 237 (1844) = **Xanthium strumarium** L.

Xanthium macounii Britton, Man. Fl. North. States Canad. : 913. (1901) = **Xanthium strumarium** L.

Xanthium macrocarpum DC., Fl. France, Suppl. [5], 6: 356 (1815) = **Xanthium strumarium** L.

Xanthium macrocarpum DC. [var.] β *glabratum* DC., Prodr. 5: 523 (836), nom. illegit. pro *X. americanum* Walt. & *X. canadense* Mill. = **Xanthium strumarium** L.

Xanthium macrocarpum DC. var. *laciniatum* Pouzolz, Fl. Dép. Gard 2(1): 2, tab. 6 (1857) = **Xanthium strumarium** L.

Xanthium maculatum Raf., Amer. Monthly Mag. : 344 (1818); Amer. J. Sci., Ser. 1(1): 151 (1819) = **Xanthium strumarium** L.

Xanthium medium Nossotovskiy, Izv. Imp. Bot. Sada Petra Velikago [Bull. Jard. Imp. Bot. Pierre le Grand] 14(4-6): 454 (1914) = **Xanthium spinosum** L.

Xanthium mongolicum Kitag., Rep. First Sc. Exped. Manchoukuo, Sect. 4, 4: (Index Fl. Jehol.): 97 (1936) = **Xanthium strumarium** L.

[*Xanthium monoicum* Gilib., Fl. Lituan. Inch. 1: 170 (1782), opera utique oppressa = **Xanthium strumarium** L.]

Xanthium multifidum Larranaga, Escritos Damaso Antonio Larranaga 1: 28, lám. 117 (1922) [Pub. Inst. Hist. Geog. Urug.], nom. illegit., inval. = **Xanthium spinosum** L.

Xanthium natalense Widder, Repert. Spec. Nov. Regni Veg. 51: 274 (1937) = **Xanthium strumarium** L.

Xanthium nigri Ces., Pass. & Gibelli, Comp. Fl. Ital. : 437 (1877) = **Xanthium strumarium** L.

Xanthium occidentale Bertol., Lucubr. re Herb. : 38 (1822), nom. illegit., superfl. = **Xanthium strumarium** L.

Xanthium orientale* L., Sp. Pl. (ed. 2) 2: 1400 (1763) = **Xanthium strumarium L.

Xanthium orientale L. var. *albinum* (Widder) Adema & M. T. Jansen, Gorteria 9(9): 302 (1979) = **Xanthium strumarium** L.

- Xanthium orientale* L. forma *laciniatum* (Pouzolz) Thell. ex Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 80 (1923) = **Xanthium strumarium** L.
- Xanthium orientale* L. var. *riparium* (Itzigs. & Hertsch) Adema & M. T. Jansen, Gorteria, 9(9): 303 (1979) = **Xanthium strumarium** L.
- Xanthium oviforme* Wallr., Beitr. Bot. 1(2): 240 (1844) = **Xanthium strumarium** L.
- Xanthium palustre* Greene, Pittonia 4: 63 (1899) = **Xanthium strumarium** L.
- Xanthium parvifolium* DC., Prodr. 5: 524 (1836) = **Xanthium spinosum** L.
- Xanthium pensylvanicum* Wallr., Beitr. Bot. 1(2): 240 (Aug. 1844) = **Xanthium strumarium** L.
- Xanthium pennsylvanicum* Gand., Bull. Soc. Bot. France 65: 54 (1918), nom. illegit. = **Xanthium strumarium** L.
- Xanthium pennsylvanicum* Gand. var. *laciniatum* C. Shull & Sherff, Bot. Gaz. 92: 208 (1931) = **Xanthium strumarium** L.
- Xanthium pungens* Wallr., Beitr. Bot. 1(2): 227 (1844) = **Xanthium strumarium** L.
- Xanthium pungens* Wallr. var. *cylindricum* (Millsp. & Sherff) Widder, Repert. Spec. Nov. Regni Veg. 20: 167 (1923) = **Xanthium strumarium** L.
- Xanthium pungens* Wallr. var. *denudatum* Widder, Repert. Spec. Nov. Regni Veg. 20: 69 (1923) = **Xanthium strumarium** L.
- Xanthium pungens* Wallr. var. *globosum* (Shull) Widder, Repert. Spec. Nov. Regni Veg. 20: 166 (1923) = **Xanthium strumarium** L.
- Xanthium riparium* Itzigs. & Hertsch, Bot. Zeit. 12: 34 (1854) = **Xanthium strumarium** L.
- Xanthium riparium* Lasche, Bot. Zeit. 14: 412 (1856), nom. illegit. = **Xanthium strumarium** L.
- Xanthium ripicola* J. Holub, Folia Geobot. Phytotax., 11(1): 83 (1976), nom. nov. pro *X. riparium* Lasche = **Xanthium strumarium** L.
- Xanthium roxburghii* Wallr., Beitr. Bot. 1(2): 233 (1844) = **Xanthium strumarium** L.
- Xanthium saccharatum* Wallr., Beitr. Bot. 1(2): 228 (1844) = **Xanthium strumarium** L.
- Xanthium saccharatum* Wallr. ssp. *aciculare* Widder, Repert. Spec. Nov. Regni Veg. 21(8–20): 286 (1925) = **Xanthium strumarium** L.
- Xanthium saccharatum* Wallr. ssp. *commune* (Britton) Widder, Repert. Spec. Nov. Regni Veg. 21(8–20): 286 (1925) = **Xanthium strumarium** L.
- Xanthium sibiricum* Patrin ex Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 32 (1923) = **Xanthium strumarium** L.
- Xanthium sibiricum* Patrin ex Widder var. *subinerme* (C. Winkler) Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 34, 36 = **Xanthium strumarium** L.
- Xanthium silphi[il]folium* Greene, Pittonia, 4: 60 (1899) = **Xanthium strumarium** L.
- Xanthium speciosum* Kearney, Bull. Torrey Bot Club 24(12): 574 (1897) = **Xanthium strumarium** L.
- Xanthium sphaerocephalum* Salzm. ex Ball, J. Linn. Soc., Bot. 16: 503 (1878), nom. nud. pro syn. = **Xanthium strumarium** L.
- *Xanthium spinosum** L., Sp. Pl. : 987 (1753). Type: ‘Habitat in Lusitania. †.’ Lectotype (selected by Wijnands, Bot. Commelins : 87, 1983): Herb. Linn. No. 1113.3 (LINN).
- Xanthium catharticum* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 216 (1818). Type: [Ecuador:] ‘Crescit in Regno Quitensi, prope Chillo et Quito, alt. 1315 hex. † Floret Martio.’ [Humboldt & Bonpland ‘Bonpl. mss. n. 3006. Quito’]. Holotype: P-Bonpl.
- Xanthium spinosum* L. [var.] β *brachyacanthum* DC., Prodr. 5: 523 (1836). Type: ‘In specimine Brasiliano midi obvio ex comp. Bras. . 867, spinae multò breviores quàm in Europaeis. ... (v.s. in h. Mus. reg. Par.)’. Holotype: P; isotype: G-DC.
- Xanthium parvifolium* DC., Prodr. 5: 524 (1836). Type: ‘· ? Patr. ign. verisim. Amer. austr. ... (v.s. comm. ab am. Delessert.)’. Holotype: G-DC.
- Xanthium ambrosioides* Hook. & Arn., J. Bot. (Hooker) 3(No. 22): 310 (1841). Types: ‘Los Caldanes, Province of Cordova; Dr. Gillies [96]. Buenos Ayres; Tweedie [see note].’ Syntypes: K. Note: There is one sheet in K with several collections mounted on it. The *Beechey* and *Chamisso* collections are from California in North America and in addition there is one collection by *Gillies* and two *Tweedie* collections. One of these is labelled and unnumbered, and likened to *Gillies* 96, the other unlabelled and numbered on the sheet as ‘738’. Both the *Tweedie* collections originated from ‘Buenos Ayres’.
- Xanthium armatum* Humb. ex Wallr., Beitr. Bot. 1(2): 228/242 (1844), nom. illegit.
- Xanthium xanthocarpon* Wallr., Beitr. Bot. 1(2): 229/241 (1844). Type: ‘*X. spinosum* Beyrich in herb. amiciss. Sporleder./In den vereinigten Staaten und namentlich in Virginien auf freien Feldern zwischen Staunton

und Charlotteville von *Beyrich* im Monat September fruchttragend entdeckt.' Holotype: ? Note: In Wallroth's earlier key this species was numbered 20 in his listing, not 17 as it appeared later in the fuller description and discussion.

Xanthium eriocarpon Wallr., Beitr. Bot. 1(2): 242 (1844). Type: '*Xanthium ambrosioides* Hook. et Lindl. in lit./ Das von W. Arnott in dem Herbar. general. berol. niedergelegte Exemplar scheint aus Süd-Amerika zu stammen.' Holotype: B†.

Xanthium spinosum L. var. *inermis* Bel, Rev. Bot. Bull. Mens. 11: 481 (1893). Type: 'Au mois d'août dernier [1892], nous avons trouvé sur les bords du Tarn une variété tout à fait inermis qui a attiré notre attention. Nous en avons envoyé des grains à plusieurs jardins botanique de France et, nous-même, nous avons fait un semis considérable. [Bel, s.n.]' Holotype: ?

Xanthium spinosum L. var. *canescens* Costa, Introd. Fl. Cataluña : 160 (1864). Type: 'Hab. ad oras fl Besós pr. Badalona.' Holotype: BC or possibly LE (Herbarium Catalogicum).

Acanthoxanthium spinosum (L.) Fourr., Ann. Soc. Linn. Lyon, ser. 2, 17: 110 (1869).

Xanthium medium Nossotovskiy, Izv. Imp. Bot. Sada Petra Velikago [Bull. Jard. Imp. Bot. Pierre le Grand] 14(4-6): 454 (1914). Type: 'L'auteur [*A. Nossotovskiy*] a decouvert dans le région du Don (Stanitza Gnilovskaia près de Rostov) une remarquable espèce du genre *Xanthium* ...' Holotype: LE.

Xanthium multifidum Larranaga, Escritos Damaso Antonio Larrañaga, 1: 28, pl. 117 (1922) [Pub. Inst. Hist. Geog. Urug.]; cf. Gray Herb. Card Cat., Issue 123. Note: This reference is provided in the major databases, yet there is no p. 28 in vol. 1 of Larranaga's work. Lám. CXVII is a poor sketch (unnamed - the name only appearing in the Explicación at the end of the first volume) of what is undoubtedly of *Xanthium spinosum*. Since it has no dissections, this can only be considered 'nom. illegit., inval.'

Xanthium canescens (Costa) Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 121 (1923).

Xanthium spinosum L. forma *laciniatum* Scheuerm. & Thell. ex Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 135 (1923). Type: 'Hannover, auf den Kartoffelfeldern bei Döhren in einzelnen Exemplaren, mit Wolle vorübergehend eingeschleppt, 10.9.1913, R. SCHEUERMANN'. Holotype: GZU.

Xanthium spinosum L. var. *pseudinermis* Widder, Physis 8(No. 31): 480 (1927). Type: [Argentina:] 'Buenos Aires: Pueyrredón (F. C. C. A.), leg. A. BURKART n° 393, 12-IV-26 (Herb. L. R. PARODI n° 7188) ejemplar tipo, det. F. J. WIDDER.' Syntypes: ?GZU.

Xanthium spinosum L. forma *praecocius* Bitter ex Widder, Phytion (Horn) 11(1 & 2): 75 (1964). Type: 'Da mir das Original selbst nicht zugänglich war, kann wohl dessen photographische Wiedergabe in BITTER 1908: tab. 9, fig. 1 vorläufig als Lectotypus anerkannt werden.'

Xanthium spinosum L. var. *synacanthum* Widder, Phytion (Horn) 11(1 & 2): 77 (1964). Type: [Britain:] 'Cabbage field, Charlton, Worcs, V.-c. 37, 15.8.1955, C.W. BANNISTER, wool advent. fl. of Brit. distrib. by J. E. LOUSLEY No. W/92'. Holotype: originally Herb. LOUSLEY, now in RDG.

Xanthium spinosum L. var. *laciniatum* (Scheuerm. & Thell. ex Widder) Widder, Phytion (Horn) 11(1 & 2): 76 (1964).

Acanthoxanthium spinosum (L.) Fourr. ssp. *catharticum* (Kunth) D. Löve, Lagasalia 5(1): 64 (1975).

Acanthoxanthium ambrosioides (Hook. & Arn.) D. Löve, Lagasalia 5(1): 66 (1975).

Argentina, Bolivia (La Paz, Santa Cruz), Brazil, Chile, Ecuador, Uruguay, USA. Widespread as a weed in many tropical and temperate countries, especially in south and central Europe (but a casual further north - Denmark, England, France), Eastern Africa, Mascarenes, South Africa, Turkey.

Roadsides, pasture, sandy soils.

0-3000 (-3500) m.

Potentially flowering throughout the year.

Vernacular name: CEPA-CABALLO (Ariza Espinar, 2000: 103).

Xanthium spinosum L. [var.] β *brachyacanthum* DC., Prodr. 5: 523 (1836) = ***Xanthium spinosum* L.**

Xanthium spinosum L. var. *canescens* Costa, Introd. Fl. Cataluña : 160 (1864) = ***Xanthium spinosum* L.**

Xanthium spinosum L. var. *inermis* Bel, Rev. Bot. 11: 481 (1893) = ***Xanthium spinosum* L.**

Xanthium spinosum L. var. *laciniatum* (Scheuerm. & Thell.) Widder, Phytion (Horn) 11(1 & 2): 76 (1964) = ***Xanthium spinosum* L.**

Xanthium spinosum L. forma *laciniatum* Scheuerm. & Thell. ex Widder, Repert. Spec. Nov. Regni Veg. 20: 135 (1923) = ***Xanthium spinosum* L.**

Xanthium spinosum L. forma *praecocius* Bitter ex Widder, Phytion (Horn) 11(1 & 2): 75 (1964) = ***Xanthium spinosum* L.**

Xanthium spinosum L. var. *pseudinermis* Widder, Physis 8(No. 31): 480 (1927) = ***Xanthium spinosum* L.**

Xanthium spinosum L. var. *synacanthum* Widder, *Phyton* (Horn) 11(1 & 2): 77 (1964) = ***Xanthium spinosum* L.**

- Xanthium strumarium* L.**, *Sp. Pl.* : 987 (1753). Type: 'Habitat in Europa, Canada, Virginia, Jamaica, Zeylona, Japonia. ♀.' Lectotype (selected by Rechinger, *Fl. Iranica* 164: 39, 1989): Herb. Linn. No. 1113.1 (LINN).
**Xanthium orientale* L., *Sp. Pl.*, ed. 2, 2: 1400 (1763). Type: 'Habitat in China, Japonia, Zeylona.' Lectotype (selected by Jeanmonod in Gamisans & Jeanmonod, *Compl. Prodr. Fl. Corse, Asteraceae I*: 190, 1998): Herb. Linn. No. 1113.2 (LINN). Note: because this material is immature Wisskirchen in Jarvis & Turland (1998: 369) selected an epitype: *Wisskirchen* 230 (BM-000576318); isoepitype: BOCH.
- Xanthium canadense* Mill., *Gard. Dict.*, ed. 8, No. 2 (1768). Type: 'The second sort grows naturally in North America.'
- Xanthium chinense* Mill., *Gard. Dict.* ed. 8: No. 4 (1768). Type: 'The fourth sort grows naturally in China, from whence I have often received the seeds; ...'
- [*Xanthium monoicum* Gilib., *Fl. Lituan. Inch.* 1: 170 (1782) – opera utique oppressa].
- Xanthium americanum* Walt., *Fl. Carol.* : 231 (1788). Type: not cited.
- Xanthium cuneatum* Moench, *Meth. Suppl.* 300 (1802), nom. illegit. superfl. pro *X. orientale* L.
- Xanthium cordifolium* Stokes, *Bot. Mat. Med.* 4: 380 (1812). Type: 'Specimen gathered in Sole's Garden.'
- Xanthium macrocarpum* DC., *Fl. France, Suppl.* [5], 6: 356 (1815). Type: 'Elle a été trouvée dans les vignes du bas Languedoc, par Mademoiselle Lucie Dunal.' Holotype: ?G.
- Xanthium homothalamum* Spreng., *Neue Entdeck.* 1: 259 (1819 or before Aug. 1820). Type: 'Habitat in Brasilia, unde Mertensius adlatam largitus est.' Sprengel noted 'Licet haut perfecta huius plantae exemplaria investigare potuerim' suggesting that he had poor material available. Holotype: ?
- Xanthium maculatum* Raf., *Amer. Monthly Mag.* : 344 (1818); *Amer. J. Sci.*, Ser. 1(1): 151 (1819), nom. nud.
- Xanthium italicum* Moretti, *Diar. Phys. Chem. Hist. Nat.* 5: 8 (1822); *De quibusdam plantis Italiae, Decas Quinta* : 8 (1822). Types: 'Habitat in multis Italiae locis: illam inveni prope mare in regione Porto di Fermo, eamque abundantissimam secus decursum fluminis Padi a viciniis Augustae Taurinorum Ticinum usque perspexi.' Syntypes: ?
- Xanthium occidentale* Bertol., *Lucubr. re Herb.* : 38 (1822), nom. illegit. superfl. pro *X. orientale* L.
- Xanthium brasiliicum* Vell., *Fl. Flum. Icones* 10: tab. 23 (1831). Type: not cited. [Note: name is valid as it is accompanied by a diagnostic dissection].
- Xanthium macrocarpum* DC. [var.] β *glabratum* DC., *Prodr.* 5: 523 (1836), nom. illegit. incl. *X. americanum* Walt. & *X. canadense* Mill.
- Xanthium indicum* DC., *Prodr.* 5: 523 (1836). Types: '• in Ægypto (*Coqueb.*!), in ruderatis Indiae orientalis frequens, verisim. etiam in Chinâ. ... X. Indicum Wall.! cat. et herb. n. 291. *Wight* herb. ... (v. s.)'. Syntypes: G-DC. Note: Apart from the Coquebert collection, there are two duplicates of the 'Wallich 291' material, together with one unlabelled specimen, and one without an obvious collector.
- Xanthium inaequilaterum* DC., *Prodr.* 5: 523 (1836). Type: '• in ruderatis ins. Javae prope Buitenzorg legit cl. Blume. ... (v.s. comm. à cl. invent.)'. Holotype: G-DC.
- Xanthium strumarium* L. var. *canadense* (Mill.) Torr. & A. Gray, *Fl. N. Amer.* 2: 294 (1841-43).
- Xanthium priscorum* Wallr., *Beitr. Bot.* 1(2): 227 (Aug. 1844). Type: not cited, but the same as in *Xanthium antiquorum* Wallr., which was simultaneously published in the same work Note: in Wallroth's account this later appeared as *Xanthium antiquorum* Wallr. (1844: 229), q.v.
- Xanthium abyssinicum* Wallr., *Beitr. Bot.* 1(2): 227/230 (Aug. 1844). Type: '*Xanthium strumarium* Schimp. it. abyss. II. n. 1343./Auf den Sorgho-Feldern Abyssiniens von Schimper d. 19. Juli. 1838 entdeckt. (Herb. amic. Lucae.)'
- Xanthium pungens* Wallr., *Beitr. Bot.* 1(2): 227/231 (Aug. 1844). Type: not cited.
- Xanthium discolor* Wallr., *Beitr. Bot.* 1(2): 228/232 (Aug. 1844). Type: '*Xanthium indicum* Wallich. herb. indic. (1824.) n. 3181. A. in herbar. gener. berolin., ...' Holotype: B†
- Xanthium roxburghii* Wallr., *Beitr. Bot.* 1(2): 228/233 (Aug. 1844). Type: '*Xanthium strumarium* Willd. herb. n. 17469. fol 6. ... In Ost-Indien. *Roxburgh.*' Holotype: B†
- Xanthium brevirostre* Wallr., *Beitr. Bot.* 1(2): 228/235 (Aug. 1844). Types?: '*Xanthium indicum* herb. *Wight.* n. 1446 [In Ostindien. *Wight.* (Herbar. gener. berol.)], ... var. *cordata* pl. *Wallich.* n. 3181.' Syntypes: ?B†. Isosytype: *Wallich* 3181, K-W.
- Xanthium pensylvanicum* Wallr., *Beitr. Bot.* 1(2): 228/236 (Aug. 1844). Types: 'α glandulosum *Xanthium strumarium* Beyrich in Herb. amic. Sporleder. ... von Beyrich auf unfruchtbaren Plätzen bei Ashville (1833) häufig'; β *Xanthium occidentale* Poepp. fl. pensylv. ... von *Poeppig* auf feuchten Wiesen in Pensylvanien im

- Monat September 1824 entdeckt.' The two varieties were described at the same time without reference as to which was typical.
- Xanthium longirostre* Wallr., Beitr. Bot. 1(2): 228/237 (Aug. 1844). Types: '*Xanthium macrocarpum* C. Ehrenb. n. 195. ... In Westindien auf St. Thomas und auch auf Haiti von C. Ehrenberg gesammelt (herb. gener. berolin.), und vermuthlich früher schon auf St. Domingo von Bertero entdeckt.' Syntypes: B†.
- Xanthium saccharatum* Wallr., Beitr. Bot. 1(2): 228/238 (Aug. 1844). Type: '*Xanthium macrocarpum* Berlandier n. 1865.'
- Xanthium oviforme* Wallr., Beitr. Bot. 1(2): 228/240 (Aug. 1844). Type: '*Xanthium canadense* Hook. in litt. (herb. general berol.), nec Herm., Mill. et Linn./ Angeblich in Nordamerica und vermutlich in Canada.' Holotype: B†; isotype: K.
- Xanthium antiquorum* Wallr., Beitr. Bot. 1(2): 229 (1844). Types: '*Kotsch. iter. nubic. n. 319., Ehrenb. fl. dalmat. cent. VIII. n. 83./Xanthium Dioscoridis* Gundelsh. in herb. general. berol. .../ An den Ufern des Nils, z. B. bei Chartun in der Provinz Sennaaroder des Tigris. Im Monat Mai mit reifen Früchten; auch in Dalmatien, z. B. bei Castel nuovo von Ehrenberg gefunden und vermuthlich im Orient ziemlich verbreitet.'
- Xanthium cavanillesii* Schouw, Ann. Sci. Nat. Bot., Ser. 3, 12: 357 (1849). Type: 'Buenos-Ayres. Didrichsen.' [ex 'Index seminum horti academici Hauniensis'.]
- Xanthium riparium* Itzigs. & Hertsch, Bot. Zeit. 12: 34 (1854), nom. illegit. superfl. pro *X. macrocarpon* DC.
- Xanthium arenarium* Lasche, Bot. Zeit. 14: 411 (1856). Type: not cited, nor for the four unranked named infraspecific taxa.
- Xanthium riparium* Lasche, Bot. Zeit. 14: 412 (1856). Type: not cited, nor for the four unranked named infraspecific taxa.
- Xanthium macrocarpum* DC. var. *laciniatum* Pouzolz, Fl. Dép. Gard 2(1): 2, tab. 6 (1862). Type: 'Le var. B, rare dans les vignes, à Manduel.' Holotype: ?
- Xanthium strumarium* L. var. *arenarium* (Lasch) Uechtritz, Verh. Bot. Vereins Prov. Brandenburg 3-4: 210 (1862).
- Xanthium fuscescens* Jord. & Fourr., Brev. Pl. Nov. fasc. 1: 36 (1866). Type: 'Hab. in arenosis subhumidis Corsicae; Biguglia prope Bastia, ex dom. E. Revelière.'
- Acanthoxanthium spinosum* (L.) Fourr., Ann. Soc. Linn. Lyon, 2, 17: 110 (1869).
- Xanthium nigri* Ces., Pass. & Gibelli, Comp. Fl. Ital. : 437 (1877). Type: 'Raccolto alle paludi delle Apertole nel Vercellese dal Sig. Avv. F. Negri. Settembre 1869.' Holotype: ?
- Xanthium sphaerocephalum* Salzm. ex Ball, J. Linn. Soc., Bot. 16: 503 (1878), nom. nud. pro syn.
- Xanthium speciosum* Kearney, Bull. Torrey Bot Club 24(12) : 574 (1897). Type: [USA: Eastern Tennessee:] 'Collected by the writer September 16 [1897], near Wolf Creek Station ([T.H. Kearney, Jr.] no. 785) where it grows on the sandy bottom-lands near the French Broad River and is almost certainly indigenous.' Isotype: US (313095).
- Xanthium varians* Greene, Pittonia 4(21): 59 (1899). Type: 'Shady banks of the Columbia River, Klickitat Co., Washington, Oct. 1893, W. N. Suksdorf, n. 1583, distributed as *X. strumarium*.' Holotype: originally in LCU but probably now in WIS; isotype: US (228570).
- Xanthium affine* Greene, Pittonia 4(21): 60 (1899). Type: 'Habitat of the preceding species, and by the same collector, distributed without a specific name, under [Suksdorf] n. 1584.' Holotype: originally in LCU, but probably now in WIS; isotype: US (228571).
- Xanthium silphi[i]folium* Greene, Pittonia, 4(21): 60 (1899). Type: 'The type of this strongly marked species is of Mr. Suksdorf's collecting from the banks of the Columbia, Sept., 1883, the specimen preserved in the U.S. Herbarium.' Holotype: US (46671); isotypes: F × 2.
- Xanthium glanduliferum* Greene, Pittonia 4(21): 61 (1899). Type: 'Collected at Walsh, Assiniboia, 15 Aug., 1895, by Mr. John Macoun, and distributed for *X. Canadense*, but the species is evidently new, and thoroughly distinct. The ticket accompanying my specimen bears the Canadian Survey number 10,910.' Holotype: originally in LCU.
- Xanthium campestre* Greene, Pittonia 4(21): 61 (1899). Types: 'Fertile plains of the Sacramento River, in middle and northern California; the best specimens collected by myself, near Chico, June, 1890; but there exists in the U.S. Herbarium a good one from the Wilkes Expedition obtained near Sacramento.' Although unnumbered, there is a Pickering 1361 which may represent the latter collection – but is was also used by Widder as the type of his *Xanthium decalvatum*, q.v. Syntypes originally in LCU but probably now in WIS.
- Xanthium californicum* Greene, Pittonia 4(21): 62 (1899). Type: 'Common in middle California, especially about San Francisco Bay, being the *X. Canadense* of my Manual and of the Flora Franciscana in large part.' Holotype: originally in LCU but probably now in WIS.

- Xanthium acutum* Greene, Pittonia 4(21): 62 (1899). Type: 'Known by a single specimen obtained at Stockton, California, by Mr. J. A. Sanford, in 1888.' Holotype: originally LCU but probably now in WIS. [qv. Tucker et al. 1989: 202]
- Xanthium palustre* Greene, Pittonia 4(21): 63 (1899). Type: 'Known only from the brackish marshes of Suisun Bay, middle California. An exceedingly well marked species, referred to by me as an indigenous state of *X. Canadense* in the *Flora Franciscana*.' Holotype: ?
- Xanthium acerosum* Greene, Pittonia 4(21): 63 (1899). Type: 'Known only from the valley of the Red River of the North, where it was collected by the writer [E.L. Greene], near Fargo, North Dakota, 4 Sept., 1893.' Holotype: originally at LCU.
- Xanthium glabratum* (DC.) Britton, Man. Fl. North. States Canad. : 912 (1901).
- Xanthium commune* Britton, Man. Fl. North. States Canad. : 912 (1901). Type: 'Type collected by N. L. Britton at Westport, N.Y.'
- Xanthium macounii* Britton, Man. Fl. North. States Canad. : 913. (1901). Type: 'Goose Island, Lake Winnipeg, Manitoba, J. M. Macoun, Aug. 16, 1884. Specimen in the herbarium of the Geological and Natural History Survey of Canada.'
- Xanthium inflexum* Mack. & Bush, Rep. (Annual) Missouri Bot. Gard. 16: 106 (1905). Type: 'Sandy bottoms along the Missouri River in western Misosuri. ... MISSOURI: Courtney, *Bush* 869, September 13, 1900, 1916, October 5, 1903, type, 1804, 1806, October 21, 1902.' Holotype: MO.
- Xanthium oligacanthum* Piper, Contr. U.S. Natl. Herb. 11: 551 (1906). Type: 'Bolles, Walla Walla County, *Piper*, September 18, 1893; also found at Waitsburg by *Horner* (no. B272). The type is in the National Herbarium.' There is a specimen marked as 'holotype' in US (528824), although clearly this can only be a syntype.
- Xanthium bubalocarpon* Bush, Rep. (Annual) Missouri Bot. Gard. 17: 123 (1906). Type: 'TEXAS. Dallas County, [Common on prairie.] *Bush* 1185, September 29, 1900.' Holotype: ?MO; isotype: US (386828).
- Xanthium wootoni* Cockerell ex De Vries, Sp. Var. (Ed. 2) : 140 (1905). Type: 'Last year a very curious instance of a partial loss of prickles was discovered by Mr. Cockerell of East Las Vegas in New Mexico. It is a variety of the American cocklebur, often called sea-burdock, or the hedgehog-burweed, a stout and common weed of the western States. Its latin name is *Xanthium canadense* or *X. commune* and the form referred to is named by Mr. Cockerell *X. Wootoni*, in honour of Professor E. O. Wooton who described the first collected specimens.'
- Xanthium barcinonense* Sennen, Bull. Géogr. Bot. 24(Nos. 295-297): 224 (1914). Type/s: 'Hab.-Catalogne: Barcelone à Can Tunis et à la Farola; Prat del Llobregat.' Syntypes: ?
- Xanthium globosum* C. Shull, Bot. Gaz. 59: 482 (1915). Type: not cited. Note: Shull noted earlier in the discussion that 'this variety was first seen on the Campus of the State University of Kentucky several years ago. ... It has been found to breed true ...' Note: there is a duplicate of material cultivated from the 'type' donated to K by Sherff.
- Xanthium pensylvanicum* Gand., Bull. Soc. Bot. France 65: 54 (1918), nom. illegit. non Wallr. (1844). [Type: 'Hab.: America bor., Pennsylvania Delaware ad Darby Creek (*Mac Elwee* n. 1316!).]
- Xanthium leptocarpum* Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser. 4(1): 3 (1918). Type: 'L. R. Jones, Burlington, Vermont, September 12, 1896 (type in Herb. Field Museum, cat. no. 430860).' Holotype: F (430860).
- Xanthium arcuatum* Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser. 4(1): 4 (1918). Type: 'T.F. Lucy, river shores and low places, Chemung County, New York, October 11, 1896 (type in Herb. Field Museum, cat. no. 4953). Holotype: F (4953).
- Xanthium cylindricum* Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser. 4(1): 4 (1918). Type: 'J.K. Small and A. M. Huger, Chimney Rock to Hendersonville, North Carolina, October 3, 1901 (type in Herb. Field Museum, cat. no. 401312).' Holotype: F (401312).
- Xanthium acutilobum* Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser. 4(1): 6 (1918). Type: 'J. Reverchon, Oak Cliff, Texas, September 2 (type in Herb. Missouri Botanical Garden no. 85603; duplicate sheets in the same herbarium bear the numbers 85470 and 85485).' Holotype: MO; isotypes: MO × 2.
- Xanthium crassifolium* Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser. 4(1): 5 (1918). Type: 'B. Mackensen 123, San Antonio, Texas, October 8 and November 15, 1911 (type in Herb. Field Museum, cat. no. 324122)'. Holotype: F (324122).
- Xanthium curvescens* Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser. 4(2): 25 (1919). Type: 'VERMONT: Orwell, Willard W. Eggleston 1420 [Sept. 23 1899] (type in Hb. Gray).' Holotype: GH (14158); isotype: US (364400).

- Xanthium cenchroides* Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser. 4(2) : 30 (1919). Type: 'TEXAS: near Ferris, J. Reverchon 2332 (type in Hb. Mo. 85563; additional material, *ibid.*, on sheet no. 85564).' Holotype: MO; isotype: MO.
- Xanthium calvum* Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser., 4: 35 (1919). Type: 'California: vicin. of Palo Alto, foothills, [near Stanford Univ. Col.] C.F. Baker 1760 [2.3.13] (Hb. Calif. 131236, type: Hb. Field 226601; Hb. Gray; Hb. Mo. 85385; Hb. N.Y.)'. Holotype: AHUC?; isotypes: F (22601), GH (14154), ?MO, NY (00278100), US (444155).
- Xanthium australe* Millsp. & Sherff, Publ. Field Mus. Nat. Hist., Bot. Ser., 4(2): 37 (1919). Type: [Mexico:] 'TAMAULIPAS: vicin. of La Barra, 8 km. east of Tampico, at sea-level, Dr. Edward Palmer 275.' Holotype: US (463216).
- Xanthium japonicum* Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 31 (1923). Types: 'From the Herb. of the Royal Gardens, Kew, *Oldham*, No. 409. ... Nagasaki (*Oldham*, Hb. Leyd., Berl., Hofm., Gött.) - Japonia (*Buerger*, Hb. Leyd.) - Japonia (T.?, Hb. Leyd.)'. Syntype: *Oldham* 409, GOET (5275).
- Xanthium sibiricum* Patr. ex Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 32 (1923). Types: Under the heading of 'Exsiccatae Widder listed 'Herbarium of the late East India Company, Nr. 3183. - Herbarium Schlagintweit from India and High Asia, Nr. 720, 4360. Henry's Collection from Central China 1885-88, Nr. 51.- Schindler, *Plantae sinenses*, Nr. 205, 212.- Bohnhof, *Voyage au lac Hanka et en Mandchourie*, Nr. 200.- Cavalerie, *Plantes de Chine*, Nr. 3814. - Erbario Biondi, Nr. 299.' Widder also listed many more specimens under 'Gesehene Pflanzen.
- Xanthium sibiricum* Patr. ex Widder var. *subinerme* (C. Winkler) Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 34, 36 (1923).
- Xanthium strumarium* L. var. *hausmanni* Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 49 (1923). Type: 'Von Bedeutung ist eine Form, die von *Hausmann* mehrmals zwischen Bozen und Salurn in Südtirol gefunden wurde.'
- Xanthium pungens* Wallr. var. *denudatum* Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 69 (1923). Type: '... ich nur in einem Exemplar von Kansas, Atchison Co. im Hb. U. W. (leg. *Hitchcock*). Die Exemplare derselben Nummer (727) desselben Exsiccatae-werkes, die im Hb. Wash. liegen, sind normales *X. pungens*.'
- Xanthium decalvatum* Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 72 (1923). Type: 'Herbarium of the U. S. Exploring Expedition under the command of *Capt. Wilkes*, Nr. 1361 (als „*X. strumarium* var. *canadense*“ bezeichnet!).' Holotype: US (528824). Note: See also comments under *X. campestre* Greene, which indicated this is the type of that name also.
- Xanthium orientale* L. forma *laciniatum* (Pouzolz) Thell. ex Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 80 (1923).
- Xanthium italicum* Moretti var. *albinum* Widder, Repert. Spec. Nov. Regni Veg. Beih. 20: 105 (1923). Type: 'Im Elbetal und dessen näherer Umgebung kommen jedoch fast ausschließlich Formen mit etwas dicklichen, eiförmigen, ...'
- Xanthium californicum* Greene var. *oligacanthum* (Piper) Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 112 (1923).
- Xanthium pungens* Wallr. var. *globosum* (C. Shull) Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 166 (1923).
- Xanthium pungens* Wallr. var. *cylindricum* (Millsp. & Sherff) Widder, Repert. Spec. Nov. Regni Veg., Beih. 20: 167 (1923).
- Xanthium saccharatum* Wallr. ssp. *commune* (Britton) Widder, Repert. Spec. Nov. Regni Veg. 21(8-20): 286 (1925).
- Xanthium saccharatum* Wallr. ssp. *aciculare* Widder, Repert. Spec. Nov. Regni Veg. 21(8-20): 286 (1925). Type: not cited, but many, many syntypes appear to have been cited.
- Xanthium chinense* Mill. var. *globuliforme* C. Shull, Bot. Gaz. 83(4): 385 (1927). Type: Cult. material from 'Mr. F. Crevecoeur near Onaga, Kansas in summer of 1909.'
- Xanthium aridum* St. John, Northwest Sci. 2(3): 93, fig. 4 (1928). Type: [U.S.A.: Washington. Gravel benches in Black Canyon, Rattlesnake Hills, 2400 ft. alt. *St. John et al.* 8100, April 8, 1927] Isotype: US (1520630).
- Xanthium pennsylvanicum* Gand. var. *laciniatum* C. Shull & Sherff, Bot. Gaz. 92: 208 (1931). Type: 'Earl E. Sherff 5012, cultivated in experimental garden of University of Chicago, Chicago, Illinois, Oct. 11, 1930'. Holotype: F (636820); isotypes: K, US (1184216). [Note: This material originated 'in a clump on loam soil at one end of a corn field belonging to Mr. CREVECOUER, near Onaga, Kansas, July 19, 1928. ... Burs from the CREVECOUER material were planted by Dr Shell in the summer of 1930 ...']

- Xanthium mongolicum* Kitag., Rep. First Sc. Exped. Manchoukuo, Sect. 4, 4: (Index Fl. Jehol.): 97 (1936). Type: 'Hab. Manshuria: Prov. Hsing-an occid. [----]: In arenosis circa collis Szu-lêng-tzu-shan [----] prope Onyû-to [----] (N.H.K. Oct. 2. 1933 - Typus). Dist. Manshuria.' Holotype: ?
- Xanthium natalense* Widder, Repert. Spec. Nov. Regni Veg. 41: 274 (1937). Type: 'Natal, near Durban, alt. 100'; I. 1902 (J. Medley Wood, NG n. 8943 = Urbeleg = Typus).'
- Xanthium strumarium* L. var. *glabratum* (DC.) Cronquist, Rhodora 47: 403 (1945).
- Xanthium chasei* Fernald, Rhodora 48: 66 (1946). Type: [USA:] 'ILLINOIS: bottomlands of Illinois River near Peoria ..., Sept. 15, 1945, Chase, no. 8205.' Holotype: GH (see following note); isotype: 'in herb. Chase'.
Note: There are two sheets in GH (14156, 14157) both apparently marked as 'syntypes'.
- Xanthium strumarium* L. var. *japonicum* (Widder) Hara, Enum. Sperm. Jap. 2: 279 (1952).
- Xanthium strumarium* L. ssp. *cavanillesii* (Schouw) D. Löve & Dans., Canad. J. Bot. 37(): 205 (1959).
- Xanthium albinum* (Widder) Scholz & Sukopp, Verh. Bot. Vereins Brandenb. 98-100: 47 (1960)
- Xanthium ripicola* J. Holub, Folia Geobot. Phytotax., 11(1): 83 (1976), nom. nov. pro *X. riparium* Lasche, non *X. riparium* Itzigs. & Hertsch (1854) (nom. illegit.).
- Xanthium orientale* L. var. *albinum* (Widder) Adema & M. T. Jansen, Gorteria 9(9): 302 (1979).
- Xanthium orientale* L. var. *riparium* (Itzigs. & Hertsch) Adema & M. T. Jansen, Gorteria, 9(9): 303 (1979).
- Xanthium strumarium* L. var. *wootonii* (Cockerell) W. C. Martin & C. R. Hutchins, Fl. New Mexico, 2: 2041 (1981), nom. inval. (without basionym ref.)
- Xanthium albinum* (Widder) H. Scholz ssp. *riparicola* (Holub) J. Dostal, Folia Mus. Rer. Nat. Bohem. Occid., Bot., 21: 12 (1984).
- Xanthium strumarium* L. forma *purpurascens* S. Priszter, Magyar Fl. Veg. 7: 58 (1985). Type: 'Praematricum: Kunbaracs, 1972. HHBp.'
- Xanthium strumarium* L. ssp. *brasilicum* (Vell.) O. Bolòs & J. Vigo, Collect. Bot., 17(1): 90 (1987)[1988].
- Xanthium echinatum* Murray ssp. *italicum* (Moretti) O. Bolòs & J. Vigo, Collect. Bot., 17(1): 90 (1987)[1988].
- Xanthium echinatum* Murray var. *italicum* (Moretti) O. Bolòs & J. Vigo, Collect. Bot., 17(1): 90 (1987)[1988].
- Xanthium echinatum* Murray var. *cavanillesii* (Schouw) O. Bolòs & J. Vigo, Collect. Bot., 17(1): 90 (1987)[1988].
- Xanthium cloessplateaum* D. Z. Ma, Acta Bot. Bor.-Occid. Sin. 11(4): 346 (1991). Type: 'Ningxia: Tongxing, IX.1984. leg. X. Z. Dong. No. 424.' Holotype: 'Ningxia Agr. Col. Conserv.'
- Xanthium sibiricum* Patrín ex Widder var. *jingyuanense* H. G. Hou & Y. T. Lu Bull. Bot. Res., Harbin 20(3): 249 (2000). Type: 'China. Gansu, Jimgyan, Hongzuizi, alt. 1450 m, riverside, 1998-08-26, H.G. Hou and Y. T. Lu 98018.' Holotype: Herb. Lanzhou University; isotype: PE.
- Xanthium strumarium* L. ssp. *sibiricum* (Patrín ex Widder) Greuter, Willdenowia 33(2): 249 (2003).
- This is a very widespread species, in many warm temperate and subtropical countries, and is perhaps only truly native in Europe having been recorded in the mid-1500s. Widespread in eastern, central and southern Europe. Argentina, Australia, Azores, Bolivia (Santa Cruz), Brazil, Egypt, Hawaii, Iraq, Japan, Mascarenes, Mexico, New Zealand, Russia, Sri Lanka, Turkey, West Indies.
- Disturbed areas, roadsides, field margins.
- 0–2500 m.
- April–November; probably flowering throughout the year.
- Vernacular names: ABROJO, ABOROJO GRANDE, ABROJO MACHO, CADILLO, MALEZA (Freire et al., 2006).
- Xanthium strumarium* L. var. *arenarium* (Lasch) Uechtritz, Verh. Bot. Vereins. Prov. Brandenburg 3–4: 210 (1862) = **Xanthium strumarium** L.
- Xanthium strumarium* L. ssp. *brasilicum* (Vell.) O. Bolòs & J. Vigo, Collect. Bot., 17(1): 90 (1987)[1988] = **Xanthium strumarium** L.
- Xanthium strumarium* L. var. *canadense* (Mill.) Torr. & A. Gray, Fl. N. Amer. 2: 294 (1841-43) = **Xanthium strumarium** L.
- Xanthium strumarium* L. ssp. *cavanillesii* (Schouw) D. Löve & Dans., Canad. J. Bot. 37(): 205 (1959) = **Xanthium strumarium** L.
- Xanthium strumarium* L. var. *glabratum* (DC.) Cronquist, Rhodora 47: 403 (1945) = **Xanthium strumarium** L.
- Xanthium strumarium* L. var. *hausmanni* Widder, Repert. Spec. Nov. Regni Veg. 20: 49 (1923) = **Xanthium strumarium** L.
- Xanthium strumarium* L. var. *japonicum* (Widder) Hara, Enum. Sperm. Jap. 2: 279 (1952) = **Xanthium strumarium** L.
- Xanthium strumarium* L. forma *purpurascens* S. Priszter, Magyar Fl. Veg. 7: 58 (1985) = **Xanthium strumarium** L.

Xanthium strumarium L. ssp. *sibiricum* (Patrin ex Widder) Greuter, Willdenowia 33(2): 249 (2003) = **Xanthium strumarium** L.

Xanthium strumarium L. var. *wootonii* (Cockerell) W. C. Martin & C. R. Hutchins, Fl. New Mexico, 2: 2041 (1981), nom. inval. (without basionym ref.) = **Xanthium strumarium** L.

Xanthium varians Greene, Pittonia 4: 59 (1899) = **Xanthium strumarium** L.

Xanthium wootoni Cockerell ex De Vries, Sp. Var. : 140 (1905) = **Xanthium strumarium** L.

Xanthium xanthocarpon Wallr., Beitr. Bot. 1(2): 241 (1844) = **Xanthium spinosum** L.

Xenophontia Vell., Fl. Flum. : 346 (1825)[7 Sept. - 28 Nov. 1829] = **Barnadesia** Mutis

Xenophontia caryophylla Vell., Fl. Flum. : 347 (1825)[7 Sept. - 28 Nov. 1829] = **Barnadesia caryophylla** (Vell.) S. F. Blake

Xenophyllum V. A. Funk, Novon 7(3): 235 (3 Oct. 1997).

Werneria Kunth subgen. *Euwerneria* (Gay) Rockh. sect. *Digitifoliae* Rockh., Bot. Jahrb. Syst. 70(3): (1939), nom. illegit.

Werneria Kunth subgen. *Euwerneria* (Gay) Rockh. sect. *Aciculares* Rockh., Bot. Jahrb. Syst. 70(3): (1939), nom. illegit.

Note: Rockhausen's account (1939) provided a number of illegitimate infrageneric names (as only the names were proposed, lacking descriptions).

Type: **Xenophyllum dactylophyllum** (Sch.Bip.) V. A. Funk

References

Blake, S. F. (1928). New South American species of *Werneria*. J. Wash. Acad. Sci. 18(18): 485–498.

Cabrera, A. L. (1948). Las especies Argentinas del género *Werneria*. Notas Mus. La Plata, Bot. 13(No. 60): 49–61.

Funk, V. A. (3 Oct. 1997a). *Xenophyllum*, a new Andian genus extracted from *Werneria* s.l. (Compositae: Senecioneae). Novon 7(3): 235–241.

Funk, V. A. (1997b). *Werneria* s.l. (Compositae: Senecioneae) in Ecuador. In: Valencia, R. & H. Balslev (eds), Estudios sobre diversidad y ecología de plantas. Memorias del II Congreso Ecuatoriano de Botánica. Univ. Catól. Quito: 25–35.

Rockhausen, M. (1939). Verwandtschaft und Gliederung der Compositen-Gattung *Werneria*. Bot. Jahrb. Syst. 70(3): 273–339.

Key to species (somewhat modified from Funk, 1997a).

- | | | |
|--------|---|--------------------------|
| 1. | Leaves entire | 2 |
| | Leaves forked, notched, or finger-like at apex | 6 |
| 2. (1) | Leaves angular in cross-section, width and depth \pm equal | <i>X. marcidum</i> |
| | Leaves terete, sometimes slightly elliptical in cross-section | 3 |
| 3. (2) | Plants growing in wet páramo | <i>X. humile</i> |
| | Plants from dry puna | 4 |
| 4. (3) | Leaves narrowing towards apex but ending abruptly in a flat callused tip | <i>X. poposum</i> |
| | Leaves narrowing gradually to an acute or rounded tip | 5 |
| 5. (4) | Leaves arching outwards | <i>X. ciolatum</i> |
| | Leaves straight, appressed | <i>X. weddellii</i> |
| 6. (1) | Leaves terete below apical divisions; leaves divided into 3, 9 or many parts | 7 |
| | Leaves \pm flattened beneath apical divisions; leaf upper portion divided into 2 or 3 parts at apex | 8 |
| 7. (6) | Leaf apices in 3 or 9; plants in hummocks c. 10–30 cm tall | <i>X. dactylophyllum</i> |
| | Leaf apices in many parts but multiples of 3; plants in smaller but taller hummocks, c. 20–60 cm tall (possibly in Bolivia) | <i>X. staffordiae</i> |
| 8. (6) | Leaves divided into 2 parts at apices | <i>X. digitatum</i> |
| | Leaves divided into 3 parts at apices | <i>X. rosenii</i> |

Xenophyllum ciliolatum (A. Gray) V. A. Funk, *Novon* 7(3): 239 (1997).

Werneria ciliolata A. Gray, *Proc. Amer. Acad. Arts* 5: 140 (1861). Type: 'High Andes of Peru, near Alpacamarca.' [Collected on the United States South Pacific Exploring Expedition under Captain Wilkes]. ?Holotype: US (00042761).

?*Werneria juniperina* Hieron., *Bot. Jahrb. Syst.* 21(4): 365 (1896). Types: 'Peruvia: crescit inter Tacora et Sajama, alt. s. m. 4200–4300 m, ubi floret mense Octobri ([Stübel] coll. peruv. n. 106); in vicinitate montis Tomarape alt. s. m. 4200–4400 m, ([Stübel] coll. peruv. n. 116). – Floret mense Octobri.' Syntypes: B†. Lectotype (selected by Funk (1997: 230): *Stübel* 106: B†, photo of B in GH, NY, US. A neotype should be selected at some stage.

Werneria lycopodioides S. F. Blake, *J. Wash. Acad. Sci.* 18: 493 (1928). Type: 'CHILE: Cordillera Volcan Tacora, Co. Quinuta, Prov. Tacna, Dept. Tacna, alt. ca. 5000 m., April 1926, E. Werdermann 1164 (type in Gray Herb.; photog. and fragm. no. 44297, U. S. Nat. Herb.)'. Holotype: GH; isotype: US (00044297).

Bolivia (La Paz), Chile, Peru.

Puna Peruana, Sajama high-andean bunch-grassland, Sajama high-andean frost-desert vegetation (Vegetación geliturbada, norte-altiplánica).

4200–5000 (–5200) m.

October–April.

Xenophyllum dactylophyllum (Sch.Bip.) V. A. Funk, *Novon* 7(3): 239 (1997).

Werneria dactylophylla Sch.Bip., *Bonplandia* 4(4): 53 (1856). Type: 'Ganz paradox ist die famose *Werneria dactylophylla*, welche ich im Pariser Herbar auch von Dombey aus Peru gesehen habe. Sie ist ebenfalls vom Agapata dicht an der Schneelinie 16000 Fuss hoch, ...' [*Lechler* 1807]. Given by Funk (1997: 239) as 'Peru. [Dept. Puno], Prov. Carabaya, Cordillera above Agapata, 16,000 ft., June 1854, *Lechler* 1807'. Holotype B† (photo GH, NY, US); lectotype (selected by Funk, 1997: 239): G; isolectotypes BR, GH (pp), GOET, K, LE (pp), NY, P × 4, S, W × 2.

**Werneria dactylophylla* Sch.Bip. f. *glabriuscula* Rockh., *Bot. Jahrb. Syst.* 70(3): 286 (1939). Types: 'Peru: Departm. Puno: Cordillera über Lampa. (A. RAIMONDI Nr. 10475 – Februar 1865.)/Bolivien: Palca-La Paz, 5000 m ü. M. (PFLANZ Nr. 238 – April 1908.) – Oberstes San Francisco-Tal (Ancohumá, Gletscherbäche, 5000 m ü. M. (C. TROLL Nr. 2076 – Juli 1928.)'. Syntypes: B†.

Werneria dactylophylla Sch.Bip. var. *glanduloso-denticulata* Rockh., *Bot. Jahrb. Syst.* 70(3): 286 (1939). Type: 'Peru: Prov. Cajatambo: Departm. Ancachs: Paß „Conta“ auf der schwarzen Cordillera über Ocros, auf sehr dürrtig bewachsenem steinigem Boden, 4500–4800 m ü. M. (WEBERBAUER Nr. 2820 – April 1903.)'.

Holotype: B†.

Bolivia (La Paz), Peru.

Puna Peruana, moist open gravelly slopes, rocky ground.

4000–5100 m.

February–July.

Note: Funk (1997: 239) cited the holotype as in B, although it is quite clear from the protologue that Schultz Bipontinus not only saw the *Dombey* collection in Paris, but also saw *Lechler* 1807. A lectotype should have been chosen from between the *Dombey* collection and the *Lechler* collection, rather than considering that the species was based solely on *Lechler* 1807.

This species has been added to the Bolivian flora based on two recent collections from La Paz which key out to this species and resemble Peruvian material.

La Paz: *Wood* 11255 (K); *Wood & Wendleburger* 16400 (K).

Xenophyllum digitatum (Wedd.) V. A. Funk, *Novon* 7(3): 239 (1997).

Werneria digitata Wedd., *Chloris Andina* 1: 86 (1856). Types: 'Hab. PÉROU!: Cordillères du département de Cuzco! (*Gay*). – BOLIVIE: Cordillère de Sorata (mont Illampù), dans le voisinage des neiges perpétuelles (*Wedd.*); assez commun au niveau des neiges, dans le ravin (quebrada) de las lagunas de Potosí!, où il form des touffes hautes d'un pied, dans les interstices des rochers (*d'Orbigny*, no. 1407)'. Syntypes: P. Lectotype (selected by Funk, 1997: 239): 'Bolivia. [Dept. Potosí], lagunas de Potosí, *d'Orbigny* 1407', P; isolectotypes: BR, F (fragment of lectotype), G, P.

Werneria digitata Wedd. var. *lanata* Rockh., *Bot. Jahrb. Syst.* 70(3): 287 (1939). Types: 'Peru: An der Lima-Oroya-Bahn. In der Nähe der Hacienda San Florenzo bei Yauli auf sumpfigem, dürrtig bewachsenem Boden, 4700 m ü. M. (A. WEBERBAUER Nr. 356 – Januar 1902.) – Hochanden über Lima: In der Nähe der

Silbergrube San Florencio zwischen Steingeröll auf sehr dürrftig bewachsenem Boden, 4800 m ü. M. (A. WEBERBAUER Nr. 5171 – März/April 1905).’ Syntypes: B†.

Bolivia (Potosí), Peru.

Altiplano.

3500–4800 m.

January–April.

Xenophyllum humile (Kunth) V. A. Funk, *Novon* 7(3): 239 (1997).

Werneria humilis Kunth in Humb., Bonpl. & Kunth., *Nov. Gen. Sp. Pl.* 4 (ed. folio): 150 (1818). Type:

[Ecuador:] ‘Crescit cum præcedente. ■ [Werneria rigida Kunth (= Xenophyllum rigidum) - ‘Crescit in summis Andibus Quitensium, alt. 1800 – 2000 hex. ■] Holotype: P-Bonpl.; isotype: B-W.

Werneria lehmannii Hieron., *Bot. Jahrb. Syst.* 28(5): 647 (1901), non Klatt (1894). Types: ‘Ecuador: crescit locis uliginosis in Páramo de Mojanda supra Otavallo, alt. s. m. 3400–4000 m, mense Junio Augusto florens (L.[EHMANN] n. 6230 et n. 6326).’ Syntypes: B†. Lectotype (selected by Funk, 1997: 238): *Lehmann* 6230: K, photo US; fragment of B syntype, MA, US (01803445).

Werneria articulata S. F. Blake, *Contr. U. S. Natl. Herb.* 22: 651 (1924), nom. nov. pro *W. lehmannii* Hieron.

Oresigonia brevifolia Willd. ex Rockh., *Bot. Jahrb. Syst.* 70(3): 293 (1939), nom. nud. pro syn.

Werneria humilis Kunth f. *articulata* (S. F. Blake) Rockh., *Bot. Jahrb. Syst.* 70(3): 294 (1939).

Bolivia (La Paz), Columbia, Ecuador, Peru.

Puna Peruana.

3400–4000 m.

June–August.

Xenophyllum marcidum (S. F. Blake) V. A. Funk, *Novon* 7(3): 240 (1997).

Werneria marcida S. F. Blake, *J. Wash. Acad. Sci.* 18(18): 492 (1928). Type: ‘PERU: In mounds by brook, Rio Blanco, Dept. Lima, alt. about 4575 m., 20–25 Mar. 1923, *J. Francis Macbride* 3032’. Holotype: F (534102), photos US; isotypes BM, G × 2, GH, MA, US (01191416), W.

Werneria sedoides S. F. Blake, *J. Wash. Acad. Sci.* 18(18): 493 (1928). Type: ‘PERU: In tufts on wet rocky slopes, Puncu, Dept. Huánaco, about 34 km. west of Huallanca, alt. about 4115 m., 1 Oct. 1922, *Macbride & Featherstone* 2475’. Holotype: F (518901); isotype: G (+ fragment of holotype), US (01186098).

Bolivia (?), Peru.

Puna Peruana

4100–4600 m.

October–March.

Xenophyllum poposum (Phil.) V. A. Funk, *Novon* 7(3): 240 (1997).

Werneria poposa Phil., *Anales Mus. Nac. Chile, Bot.* 8: 40 (1891). Type: [Chile:] ‘Habitat ad Copacoya 3500 m. s. m., ubi *Poposa* vocabatur; infusum plantae contra dolores colicos propinant.’ [Pizarro (1960: 165) cited ‘Se halla en Copacoya a 3.500 m. s. m., donde la llaman “poposa”.’ noting two collections in SGO – 60591, 44579. ?Holotype (according to Funk, 1997: 240 – but without specifying which of the two collections mentioned by Pizarro): SGO.

Werneria lorentziana Hieron., *Bot. Jahrb. Syst.* 21(4): 364 (1896). Types: ‘Peruvia: crescit prope Tacora, alt. s. m. 4200 m ([*Stübel*] coll. peruv. n. 107), prope Tomarapé, alt. s. m. 4200–4400 m ([*Stübel*] coll. peruv. n. 117); floret mense Octobri-Novembri.’ Syntypes: B†.

Argentina, Bolivia (?), Chile, Peru.

Altiplano, soils close to snow line, Tholares altiplánicos de Lípez (Lípez edaphophilous scrub), Pajonales higrófilos (Altiplano herbaceous meadow).

3500–5300 m.

October–November.

Vernacular name: POPOSA, PUPUSA (Cabrera 1948: 54).

Xenophyllum rosenii (R. E. Fr.) V. A. Funk, *Novon* 7(3): 240 (1997).

Werneria rosenii R. E. Fr., *Nova Acta Regiae Soc. Sci. Upsal.*, ser. 4, 1(1): 90 (1905). Type: [Argentina] ‘Prov.

Jujuy: Nevado de Chañi, loco saxoso, ca. 5200 m. s. m. (20 Nov. 1901, *Fr[ies]* 862).’ Holotype: UPS; isotypes: P (photo US), US (00534245).

Argentina, Bolivia (?). Funk (1997: 240) cited Bolivia but this was unsupported by any listed material.

5200 m.
November.

Xenophyllum staffordiae (Sandwith) V. A. Funk, *Novon* 7(3): 240 (1997).

Werneria staffordiae Sandwith, *Hooker's Ic. Pl.*, ser. 5, 5 (vol. 35 of whole work): tab. 3424 – pp. 1–2, (1950).

Type: 'PERU. Dept. Puno; San Antonio de Esquilache, on dry bare slopes below a wall of rock, 4650 m., 14 May 1937, *Miss Dora Stafford* 734'. Holotype: K; isotypes: BM, F.

Bolivia (possibly, according to Funk), Peru.

Dry rocky slopes.

4650 m.

May.

Xenophyllum weddellii (Phil.) V. A. Funk, *Novon* 7(3): 240 (1997).

Werneria weddellii Phil., *Anales Mus. Nac. Chile, Bot.* 8: 40 (1891). Types: 'A variis locis, Machuca, Huasco, regione inter Copacoya et Inacaliri allata'. Pizzaro (1960: 166) cited 'Traída de diversos lugares, Machuca, Huasco, de entre Copacoya e Inacaliri.' listing two collections in SGO – 60589, 44581. In contrast Funk (1997: 240) suggested just that the holotype was in SGO; isotypes: B† (photo in GH, NY, US), K, US (photo + fragment of K). In noting that the *Philippi* collection 'Chile: Tarapacá: Laguna del Huasco [Laguna del Guasco, 3766 m], 1 Mar. 1885' was the holotype, this could be considered as default lectotypification.

?*Werneria decumbens* Hieron., *Bot. Jahrb. Syst.* 21(4): 364 (1896). Type: 'Peruvia: crescit inter Tacora et

Tomarape alt. s. m. 4200–4400 m, ubi floret mense Octobri ([*Stübel*] coll. peruv. n. 100c).' Holotype: B†.

Bolivia (La Paz), Chile, Peru – on the tri-national border.

Pajonales higrófilos (North-western Altiplano herbaceous meadow).

4200–4400 m.

October–March.

Xeranthemum caespitosum Thouars, *Fl. Tristan d'Acugn.* 39. t 8 (1811) = **Chevreulia sarmentosa** (Pers.) S. F. Blake

Xerobius Cass., *Dict. Sci. Nat.* 59: 128 (1829) = **Egletes** Cass.

Ximenesia Cav., *Icon.* 2: 60, pl. 178 (1793–1794) = **Verbesina** L.

Ximenesia australis Hook. & Arn. ex DC., *Prodr.* 7: 291 (1838), nom. nud. pro syn. = **Verbesina encelioides** (Cav.) A. Gray

Ximenesia encelioides Cav., *Icon.* 2: 60, t. 178 (1793) = **Verbesina encelioides** (Cav.) A. Gray

Ximenesia encelioides Cav. var. δ ? *cana* DC., *Prodr.* 5: 627 (1836) = **Verbesina encelioides** (Cav.) A. Gray

Ximenesia encelioides Cav. var. α *hortensis* DC., *Prodr.* 5: 627 (1836) = **Verbesina encelioides** (Cav.) A. Gray

Ximenesia encelioides Cav. var. γ *oblongifolia* DC., *Prodr.* 5: 627 (1836) = **Verbesina encelioides** (Cav.) A. Gray

Ximenesia encelioides Cav. var. β *pachyptera* DC., *Prodr.* 5: 627 (1836) = **Verbesina encelioides** (Cav.) A. Gray

Ximenesia microptera DC., *Prodr.* 5: 627 (1836) = **Verbesina encelioides** (Cav.) A. Gray

Xiphochaeta Poepp., *Nov. Gen. Sp. Pl.* 3: 44 (1843).

Type: **Xiphochaeta aquatica** Poepp.

References

Dillon, M. O. (1982). Additions to tribe Vernonieae (Compositae): I. In: J. F. Macbride & collab., *Flora of Peru*, *Fieldiana, Bot.* n.s. 11: 1–7.

Esteves, R. L. & V. Gonçalves-Esteves. (2003). Redelimitação de *Stilpnopappus* Mart. ex DC. (Vernonieae-Asteraceae). *Bradea* 9(14): 77–92.

Robinson, H. (1992). The Asteraceae of the Guianas, III: Vernonieae and restoration of the genus *Xiphochaeta*. *Rhodora* 94(No. 880): 348–361.

Xiphochaeta aquatica Poepp., Nov. Gen. Sp. Pl. 3: 44, tab. 250 (1843). Type: [Brazil:] 'Crescit in ripis paludosis sylvaticis fluminis Teffé in Brasilia boreali.' Holotype: W; isotype: ?F. Note: Dillon (1982: 4) cited the type collection as *Poeppig* 2811. Note: Esteves (2003: 85) proposed that a lectotype be selected: 'a iconographia citada [tab. 250] citada'.

Stilpnopappus viridis Benth. ex Baker in Mart., Fl. Bras. 6(2): 137 (1873), nom. illegit. superfl. pro **Xiphochaeta aquatica** Poepp.

Stilpnopappus aquaticus (Poepp.) M. O. Dillon, Fieldiana, Bot. n.s. 11: 4 (1982).

Bolivia (?), Brazil, Guyana, Peru, Surinam, Venezuela.

Margins of lowland rainforest rivers.

0-500 m.

Xyridopsis Welw. ex B. Nord., Opera Bot. 44: 75 (1978) = **Emilia** (Cass.) Cass.

Y

Z

Zandera D. L. Schulz, *Hausknechtia*, Mitt. Thuring. Not. Ges. 4: 32 (1988) = **Sigesbeckia** L.

Zexmenia La Llave & Lex., *Nov. Veg. Descr.*, fasc. 1: 13 (1824).

Type: *Zexmenia serrata* La Llave

Reference

Jones, W. W. (1905). A revision of the genus *Zexmenia*. *Contr. Gray Herb. No. 30, Proc. Amer. Acad. Arts* 41(7): 143–167.

NOTE: The generic placement of the taxa in Bolivia needs to be checked as *Zexmenia* is now extremely narrowly defined – belonging largely to Mexico and Central America.

Zexmenia aspilioides (Griseb.) Hassler, *Repert. Spec. Nov. Regni Veg.* 14(10/15): 158 (1915) = **Dimerostemma aspilioides** (Griseb.) M. D. Moraes

Zexmenia brachylepis (Griseb.) Cabrera, *Bol. Soc. Argent. Bot.* 16(3): 257 (1975).

Wedelia brachylepis Griseb., *Abg. Königl. Ges. Wiss. Göttingen* 24(1): 190 (1879). Types: [Argentina:] 'S[alta]: ad fl. Río Juramento. O[ran]: Gr. Chaco, pr. Dragones.'. Note: Cabrera (1975: 257) cited one of the syntypes as 'Salta: El pasaje del Río Juramento, leg. Lorentz et Hieronymus 265, II-1873 (Clastotypus: LP); ...' He also noted that this entity was very close to *Wedelia helianthoides* Kunth (= *Zexmenia helianthoides* (Kunth) B. D. Jacks.) and *Zexmenia rudis* Baker, as well as noting that should they be reunited under the name of *Zexmenia brachylepis*. Baker's name was later and Jackson's combination (which was the valid combination, not as cited in *Index Kewensis* – of Benth. & Hook.f.) is a later illegitimate combination overlooking *Zexmenia helianthoides* (DC.) A. Gray of 1853. It remains to be seen in which genus this entity belongs.

Argentina, Bolivia (?Tarija), Paraguay.

Bosque semiárido superior interandino del Río Grande (Río Grande upper semiarid interandean woodland). 0–1700 m.

March.

Zexmenia columbiana S. F. Blake, *J. Bot.* 53: 306 (1915) = **Oblivia mikanioides** (Britton) Strother

***Zexmenia foliosa** Rusby ex W. W. Jones, *Proc. Amer. Acad. Arts* 41: 162 (1905). Type: 'BOLIVIA: Guanai-Tapuani, *Bang*, no. 1340'. Holotype: GH (14230 – ex Columbia College Herbarium); isotypes: GH (14231 – ex Columbia College Herbarium), NY (00278207, 00278208), US (00026729), Z (000004109).

**Zexmenia foliosa* Rusby, *Bull. New York Bot. Gard.* 4(14): 312 (1907), nom. illegit. superfl. Type: [Bolivia:] '[Bang] 1340, "ZEXMENIA sp.?" '.

Bolivia (La Paz).

Note: Jones (1905: 162) noted that Rusby had expressed doubt if this entity actually belonged to *Zexmenia* also commenting on its similarity to *Z. wedelioides* (= *Oyedaea wedelioides*) but noted that *Z. foliosa* differed in lacking ray florets, but noted differences between the marginal and disc achenes, suggesting the capitula were disciform, rather than discoid. Rusby's later description (Rusby, 1907: 312–313) added little to clarify the situation. *Zexmenia* is a genus of 2 spp. restricted to Mexico and Central America. There are strong similarities of this material to *Dimerostemma* and *Oyedaea*, however it lacks the broad foliaceous outer phyllaries of the former, but does possess the narrower foliar phyllaries of the latter. There is every likelihood that this plant is an unrecognized species of *Oyedaea*, although the apparent lack of ray corollas is a little puzzling – unless they have all fallen off this material (i.e. all duplicates!). The described differences in the achenes partially supports this.

Zexmenia foliosa* Rusby, *Bull. New York Bot. Gard.* 4(14): 312 (1907), nom. illegit. superfl. = **Zexmenia foliosa Rusby ex W. W. Jones

Zexmenia helianthoides (Kunth) B. D. Jacks. var. *rudis* (Baker) Hassl. f. *lanceolata* Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 178 (1915) = **Wedelia rudis** (Baker) Benth. ex H. Rob.
Zexmenia helianthoides (Kunth) B. D. Jacks. var. *rudis* (Baker) Hassl. f. *subhastata* Hassl., Repert. Spec. Nov. Regni Veg. 14(10-15): 178 (1915) = **Wedelia rudis** (Baker) Benth. ex H. Rob.
 Zexmenia herzogii* Hassl., Repert. Spec. Nov. Regni Veg. 7: 357 (1909) = **Dimerostemma herzogii (Hassl.) M. D. Moraes
 Zexmenia mikanioides* (Britton) S. F. Blake, J. Bot. 53: 200 (1915) = **Oblivia mikanioides (Britton) Strother
Zexmenia mikanioides (Britton) S. F. Blake var. *australis* (S. F. Blake) Hartman & Stuessy, Syst. Bot. 4(1): 55 (1979) = **Oblivia mikanioides** (Britton) Strother

Zinnia L., nom. cons., Syst. Nat., ed. 10 : 1189, 1377 (1759).

Crassina Scepini, De Acido Veg. : 42 (1759)[1758], nom. rej. vs. *Zinnia* L. Type: *Chrysogonum peruvianum* L. = **Zinnia peruviana** L.

Tragoceros Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. Pl. 4 (ed. folio): 195 (1818). Type: *Tragoceros zinniioides* Kunth = *Zinnia zinniioides* (Kunth) Olorode & Torres

Mendezia DC., Prodr. 5: 532 (1836). Type: *Mendezia bicolor* DC. = *Zinnia bicolor* (DC.) Hemsl.

Lejica Hill ex DC., prodr. 5: 534 (1836), nom. nud. pro syn. under *Zinnia pauciflora* L. = **Zinnia peruviana** L.

Diplothrix DC., Prodr. 5: 611 (1836). Type: not designated. Torres (1963: 5) incorrectly cited *Zinnia grandiflora* Nutt. as the 'type species' - this was clearly not one of the two species placed in the genus by de Candolle.

Zinnia L. sect. *Diplothrix* (DC.) A. Gray appears to have been lectotypified by Gray (1852) by *Diplothrix acerosa* DC. = *Zinnia acerosa* (DC.) A. Gray

Anaitis DC., Prodr. 5: 628 (1836). Type: *Anaitis acapulcensis* DC. = *Zinnia maritima* Kunth

Zinnia L. sect. *Diplothrix* (DC.) A. Gray, Smiths. Contrib. Knowl. 3: 105 (1850).

Sanvitaliopsis Sch.Bip. ex Greenm., Proc. Amer. Acad. Arts 4: 260 (1905). Type: *Sanvitaliopsis liebmannii* (Klatt) Sch.Bip. ex Greenm. = *Zinnia liebmannii* Klatt

Zinnia L. subg. *Diplothrix* (DC.) Torres, Brittonia 15(1): 5 (1963).

Type: **Zinnia peruviana** L.

References

Robinson, B. L. & J. M. Greenman. (1897). III. Revision of the genus *Zinnia*. In: Contributions from the Gray Herbarium of Harvard University, n.s. No. X., Proc. Amer. Acad. Arts 32: 14-20.

Robinson, H. (2006). *Zinnia*. In: G. Harling & L. Andersson (eds), Flora of Ecuador, No. 77(2): 190(6).

Compositae-Heliantheae, Part II: genera M-Z. Botanical Institute, Göteborg University, Göteborg & Section for Botany, Riksmuseum, Stockholm. pp. 222-226.

Torres, A. M. (1963). Taxonomy of *Zinnia*. Brittonia 15(1): 1-25.

Key to species

Capitula hemispherical; paleae fimbriately lobed; disc achenes awnless *Z. violacea*

Capitula campanulate; paleae erose, rounded; disc achenes with single long awn

Z. peruviana

Zinnia australis F. Bailey, Queensland Dept. Agr. Bull. 9, Bot. [Bull.] 3: 14 (1891) = **Zinnia violacea** Cav.

Zinnia elegans Jacq., Ic. Pl. Rar. 3: t. 589 (1793) = **Zinnia violacea** Cav.

Zinnia hybrida Ruiz & Pav. ex Sims, Bot. Mag. 47 (n.s. 5): t. 2123 (1820) = **Zinnia peruviana** L.

Zinnia intermedia Engelm. in Wislizenius, Mem. Tour. N. Mex. : 107 (1848) = **Zinnia peruviana** L.

Zinnia leptopoda DC., Prodr. 5: 535 (1836) = **Zinnia peruviana** L.

Zinnia mendocina Phil., Anales Univ. Chile 36: 185 (1870) = **Zinnia peruviana** L.

Zinnia multiflora L., Sp. Pl. (ed. 2) 2: 1269 (1763) = **Zinnia peruviana** L.

Zinnia pauciflora* L., Sp. Pl. (ed. 2) 2: 1269 (1763), nom. illegit. = **Zinnia peruviana L.

Zinnia peruviana L., Nat. Syst., ed. 10 : 1221 (1759). Type: 'Habitat in Peru.' Lectotype (selected by Jeffrey in Jarvis et al. 1993: 100): [icon] 'Bidens calyce oblongo squamoso, seminibus radii corolla non decidua coronatis' - Miller, Fig. Pl. Gard. Dict. 1: 43, t. 64 (1756) (right).

**Zinnia pauciflora* L., Sp. Pl. (ed. 2) 2: 1269 (1763), nom. illegit., replaced syn. of *Z. peruviana*.

- Zinnia multiflora* L., Sp. Pl. (ed. 2) 2: 1269 (1763). Type: 'Habitat - - - N. L. Burmannus.' Original material: Herb. Linn. No. 353.5? (S); 1019.2? (LINN) [See comment in Jarvis 2007: 932, who noted that both Torres 1963: 12 and Hind 1993: 179 had expressed doubt over whether LINN 1019.2 should be considered as the type.]
- Zinnia tenuiflora* Jacq., Ic. Rar. 3: 15, t. 590 (1793). Type: not cited.
- Zinnia revoluta* Cav., Icon. 3: 26 (1794)[1795]. Type: 'Hab. in Imperio Mexicano. † Floret August in Regio horto Matritense.' Holotype: ?MA.
- Zinnia verticillata* Andr., Bot. Rep. 3: t. 189 (1801). Type: 'It is a native of Mexico, South America; and was introduced to our gardens about the year 1789, by Mons^r Richard, from the Paris gardens, at the same time with the Virgilia; ... Our figure was taken, this year, at the Hammersmith Nursery, where, it was grown first in this kingdom.' Robinson (2006: 225) cited the 'holotype' as 'Botanist's Repository 3: pl. 189'. This should be the 'lectotype is the original of the plate 189', surely?
- Zinnia hybrida* Ruiz & Pav. ex Sims, Bot. Mag. 47 (n.s. 5): t. 2123 (1820). Types: 'Communicated by Messrs. WHITLEY, BRAME and MILNE, in August last, under the name of *grandiflora*; but as we find the same species in the herbarium of A. B. LAMBERT, Esq. collected in South America by RUIZ and PAVON, under that of *hybrida*, we have thought it right to adopt this. Mr WHITLEY received the seeds of this plant from the East Indies, by favour of Mrs STUART, but it was most probably introduced there from Brazil.' Robinson (2006b: 225) cited the 'holotype' as '?BM'
- Zinnia leptopoda* DC., Prodr. 5: 535 (1836). Type: '• in Mexico, ad Tlacolola in Oaxacanâ ditione (*Andr.* fl. exs. n. 314), et in montibus circa urb. Mex. (*Berl.*! pl. exs. n. 686). *Z. pauciflora* in fl. mex. ined. non Linn. ... (v.s.)'. Lectotype (selected by Torres, 1963: 12): *Berlandier* 686, G-DC; isolectotype: GH (14252). Note: Torres actually wrote '(T: *Berlandier* 686, G-DC, Isotype: GH!)' which, in keeping with the remainder of the paper, appears to indicated the 'holotype'. This, in the case of *Z. leptopoda*, can be considered lectotypification. This contrasts with Robinson (2006: 225) who appears to have lectotypified the name based on the *Andrieux* collection, as 's.n.' in G-DC. The *Andrieux* collection, '314', was of course specified in the protologue; Torres selection still takes precedence. The *Andrieux* 314 syntype is in GH (14253).
- Zinnia intermedia* Engelm. in Wislizenius, Mem. Tour. N. Mex. : 107 (1848). Type: 'Common about Cosihuirachi, flowers in September. [*Wislizenius*']'. Holotype: GH (14246); ?isotype: GH (14247).
- Zinnia mendocina* Phil., Anales Univ. Chile 36: 185 (1870). [Note: In a separately published reprint/preprint in K this appeared on p. 27.] Type: 'Mendoza.' Pizarro (1960: 166) cited two collections in SGO, 44581 and 60589. Duplicate type material appears to be in GOET.
- Crassina intermedia* (Engelm.) Kuntze, Revis. Gen. Pl. 1: 331 (1891).
- Crassina leptopoda* (DC.) Kuntze, Revis. Gen. Pl. 1: 331 (1891).
- Crassina multiflora* (L.) Kuntze, Revis. Gen. Pl. 1: 331 (1891).
- Crassina peruviana* (L.) Kuntze, Revis. Gen. Pl. 1: 331 (1891).
- Crassina tenuiflora* (Jacq.) Kuntze, Revis. Gen. Pl. 1: 331 (1891).
- Crassina verticillata* (Andr.) Kuntze, Revis. Gen. Pl. 1: 331 (1891).
- Crassina peruviana* (L.) Kuntze var. *flava* Kuntze, Revis. Gen. Pl. 3(3): 143 (1898). Type: 'Bolivia: Rio Tapacari.' [BOLIVIA. Rio Tapacari, 3000 m, 19 Mar 1892, *Kuntze* s.n. ([NY] 2 sheets).] – according to Wetter & Zanoni, 1985: 330].
- Argentina, Bolivia (Bení, Cochabamba, La Paz, Santa Cruz), Colombia, Ecuador, Guatemala, Honduras, Mexico, Peru, USA, Venezuela, West Indies.
- Dry valleys, roadsides, stony hillsides.
- 0–3500 m.
- December – May (but flowering April – October in North America).
- Vernacular names : LARGE-FLOWERED ZINNIA; DOUBLE ZINNIA (Andrews, 1801, TAB. 189).
- Note: The following entry is often associated with the name *Zinnia peruviana* – *Chrysogonum peruvianum* L., Sp. Pl.: 920 (1753). Type: 'Habitat in Peru. D. *Jussieu*. †. Holotype: P-JU 9416. Jarvis (2007: 415) noted that the only original element of this name was the plate in Feuillé (J. Obs. 2: 766, t. 50 (1714), also noting that Jeffrey (pers. comm., 1992) had indicated that the plate is of a wedelioid plant and not a *Zinnia*. This name is definitely not the basionym of *Zinnia peruviana* L.
- Zinnia revoluta* Cav., Icon. 3: 26 (1794)[1795] = **Zinnia peruviana** L.
- Zinnia tenuiflora* Jacq., Ic. Rar. 3: t. 509 (1793) = **Zinnia peruviana** L.
- Zinnia verticillata* Andr., Bot. Rep. 3: t. 189 (1801) = **Zinnia peruviana** L.

Zinnia violacea Cav., Icon. 1: 57, t. 81 (1791). Type: 'Habitat in Mexico. ♀. Vidi floridam in Regio horto Matritense mense Iulio.' Holotype: MA (246537). Note: This sheet has a handwritten label 'Zinnia violacea/Mexico. H. R. M.' with a typewritten label 'Zinnia elegans Jacq.'

Zinnia elegans Jacq., Ic. Pl. Rar. 3: t. 589 (late 1792 or early 1793). Type: not cited. Note: In Collectanea, Suppl.

5: 152 (1797) Jacquin stated 'Sub hoc titulo semina accepi. Patria mihi ignota est.' Holotype: ?

Zinnia australis F. Bailey, Queensland Dept. Agr. Bull. 9, Bot. [Bull.] 3: 14 (1891). Type: 'Walsh River, T. Barclay-Millar.' Holotype: BRI.

Native of Mexico but widely cultivated elsewhere. Cultivated in Bolivia (Bení, Santa Cruz).

Near cultivation or cultivated.

0–2000 m.

March –November.

Note: Several authors have mis-stated the date of publication of Cavanilles *Icones ...* vol. 1 as 1797; it is clear it was published in 1791 and therefore predates the publication of *Z. elegans* in *Icones Plantarum Rariorum*. McVaugh (1984) cited the publication date of Jacquin's tab. 589 as 1793, but may well have been late 1792 or early 1793 (c.f. Schubert, 1945) – at least one year, possibly two years, after the publication of Cavanilles name. However, the proposal by Kirkbride & Wiersema (2007), to conserve *Z. elegans* against *Z. violacea*, has been recommended by the Nomenclature Committee for Vascular Plants (Votes: 13–5); it still awaits ratification at the next Botanical Congress. The comments on the proposal (in TAXON 58(1): 287) cited several floras, which did not follow McVaugh's observations, that continued to use *Z. elegans*. The scope of these works may have precluded much background research and their authors probably unaware of McVaugh's thesis, especially since none cited the correct publication dates of the synonyms, this would certainly explain the difference in search results in the original proposal. The uncritical *European Garden Flora* account (by Tebbitt & Knees, 2000) certainly mentioned no synonyms, nor dates of publication; the *Catalogue of the flowering plants and gymnosperms of Peru* (Brako & Zarucchi, 1993) cited only Torres' revision (which provided the incorrect dates of publication of *Z. violacea*), and; the *Flora of Bhutan* (Springate, 2001) account is also uncritical mentioning no synonyms nor dates of publication. Any indication of 'long-standing use' is a 'use in ignorance' and should not be used to favour Kirkbride & Wiersema's argument to conserve a later name.

Zycoma Kuntze, Revis. Gen. Pl. 1: 373 (1891) = **Schistocarpha** Less.

Zycoma oppositifolia Kuntze, Revis. Gen. Pl. 1: 373 (1891) = **Schistocarpha eupatorioides** (Fenzl) Kuntze

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