

NEW SPECIES OF *ADENOSTEMMA*, *AYAPANA*, AND
BRICKELLIASTRUM FROM MEXICO, PANAMA, AND ECUADOR AND A
NEW COMBINATION IN *GROSVENORIA* (EUPATORIEAE: ASTERACEAE)

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ABSTRACT

Adenostemma harlingii and *A. zakii* are described from Ecuador, having five and six pappus knobs respectively. The alternate-leaved *Ayapana herrerae* is described from eastern Panamá, *Brickelliastrum villarealii* is described from northern México, and a new combination is made in *Grosvenoria*.

KEY WORDS: Asteraceae, Eupatorieae, *Ayapana*, *Adenostemma*, *Brickelliastrum*, *Grosvenoria*, new species, Mesoamerica, Ecuador

The following new species and new combinations are provided for use in floristic studies.

Adenostemma harlingii R.M. King & H. Robinson, *spec. nov.* TYPE: ECUADOR. Napo: Baez, disturbed montane rain forest; ca. 2000 m, 3 Feb. 1980, *Harling & Andersson 16159* (HOLOTYPE: GB).

Herbae perennes decumbentes 0.5-0.7 m altae; caules robusti sparse puberuli. Folia opposita, petiolis 0.5-1.0 cm longis distaliter latioribus; laminae herbaceae oblongo-ovatae non angulatae plerumque 4-7 cm longae 2.5-4.5 cm latae base breviter acuminatae margine aliquantum remote serrulatae apice obtuse vel rotundatae supra minute puberulae in nervis pilosulae subtus puberulae alterne ramosae multo capitulatae, pedunculis 0.8-15.0 cm long puberulis non glanduliferis. Capitula 6-7 mm alta et lata; bractae

involucri ca. 11 uniseriatae base minime connatae anguste oblongae vel ellipticae ca. 4 mm longae 1.0-1.2 mm latae apice rotundatae vel obtusae extus glabrae. Flores ca. 20 in capitulo; corollae ca. 3.5 mm longae extus puberulae in faucibus rubrescentes anguste infundibulares, lobis brevibus ca. 0.5 mm longis 0.7 mm latis; thecae antherarum ca. 1 mm longae; scapi stylorum superne hirtelli; appendices stylorum distaliter vix lateriores. Achenia ca. 2.5 mm longa, glandulis numerosis sessilibus; clavae pappi plerumque 5 in longitudine 0.5-0.8 mm.

The new species seems most closely related to *Adenostemma platyphyllum* Cass. but usually has five knobs on the achene. The impression of close relationship is reinforced by the presence of one achene in the new species with only three knobs. The species differs from *A. platyphyllum* by the very blunt oblong-ovate leaf blades and the less broadened style appendages in addition to the number of pappus knobs. The new species occurs east of the Andes while *A. platyphyllum* in Ecuador is mostly west of the Andes.

Adenostemma zakii R.M. King & H. Robinson, *spec. nov.* TYPE: ECUADOR. Bolívar: Carretera Chillanes - Bucay, en la hacienda "Tiquibuso" del Sr. Gonzalo Gómez, 0.1°55' S, 79°0.5' W, 2100 m, 1 Sept. 1987, *Zak & Jaramillo 2571* (HOLOTYPE: US; Isotype: MO).

Herbae debilis perennes ad 1 m altae; caules tenues puberuli vel plerumque proxime nodis glandulis stipitatis obsiti glabrescentes. Folia opposita, petiolis ca. 1.5-2.0 cm longis tenuis; laminae membranaceae ovatae non angulatae 4-7 cm longae 2.5-3.5 cm latae base acuminatae in petiolis attenuatae margine remote serrulatae ad mucronato-denticulatae apex breviter acutae supra sparse valide pilosae subtus in venis tenuiter pubescentes supra basem trineratae. Inflorescentiae laxae alterne ramosae ca. tri-capitatae, pedunculis 1.5-3.0 cm longis interdum nutantibus minute stipitate glanduliferis. Capitulae 6-7 mm altae et latae; bractae involucricae ca. 10 oblongae vel anguste ellipticae base non connatae ca. 4 mm longae ad 1 mm latae apice obtusae extus glabrae. Flores ca. 10 in capitulo; corollae albae ca. 3.5 mm longae glabrae, faucibus anguste infundibulares, lobis ca. 0.8 mm longis et latis; thecae antherarum ca. 1.5 mm longae; scapi stylorum glabri; appendices stylorum distaliter valide latiores. Achenia ca. 2.5 mm longa, glandulis stipitatis base latis, clavi pappi 6 in longitudine ca. 1.5 mm.

Adenostemma zakii is the only member of the genus having six pappus knobs and it is one of two in the Neotropical region lacking hairs on the style shaft. The other species with a glabrous style shaft is *A. flintii* King & H. Robinson of Nicaragua which has only three knobs on the achene.

Ayapana herrerae R.M. King & H. Robinson, *spec. nov.* TYPE: PANAMA. Vicinidad de Cordillera SE San Blas, Lado Pacifico y Cabecera del Río Piria (Piriati en el Imapa), 09° 12' N 78° 16' W, 200-400 m, hierba epipétrica a la orilla del Río Piriati, y terrestre; flores blancas y moradas, 28 Feb. 1992, *Herrera, Mojica, & Morris 1148* (HOLOTYPE: US; Isotype: MO).

Plantae herbaceae erectae perennes 3-4 dm altae in rhizomatis ramosae et fibroso-radicatae; caules brunnescentes sparse pilosi vel subhirsuti in parte glabrescentes non fistulosi base breviter decumbentes. Folia alterna, petiolis 2-5 mm longis distaliter indistincte demarcatis; laminae lineares vel lineari-oblongatae plerumque 3-6 cm longae 2-6 mm latae base anguste cuneatae margine superne pauce remote serrulatae apice acutae supra glabrae laeves subtus leniter pallidiores in epidermis tenuibus glandulo-punctatae, nervis secundariis tenuibus paucis sublongitudinalibus. Inflorescentiae terminales alterne ramosae laxae cymosae, ramis dense hirtellis, pilis stipitate glanduliferis, pedunculis plerumque 5-17 mm longis. Capitula late campanulata 5-6 mm alta et 4-5 mm lata; bractae involucri virides, chartaceae ca. 20 ca. 3-seriatae oblongo-ellipticae 1.5-3.0 mm longae 0.6-0.9 mm latae apice pauce laciniate dentatae extus dense vel sparse stipitato-glanduliferae. Flores ca. 20 in capitulo; corollae albae et rubrescentes ca. 3 mm longae extus glabrae, tubis angustis ca. 1.5 mm longis, faucibus campanulatis ca. 0.8 mm longis, lobis oblongis ca. 0.8 mm longis basi 0.5-0.6 mm latis apice obtusis; filamenta in partibus superioribus ca. 0.35 mm longa; thecae antherarum ca. 0.7 mm longae; appendices antherarum oblongae vel late ovatae ca. 0.25 mm longae 0.18 mm latae; basi stylorum nodati glabri; rami stylorum distincte papillosae, papillis apice rotundatis. Achenia subfusiformia 1.8-2.0 mm longa setulifera, setulis in costis aliquantum densioribus; carpodia late obturaculiformia, cellulis basilaribus mediocriter majoribus; setae pappi ca. 20 non contiguae ca. 2.5 mm longae apice non latiores. Grana pollinis in diametro ca. 25 μ m.

The new species is unique in the genus by the spirally inserted leaves, the peduncles and involucre bracts hirtellous with stipitate glands, and by

NEW SPECIES OF *FERREYRANTHUS* AND *MUNNOZIA* FROM PERU
(LIABEAE: ASTERACEAE)

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ABSTRACT

Ferreyranthus gentryi, *Munnozia chachapoyensis*, *M. luyensis*, and *M. smithii* from Perú are described as new.

KEY WORDS: Asteraceae, Liabaeae, *Ferreyranthus*, *Munnozia*,
new species, Perú

The following four species are described as new. These include an eighth species of *Ferreyranthus* and three species of *Munnozia* raising the total recognized in that genus from 40 (Robinson 1983) to 43.

Ferreyranthus gentryi H. Robinson, *spec. nov.* TYPE: PERU. Amazonas: 20 km E of Balsas on road to Leimebamba, Marañón Valley, 2000 m, dry roadside, 17 June 1978, A. Gentry, M. Dillon, J. Aronson, & C. Díaz 23126 (HOLOTYPE: US; Isotype: MO). PARATYPE: PERU. Amazonas: Chachapoyas, Marañón River Valley, Celendín - Chachapoyas road, ca. 15 km from Puente Chocanto, 1600-1920 m, dry shrubland with patches of dry forest, 24 May 1984, D.N. Smith & J. Cabanillas 7061 (MO,US).

Plantae suffrutescentes vel frutescentes 0.5-1.8 m altae; caules atro-brunnescentes teretes vel subhexagonales evanescentiter albotomentelli. Folia opposita, petiolis 2-7 mm longis; laminae oblongae 1.5-3.2 cm longae 0.7-1.5 cm latae base et apice obtusae margine vix reflexae minute undulatae supra rugulosae evanescentiter sparse tomentellae subtus dense albotomentosae, nervis secundariis ascendititer pinnatis utrinque 4-6 in binis basilaribus ascendentioribus. Inflorescentiae in ramis foliosis terminales dense

corymbosae, ramis et ramulis dense albo-tomentellis, pedunculis 1-2 mm longis. Capitula heterogama anguste campanulata 8-9 mm alta 2-3 mm lata; bracteae involucri flavo-brunnescentes ca. 25 subimbricatae in seriebus 4-5 ovatae vel lanceolatae 1-5 mm longae ca. 1 mm latae apice acutae extus inferne sparse tomentellae in medio longitudinaliter brunneo-vittatae. Flores radii 4 vel 5; corollae flavae ca. 5 mm longae extus multo minute glanduliferis inferne sparsius, tubis angustis ca. 2.5 mm longis, limbis ellipticis ca. 2.5 mm longis 0.8 mm latis apice trilobatis. Flores disci 5; corollae flavae ca. 5.5 mm longae extus multo minute glanduliferae inferne sparsius; tubis ca. 2 mm longis, faucibus ca. 2 mm longis, lobis anguste oblongo-lanceolatae ca. 1.5 mm longis, ca. 0.35 mm latis; thecae antherarum pallidae 1.8 mm longae base dentatae; appendices apicales antherarum oblongo-ovatae ca. 0.4 mm longae 0.17 mm latae; basi stylorum abrupte distincte nodulosi. Achenia cylindrica ca. 1.8 mm longa 8-10-costata dense setulifera et multo minute glandulifera, raphidis elongatis; setae pappi albae ca. 5.5 mm longae distaliter leniter latiores; squamae exteriores lineares 1.0-1.5 mm longae. Grana pollinis in diametro ca. 37 μ m.

The new species is named for the late Al Gentry, the first listed collector of the holotype specimen.

The species is distinct in its small size. The size difference includes the small leaves, up to 3 cm long, and the narrowly campanulate heads with only about 10 florets.

Munnozia chachapoyensis H. Robinson, *spec. nov.* TYPE: PERU. Amazonas: Chachapoyas, 27 kms NE of Florida, off road up a logging trail, 1200 m, 30 December 1979, *James Aronson 1021* (HOLOTYPE: US; Isotype: MO).

Plantae herbaceae 0.3 m altae; caules teretes appresse pallide lanulati, internodis 0.3-2.0 cm longis. Folia opposita sessilia anguste elliptica vel lanceolata 3.0-4.5 cm longa 1.0-1.4 cm lata base breviter subpetioliformia breviter amplexicaulia et anguste perfoliata margine grosse regulariter lobulata apice breviter acuta supra valide alte bullata vix evanescentiter arachnoideo-puberula in nervis primariis persistentiter albo-lanulata subtus dense sordide tomentosa in nervis et nervulis prominentia, nervis secundariis pinnatis utrinque ca. 7. Inflorescentiae scaposae uni- vel tri-capitatae; scapi 9-12 cm longi tenuiter arachnoideo-tomentelli. Capitula heterogama campanulata in involucrio ca. 12 mm alta