

proportion than those of *M. inodora*, notwithstanding the heads being usually smaller, rounded and entire, or faintly 3-crenate at the end, white. Disk yellow. Receptacle hemispherical. Fruit with three prominent smooth ribs; an intermediate rough space externally, but no internal spaces (the whole internal surface being occupied by the smooth ribs); less compressed at the border, and more square than that of *M. inodora*.

I had the pleasure of having this plant shown to me by my friend Mr. Borrer growing at the place, Cockbush near West Wittering, on the coast of Sussex, where Dillenius found it; and am indebted to him for pointing out to me the probability of its being distinct from the *Pyrethrum maritimum* of Smith. I am also much indebted to the celebrated Fries for a specimen of the authentic *M. maritima* of Linnæus. These two plants agree very well, although it may be doubted if the Swedish plant is not more upright than that of England. Fries lays much stress upon the "ligulis nervoso-striatulis" of his *M. maritima*, a character which is well shown in his specimens. I do not find that the *M. maritima* of Sussex is so characterized. I possess a specimen, gathered in the island of Lewis, one of the Hebrides, which has its rays marked in that manner, but it is certainly not the *M. maritima* of Fries, and does not appear to be distinguishable from *M. inodora*  $\beta$ . *salina*, with which it agrees in having large flowers with long rays, umbilicate involucre, fuscous-edged (but usually entire) phyllaries, and similar leaves.

I have not seen any specimens of the true *M. maritima* from any British locality except West Wittering.

I may be allowed to express a hope that these remarks will direct the attention of botanists to the maritime *Matricariæ*, and thereby determine the points that remain doubtful, the value of their claims to distinction, and also their true distribution in Britain.

[To be continued.]

#### XXXIV.—On the Genera of the Tribe Duboisicæ.

By JOHN MIERS, Esq., F.R.S., F.L.S.

##### ANTHOCERCIS.

THIS genus of Labillardière was first arranged together with *Duboisia* in a separate division of *Solanaceæ* by Mr. Brown (Prodr. 448). Mr. Bentham, first in Lindley's 'Introd.' p. 292, and subsequently in the 'Prodromus' of DeCandolle, x. 191, placed it among *Scrophulariaceæ*, in his tribe *Sulpiglossideæ*. About four years ago (*huj. op.* iii. 170), I offered several remarks,

with the intent of showing that it possessed many peculiar features not before observed, quite distinct from *Salpiglossis* and its allied genera, for which reason I suggested its association with *Duboisia* and *Anthotroche*, in a separate tribe (*Duboisieæ*), forming a section of an extensive group, distinct as well from true *Solanaceæ* as from *Scrophulariaceæ*, and which group I proposed as an intermediate family (*Atropaceæ*) between the large natural orders just mentioned. The reason of its being placed in *Scrophulariaceæ* by Mr. Bentham was obviously on account of its didynamous stamens, notwithstanding the presence of a rudimentary fifth: at that time, however, the closely allied genus *Anthotroche*, with five regular fertile stamens, was not known. I have since shown that nearly half the genera heretofore placed in *Solanaceæ* present unequal stamens, with a strong tendency in many to assume a didynamous character; while, on the other hand, several unquestionable *Scrophulariaceæ* genera have five regular and equal stamens. The obliquity of the corolla and irregular dimensions of its segments, and the unequal size of the stamens or partial suppression of the fifth, are therefore no longer found to offer unerring limits of demarcation between those families, and I have pointed out the existence of other characters that can be more safely relied upon for this purpose, viz. the æstivation of the corolla and structure of the seed: these, taken in conjunction with the usual ordinary distinctions, afford a more certain guide. Judged by these rules, *Anthocercis* will be seen not to belong to *Scrophulariaceæ*, and the position assigned to it above mentioned appears to me the most natural that can be suggested.

One very remarkable feature is the peculiar æstivation of its corolla, which I find to be a constant feature in every species: the somewhat unequal segments of its border are rolled inwards, with their margins overlapping one another respectively; in some the dextral, in others the sinistral edge remains uppermost, and the segments thus folded are drawn closely together into a long conical bud, with the apices somewhat imbricately interlaced: this very peculiar mode of æstivation will be best understood by reference to the diagrams I have given (*loc. cit.* p. 170).

It has always four fertile stamens arranged in pairs, of which one pair is longer than the other, with a shorter sterile filament or a mere rudiment of one, or else a vacant space in the interval between the longer stamens: the filaments originate near the base in the throat of the short constricted portion of the tube of the corolla, where they are most frequently ciliated and much geniculated at their origin, forming a fornix that conceals the ovary; they then assume a more erect position around the style, curving outward towards the summit, and are all slightly inclined,

together with the style, towards one side of the more expanded portion of the tube.

I have frequently alluded to the fact of the extrorse position of the stamens among the *Duboisieæ*, where it occurs constantly. In *Duboisia*, *Anthotroche*, and another genus to be proposed, each anther consists of a single hippocrepiform cell; but in *Anthocercis*, although the anther is equally reniform and extrorse, it is formed of two divaricated curving cells, closely united at their apex; this bursts externally by two lines parallel with the margin. This extrorse position of the anthers appears to be otherwise quite unknown throughout the Solanaceæ alliance, and would lead us to suspect that the *Duboisieæ* really belonged elsewhere, did not all the other characters unquestionably place them here. This anomaly is probably explained by a circumstance that in the course of this investigation fell under my observation: in *A. gracilis* I found a single flower with its corolla much distorted, where two of the stamens were hippocrepiform, 1-celled, and extrorse, as in *Anthotroche*, and the other two were bilocular, with parallel cells, and introrse. A hint may be obtained from this accidental deviation from the ordinary form of development, and we may reasonably infer from the circumstance, that the unilocular hippocrepiform anther of *Anthotroche*, seen also in many genera of the *Scrophulariaceæ* and *Myoporaceæ*, is not formed, as has been usually supposed, by the confluence of the two cells, but by the total abortion of one of the ordinary lobes, the other and more external one assuming a crescent form, by its unrestrained development around a large globular pollen receptacle. We see a very close approximation to this irregularity in *Browallia*, where one of the anther-cells is much smaller and often very minute, always sterile, and void of pollen, while the other is reniform as in *Anthotroche*. In *Brunsfelsia* there is an evident confluence of two cells in a reniform shape, but in *Franciscea* there is a total abortion of one of the cells, and its curvature in a crescent form, as in *Anthotroche*.

For reasons assigned in another place, I have excluded *A. albicans* and *scabrella*, and added two that are new, making in all six species belonging to this genus, which are all found on the S.W. coast of Australia, between Swan River and King George's Sound. From an examination of these species I have found it necessary to modify, in the following manner, the character of this genus.

ANTHOCERCIS, Labill. Nov. Holl. ii. 19; R. Br. Prodr. 448; Endl. Gen. no. 3902; Iconogr. tab. 68; Benth. in DC. Prodr. x. 191.—Char. emendat.—*Calyx* campanulatus, 5-costatus, 5-fidus, laciniis acutis, carnis, costis continuis, tubum æquan-

tibus vel excedentibus, persistens. *Corolla* campanulata, tubo basi coarctato, hinc subito ampliato, limbo sub-inæqualiter 5-fido, laciniis acutis, sæpissime lineari-subulatis, patentibus, æstivatione applicativa, nempe lorum marginibus alterne dextrorsim et sinistrorsim mutuo supervolutis, apicibus sub-imbriaticim internexis. *Stamina* 4, didynama, cum quinto postico ananthero sæpe rudimentario rarius deficiente, inclusa; *filamenta* complanata, imo latiora, et ad coarctationem tubi geniculatim inserta, et sæpius ciliata, superne attenuata et glabra, ad apicem paullo reflexa: *antheræ* extrorsæ, reniformes, bilobæ, profunde cordatæ, 2-loculares, utrinque rima margine parallela extus dehiscentes. *Pollen* oblongum, longitudinaliter 3-sulcatum. *Stylus* erectus, inclusus. *Stigma* pulvinatum, emarginato-bilobum. *Ovarium* subglobosum, disco carnoso plus minusve adnato obsessum, 2-loculare; *ovula* plurima, adscendentia, placentis imo dissepimenti tenuis superne fissi utrinque adnatis affixa. *Capsula* oblonga, rostrata, septicido-2-valvis, valvis integris, subcoriaceis, dissepimento incrassato discisso, imo clausis, superne e marginibus introflexis apertis, hinc columna placentari libera sistente. *Semina* plurima oblonga, subincurva; *testa* crustacea, foveis amplis scrobiculata; *embryo* in axi *albuminis* carnosissimi copiosi tenuiter teres, fere rectus, *radicula* infera, cotyledonibus brevissimis obtusis ejusdem diametri 4-plo longiore, et *hilo* infra medium ventrali evitante.—Fruticuli *Australasiæ occidentalis glabri sæpe viscosi*; folia *integra vel pauci-dentata, subsessilia*: panicula *pseudoterminalis, vel ab axillis novellis pauciflora, floribus pedicellatis, folio bracteiformi donatis*; pedunculo *sæpe medio 2-bracteato et hinc articulado*: corolla *ochroleuca vel albida, intus sæpissime purpureo-lineata*.

1. *Anthocercis viscosa*, R. Br. Prodr. p. 448; Benth. in DC. Prodr. x. 191; Bot. Mag. tab. 2961; Bot. Reg. tab. 1624.—*A. littorea*, Endl. (non Labill.) Iconog. tab. 68;—fruticosa, orgyalis, glabra, ramulis viscosis, foliis glabris, rotundato-obovatis (junioribus cuneato-oblongis, sub-puberulis), e medio cuneatis, imo in petiolum brevem decurrentibus, crassiusculis, serrulatis, utrinque impresso- et viscoso-punctatis; pedunculo (seu ramulo) axillari, 1-3-floro, apice 2-bracteato, pedicello paullo supra bracteam articulado, calycis laciniis foliaceis lineari-acutis, corollæ ochroleucæ amplæ laciniis oblongo-acutis, reflexis, tubo lineis 25 viridibus striato æquilongis.—Swan River.—*v. s. in herb. plur.* (Drummond), *et v. v. in hort. Kew. cult.*

Mr. Bentham mentions a variety, *A. Baueriana*, taken from

Bauer's drawing in Endlicher's 'Iconographia' above quoted, but I can perceive no difference in it from the typical plant, where the leaves are always more or less serrulate, and the tube of the corolla often somewhat narrower, as in the drawing referred to. This species has larger leaves and flowers than any other belonging to the genus, and is well distinguished by the many viscous glands imbedded in hollows on the surface of the leaves. The leaves are  $1\frac{3}{4}$  to 2 inches long, including the petiole, and  $\frac{3}{4}$  to  $1\frac{1}{4}$  inch broad. The inflorescence is probably an abortive raceme. In Bauer's figure the peduncle above the bracts bears three flowers; all the specimens I have seen are 1-flowered, but that may result from the abortion of the others; the peduncle is 6 to 9 lines long; the bracts 4 to 6 lines in length; the pedicel, 9 to 12 lines long, is articulated a little above the point of insertion of the bracts; the tube of the calyx is 5 lines, its segments 5 to 6 lines in length; the corolla  $1\frac{1}{2}$  to 2 inches long, the border, when expanded,  $2\frac{1}{2}$  inches in diameter; in æstivation the lobes are somewhat unequal in length, the upper lobe is a little shorter, the two lower lobes are a trifle the longest of all, and upon this side are placed the two longer stamens, which are nearly the length of the tube, with a short rudimentary filament between them; the stamens are quite glabrous; the anthers are 2-lobed, bursting extrorsely.

2. *Anthocercis littorea*, Labill. Nov. Holl. ii. 19. tab. 158; Benth. in DC. Prodr. x. 191; Bot. Reg. tab. 212; Sw. Fl. Aust. t. 17; Botanist, t. 102;—fruticosa, glaberrima, foliis cuneato-oblongis, integerrimis, vel nonnullis interdum spinoso-paucidentatis, sessilibus; inflorescentia e ramulis novellis pseudo-racemosa, floribus axillaribus, subsolitariis, pedicellis basi bracteatis, corollæ laciniis lineari-acutissimis, tubo duplo longioribus, filamentis imo ciliatis, antheris 2-ocularibus extrorsis. —Swan River et King George's Sound.—*v. s. in herb. Hook.* (Fraser).

This species is very distinct from the former, its perfectly glabrous leaves being narrower, more thick and fleshy than in the former species; they are  $1\frac{1}{4}$  inch long, 4 to 6 lines broad. The young axillary branchlets are floriferous, producing fresh flowers as they become elongated, from 6 lines or an inch in length, until they bear the appearance when in fruit of a many-flowered raceme 3 to 4 inches long: the pedicel is slender, 2-3 lines in length, becoming thickened in fruit, and 6 lines long; the calyx, 3 lines in length (including the linear fleshy segments of 2 lines), is 5-keeled; the corolla is 8-9 lines in length, of a sulphur-yellow colour, smooth outside; the tube is 3 lines long,

sparsely clothed inside with pulverulent glandular down, the segments of the border are very narrow and acute, 5-6 lines in length, expanded, each with a rounded intervening sinus: the capsule, somewhat rostrated, supported by the persistent calyx, is 4-7 lines long, and contains numerous oblong seeds; it is 2-valved, somewhat fleshy, the valves being thick and coriaceous, completely septicial below, and introflexed on their margins above, the placentiferous column, which is adnate below, free above, and split at its apex, remaining in the central space; the seeds are small and deeply scrobiculate; the embryo as above described.

3. *Anthocercis ilicifolia*, Hook. Bot. Mag. sub t. 2961; *ibid.* tab. 4200; Benth. in DC. Prodr. x. 192;—glabra, ramulis fistulosis, virgatis, foliis inferioribus oblongis vel obovatis, angulato-dentatis, dentibus subspinosis, subsessilibus, utrinque glabris (vel sub lente papilloso-glandulosis), textura quam præcedentibus tenuiore: inflorescentia subterminalis, valde ramosa et elongata, floribus alternis, distantioribus, pedicello filiformi e bracteis 2 sessilibus orto, calyce parvo 5-carinato, dentibus linearibus carnosius acutis, corollæ sulphuræe tubo campanulato, subventricoso, 15-striato, laciniis lineari-lanceolatis æquilongo.—Swan River (Drummond).—*v. s. in herb. plurimis.*

This species has a more herbaceous and virgate habit than the two preceding, from which it is readily distinguished by its compressed fistulose branching stems and thinner spinulose leaves; its primary branchlets are 10 inches long, its secondary 4 to 6 inches, and its ternary aphyllous and floriferous ramifications are 1 to 3 inches long; the pedicels are alternate, solitary, filiform, 3 lines long, and spring out of two sessile minute bracts; the calyx is sharply 5-keeled,  $1\frac{1}{2}$  line long, the keels being extended into as many sharp setiform teeth, longer than the tube; the tube of the corolla is 3 lines long, somewhat ventricose, with five narrow linear segments of about the same length; the stamens are quite glabrous, geniculated at their insertion in the contracted base of the tube, the longer pair being about two-thirds of its length; the anthers consist of two nearly parallel lobes slightly cordate at base, fixed extrorsely on the filaments, and bursting by two furrows externally; the hypogynous gland is quite adnate, somewhat flattened, and supporting the oblong ovary; the style is filiform, 2 lines long; the capsule is 5 lines long, formed like that of the preceding species.

4. *Anthocercis glabella*, n. sp.;—glaberrima, subviscosa, ramulosa, ramulis debilibus, pallide viridibus, angulosis; foliis

linear-oblongis, obtusis, imo angustioribus, sessilibus, carnosulis, glandulis viscosis minutissimis punctulatis; racemulo brevissimo, axillari, bracteato, 2-3-floro; pedicello sub-brevi; calycis viscosi segmentis linearibus, acutissimis, tubo 5-costato 3plo longioribus et corollæ tubum æquantibus; corollæ limbi laciniis linearibus, intus papilloso-rugosis, tubo infundibuliformi 3plo longioribus; staminibus 2 longioribus faucem vix attingentibus, 5to deficiente; capsula oblonga, longe rostrata, calyce suffulta.—Swan River.—*v. s. in herb. Mus. Brit.* Free-mantle (Gilbert).

A species near *A. littorea*, differing in its much more slender habit, sub-herbaceous deeply angled stems and branches, and smaller and more linear leaves; here the divisions of the calyx are longer, equalling the length of the tube of the corolla, which is less campanulate than in *A. littorea*; the segments of the border are also narrower and much longer, being three times (not twice) the length of the tube. The leaves are fleshy, veinless, and exhibit under the lens a number of minute shining viscous glands; they are from 10 to 18 lines long,  $2\frac{1}{2}$  lines wide, and 1 line broad at the base; the pedicel measures 3 lines; the tube of the calyx, somewhat viscous and deeply costate, is  $\frac{5}{4}$  line, and its teeth  $1\frac{3}{4}$  line long; the tube of the corolla is  $2\frac{1}{2}$  lines, its segments  $7\frac{1}{2}$  lines long; the immature capsule measures 7 lines in length and 2 lines in breadth.

5. *Anthocercis gracilis*, Benth. DC. Prodr. x. 192;—glaberrima, ramosissima, ramulis teretibus, tenuiter virgatis, striatis, fistulosis; foliis inferioribus . . . , mediis spathulato-elongatis, in petiolum tenuem angustatis, carnosis, superioribus anguste linearibus, bracteiformibus; floribus solitariis, axillaribus, pedicello filiformi, calyce parvo, 5-carinato, corollæ tubo purpureo, 15-lineato, subventricoso, fauce glanduloso-pulverulenta, laciniis anguste linearibus, tubo 2-plo longioribus, filamentis glabris, 2 longioribus tubo dimidio brevioribus; capsula ovata, 2-valvi, valvis dissepimento lunato septicidali imo clausis.—Swan River (Drummond).—*v. s. in herb. Hook. et aliis.*

This has a habit almost herbaceous, and still more virgate and slender than the preceding; the lower leaves are wanting in the specimens I have seen; the medial leaves are 7 lines long, 2 lines broad at the rounded apex, diminishing into a long slender petiole; those above are of the same length and only  $\frac{1}{3}$ rd of a line broad: the pedicel is 2 lines long, the calyx 2 lines, the tube of the corolla 2 lines, the linear segments of the border are 4 lines in length: the capsule is 3 lines long and  $1\frac{1}{2}$  line in diameter.

6. *Anthocercis anisantha*, Endl. Stirp. Austr. Decad. p. 13; Benth. in DC. Prodr. x. 192;—viscoso-pubescentibus; ramis ramulisque spinescentibus; foliis in ramulorum axillis fasciculatis, oblongo-cuneatis, obtusis, integerrimis; calycis dentibus tubo æquilongis, lineari-lanceolatis; corollæ laciniis anguste linearibus, tribus brevioribus; capsula ovata.—In Australiæ austro-occidentalis interioribus.

The tube of the calyx is said to be 1 line long, and its teeth of equal length: the tube of the corolla 2 lines, and its two longer segments of the same length.

7. *Anthocercis genistoides*, n. sp.;—fruticosa, glaberrima, spinulosa, valde dichotomo- et intricato-ramulosa, ramulis gracilibus, flexuosis, virgatis, striatulis, alaribus spiniformibus, mucroneque pungente apiculatis; foliis parvulis, sessilibus, anguste linearibus, carnosulis, spinis multo brevioribus; floribus paucis, solitariis, axillaribus, pedicello breviusculo imo 2-bracteolato; calycis glabri parvi 5-costati dentibus setiformibus; corollæ luteæ laciniis lineari-acutis, tubo 15-striato paullo longioribus, staminibus 2 longioribus tubo tertio brevioribus, filamentis imo subciliatis, antheris rotundatis, cordatis, 2-locularibus, extrorsim dehiscentibus.—Australia austro-occidentalis (Drummond, 86).—*v. s. in herb. Hook.*

This is evidently closely allied to the preceding, but differs in its perfectly glabrous habit and solitary small linear fleshy leaves, which are 4 to 6 lines long, half a line broad: the flexuose virgate branchlets are 5 to 10 inches long, terete, striated, perfectly glabrous, with numerous slender striated floriferous spines from 4 to 10 lines long, which are terminated by a hard sharp osseous mucronate point 1 line in length: the pedicel is 2 lines long; the tube of the calyx 1 line, its teeth the same length; the tube of the corolla 2 lines, its lobes 4 lines\*.

#### CYPHANTHERA.

I propose to separate from *Anthocercis* those species, conforming with some others that I find undescribed, which differ in being more or less covered with dense tomentum formed of brachiate hairs, in a calyx of different form, but principally in its unilocular anthers, resembling those of *Anthotroche* and *Duboisia*, where the cell is concentrically bent around a globular polliniferous receptacle, and extrorsely fixed upon the filament, which is always glabrous:

\* Drawings and analytical details of this and of the five first species, will be given in Supplementary Plates, at the end of the 2nd vol. of 'Illustrations of South American Plants.'

its capsule is not long, rostrated, 2-valved and septicial, as in *Anthocercis*, but oval, more or less 4-valved and septifragal, with a lunated free dissepiment; it is intermediate with *Anthocercis* and *Anthotroche*. The observations made upon *Anthotroche*, which for the most part apply to this genus, need not be repeated here. The species of *Anthocercis* are glabrous or viscous, and are all found on the western coast of the Australian continent; in this genus, on the contrary, the species are all more or less tomentose, and, with one exception, found on the eastern side, or in Van Diemen's Land. Its generic name, like that of *Anthotroche*, is derived from the peculiar form of the anther, *κυφὸς*, *incurvus*; *ἀνθηρὸς*, *anthera*, and its character may be thus defined:—

**CYPHANTHERA**, gen. nov.—*Calyx* poculiformis, submembranaceus, 5-dentatus, persistens. *Corolla* tubuloso-campanulata, imo coarctata, hinc ampliata, limbi laciniis 5, subæqualibus, oblongis, interdum lineari-angustatis, patentibus, æstivatione (ut in *Anthocercide*) applicativa. *Stamina* 4, inclusa, didynamia, cum quinto postico inter 2 longiora rudimentario, vel deficiente; *filamenta* glabra, imo complanata, et in coarctationem tubi geniculatim inserta, superne magis attenuata, apice reflexa; *antheræ* extrorsæ, rotundato-reniformes, hippocrepicæ, 1-loculares, extus rima circulari margine parallela 2-valvatim hiantes, tunc peltatæ, receptaculo pollinis in medio globoso. *Ovarium* oblongum, basi induvio corollæ circumscissæ circumdatum, et disco sublibero sublobato obsessum, 2-loculare; *ovula* plurima adscendentia, placentis imo dissepimenti superne fissi utrinque adnatis affixa. *Stylus* filiformis, longitudine staminum. *Stigma* emarginato-pulvinatum. *Capsula* subglobosa, calyce vestita, septifrage 4-valvis, valvis subcoriaceis, dissepimento incrassato, libero, lunato, medio utrinque seminifero. *Semina* plurima, et *embryo* ut in *Anthocercide*.—Fruticuli in *Australasia orientali* et *Insula Diemen* crescentes, *pube brachiato tomentosi*; *folia integra, sessilia, plus minusve tomentosa*; *inflorescentia breviter pseudo-racemosa, pedicelli e glandis stipitatis glabris cupuliformibus solitarii, corolla flava vel ochroleuca, lineis parallelis striata*.

1. *Cyphanthera frondosa*, n. sp.;—fruticosa, valde ramosa, ramis cortice rimoso in lineis interruptis elevato-striatis; foliis spatulato-oblongis, in petiolum brevissimum attenuatis, coriaceis, margine cartilagineo subrevolutis, supra glabris, subtus ferrugineis, subglabris, vel sub lente sparse glanduloso-pubescentibus, nervis breviter transversalibus (utrinque circiter 8) intra marginem arcuatim confluentibus; paniculis paucifloris,

terminalibus, axillaribusque, subtomentosis, bracteis linearibus, obtusis, membranaceis; calyce 5-dentato; corolla fere tubulosa, limbi laciniis acutiusculis, tubo duplo brevioribus; filamentis rudimentario inter stamina longiora.—Sydney (in Hort. Bot. cult. et e Terra Diemen forsau introducta).—*v. s. in herb. Howard.* (A. Cunningham).

This very distinct plant was placed by Cunningham as a species of *Myoporum*, and found in a bundle of specimens collected by him chiefly in the Botanic Garden at Sydney; from its resemblance to the following species, it has probably been introduced from Van Diemen's Land, or perhaps collected there by that botanist. The leaves are numerous, thick, coriaceous, of dull aspect,  $1\frac{1}{2}$  inch long, including the petiole, upon the margins of which they are decurrent to the base, and 3 or 4 lines in breadth. The inflorescence is pseudo-paniculate, out of the approximated axils of the more recent branches, from the young crowded leaves of which proceed a number of aggregated short racemes of little more than half an inch long, all covered slightly with soft pubescence, and consisting of a number of linear bracts or leaflets, from the base of each of which a solitary pedicel arises; these, in fact, are probably only incipient branchlets, which, as in *Duboisia*, gradually lengthen into long seed-bearing ramifications: in this early state of development the flowers appear therefore crowded in the extremities of the younger growing branches; the bracts are linear, a line long; the pedicels are of equal length; the pubescent calyx, cupshaped and crowned with five short teeth, is  $\frac{5}{8}$  line long; the somewhat tubular yellow corolla, marked with fifteen striated lines, is  $2\frac{1}{4}$  lines long, including the oblong and somewhat acute segments of its border, which are one-fourth of its whole length, and slightly covered on both sides with short glandular hairs: the two longer stamens are  $\frac{3}{4}$  the length of the tube, with a short rudimentary filament between them, and the shorter pair are about half the length of the others; the filaments are much dilated at base, smooth, and fixed a little above the base of the tube; the ovary is oblong, half immersed in the indivual base of the circumscissile corolla.

2. *Cyphanthera Tasmanica*. *Anthocercis Tasmanica*, *Hook. fil. MSS.*, n. sp.;—fruticosa, ramulis cinereo-tomentellis; foliis crebris, lanceolato-oblongis, apice obtusiusculis, e medio gradatim angustatis, imo linearibus et sessilibus, margine valde revolutis, sulcato-nervis, supra stellato-scabridis, subtus pulverulento-tomentosis, pube cinerea aut flavescente; floribus pallide flavis, axillaribus, solitariis, e turionibus pseudo-paniculatis, pedicello imo bibracteato, calyceque cinereo-tomentosis, segmentis calycis corollæque linearibus; capsula glo-

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bosa, 4-valvi, calyce vestita.—Van Diemen's Land.—*v. s. in herb. Hook. ex ora orientali* (Gunn, 1992).—Kelveden, Great Swanport (Backhouse).

This species has great analogy with the former, but bears a much lighter aspect. It is a shrub from 6 to 10 feet in height, the branches densely tomentose; the leaves, somewhat crowded, are 1 or  $1\frac{1}{2}$  inch long, 5 or 6 lines in breadth, with the margins much reflexed, attenuated at base into a short petiole, stellately scabrous above and tomentose beneath: the inflorescence is of the same character as the last species, but the flowers are much larger and of a brighter yellow; the pedicel is  $1\frac{1}{2}$  line long; the tube of the calyx is more campanulate, about 1 line in length, the segments being linear, acute, and of the same length as the tube; it is altogether tomentose inside as well as outside: the tube of the corolla is more infundibuliform, 3 lines long, and the segments of its border of the same length, linear-oblong and acute at the apex, the whole pubescent outside; the longer stamens are two-thirds, the shorter pair one half the length of the tube; the style equals the longer pair of stamens; the ovary is oblong, half a line long, seated in a free cupuliform disk; the capsula is nearly globular, about 2 lines in diameter, and 4-valved, two seeds only being perfected in each cell.

3. *Cyphanthera cuneata*, n. sp.;—fruticosa, ramis decurrenti-angulatis, nitidis, foliis spathulato-oblongis, obtusiusculis e medio sensim in petiolum brevissimum cuneatis, margine subrevolutis, pallidis, vetustioribus utrinque glabris, superne minutissime punctato-rugosis, subtus viscosis, nervis brevibus transversalibus intra marginem arcuatis, junioribus stellato-pubescentibus, vel pilis mollibus brachiatis tomentosis; floribus in ramulis novellis brevibus pseudo-paniculatis, pedicellis gracilibus, e cupula crassa singulatim ortis, articulatis; calyce 5-dentato glabro, corollæ omnino glabræ tubo campanulato infundibuliformi calyce 4-plo longiore, laciniis acutis patentibus tubo paullo brevioribus.—Novæ Hollandiæ Prov. Camden.—*v. s. in herb. Lindley*.

In this plant the leaves in their form and venation resemble those of *Duboisia myoporoides*, but they are much smaller and of thinner texture; they are  $1\frac{3}{4}$  inch long, including the petiole of 3 lines, and are 4 lines broad; the young floriferous branchlets are barely half an inch long, the lower nodes are furnished with small leaflets, the upper nodes are bare; the pedicels,  $1\frac{1}{2}$  line long, are solitary out of each node, which is always stipitate and cupular as in the preceding species and in *Duboisia*: the calyx, of thin texture, is half a line in length and breadth; the tube of the

corolla is 3 lines long, the segments  $1\frac{1}{2}$  line, all quite glabrous and yellow.

4. *Cyphanthera albicans*. *Anthocercis albicans*, *Cunn. in Field N.S. Wales, App.* 335; *Sw. Fl. Austr.* t. 16; *Benth. in DC. Prodr.* x. 192;—fruticosa, ramosissima, undique tomento brachiato cinereo vestita; foliis parvis, oblongis, margine subrevolutis, subsessilibus, patentibus, supra cinereo-subtus albidotomentosis; floribus axillaribus et subterminalibus, pedicellis solitariis e cupula sessili ortis, calyce brevi poculiformi, carinato, glabro, rarius pubescente, dentibus late-lanceolatis acutis cum carinis continuis, corollæ ochroleucæ glabræ laciniis lanceolatis, tubum subcylindricum striatum subæquantibus.—Nova Hollandia, in mont. prope Bathurst.—*v. s. in herb. Hook.* (A. Cunningham), *et v. v. in hort. Kew. cult.*

This is much branched and densely crowded with small grayish tomentose leaves 3 to 5 lines long,  $1\frac{1}{2}$  to 2 lines broad; the flowers proceed from the extremities of the very young branchlets, which are densely clothed with thick cottony tomentum, out of which issue four or five alternate projecting glabrous hollow cups, some of which are bare, but generally from each arises a solitary slender woolly pedicel 1 line long: the calyx is commonly glabrous, very rarely pubescent, a line long: the tube of the campanular corolla is 2 lines long, and its segments are about the same length.

5. *Cyphanthera tomentosa*. *Anthocercis albicans, var. tomentosa*, *Benth. in DC. Prodr.* x. 192;—fruticulosa, ramis virgatis, cano-tomentosis; foliis sessilibus, oblongis, margine revolutis, basi latioribus, refractis, supra cano-pruinosis, subtus cano-tomentosis; floribus paucis, in axillis solitariis, calycis campanulati ecostati dense tomentosi dentibus late ovatis, subacutis; corollæ ochroleucæ glabræ laciniis oblongis, acutis, tubum striatum subæquantibus.—Nova Hollandia in "Peele's range," flum. Macquarie.—*v. s. in herb. Hook. et Mus. Brit.* (A. Cunningham, no. 240).

Although closely related, this appears more than a mere variety of the former species, differing in its more slender and more virgate habit, the shape of its more refracted and more distant leaves, its much shorter and white tomentum, and the shape of its tomentose calyx. The leaves are much more diffuse, somewhat conduplicate, 5–7 lines long, 2 lines broad; the pedicel is 2 lines long, rather stout; the calycine cup is barely a line long and wide, with five broad triangular teeth of nearly equal length; the corolla is about the size of that of the former species.

6. *Cyphanthera scabrella*. *Anthocercis scabrella*, *Benth. in DC. Prodr.* x. 192;—fruticulosa, tota pube substellata scabrella, ramulis gracillimis, elongatis; foliis parvis, elliptico-oblongis, margine revolutis, breviter petiolatis; floribus ad apicem ramulorum novorum subsolitariis, pedicellis gracilibus calyce 2-3-plo longioribus, calycis glabri laciniis lanceolato-subulatis, sinibus latiusculis; corollæ parvæ laciniis linearibus, tubo subduplo longioribus.—In Novæ Hollandiæ montibus cæruleis.—*v. s. in herb. Hook.* (A. Cunningham).

This is a plant with still more slender branches than the last, with more glabrous and smaller leaves, and all sparsely covered with very short rigid ramose or branching hairs, making it almost scabrous: the leaves are about 4, rarely 5 lines long and 2 lines broad, upon a very short slender pubescent petiole: the flowers are few and almost solitary at the termination of the nascent branchlets, upon a capillary pedicel 3 lines in length; the calyx, including the narrow teeth, which are half its length, is 1 line long, it is membranaceous with rounded intervals between the teeth; the corolla is tubular, campanular above, marked with fifteen dark parallel lines, and the border is divided into five very long linear segments: the shorter pair of stamens are half the length, the longer pair two-thirds the length of the tube, with a fifth filament intermediate with the latter and half the length of the former, bearing at its apex a small glandular lobe: the ovary is seated on an adnate disk with its margin undulated, and the style is articulated at its base.

7. *Cyphanthera ovalifolia*, n. sp.;—fruticosa, ramis subpubescentibus, ramulis virgatis, dense griseo-tomentosis; foliis parvulis, ovalibus, patentibus, sessilibus, margine revolutis, crassis, supra fusco-subtus griseo-vel fulvo-tomentosis, pube brevissima rigida, intricato-brachiata; floribus brevissime subpaniculatis, 1-2-3-ve, axillaribus, pedicellis 1-floris, singulo e cupula stipitata orto; calycis utrinque hirsutuli brevis segmentis acutis, tubo æquilongis; corollæ laciniis oblongo-acutis, tubum campanulatum calyce duplo longiori 15-striatum subæquantibus; capsula parva, globosa, imo calyce induta.—Nova Hollandia, W. McArthur.—*v. s. in herb. Hook.* (Backhouse).

This species is very much of the same aspect as the three preceding, but is readily distinguished by its spreading, small, oval, sessile leaves, densely covered with thick tomentum; these are 3 to 4 lines long,  $1\frac{1}{2}$  to  $2\frac{1}{2}$  lines broad; the axillary raceme is very short, presenting the appearance of three or four alternate cupshaped nodes, out of each of which (or some of them are abortive) proceeds a slender pedicel 1 line long, bearing a calyx

of equal length, which is pubescent within, as well as outside; the campanular corolla, of which the tube is  $1\frac{1}{2}$  line long, has rather broad acute segments of the same length; the stamens are of the same proportional length as in the preceding species, with a very short sterile filament between the longer pair; the disk, adhering to the base of the ovary, has an undulating or lobed margin: the capsule is globular, nearly 2 lines in diameter, and half enclosed in the persistent calyx, has four thickly coriaceous valves, containing six seeds and a ligneous crescent-shaped dissepiment.

8. *Cyphanthera microphylla*, n. sp.;—fruticulosa, intricato-ramulosa, ramulis flexuosis vel dichotome brachiatis, striatulis, viridulis, glabris; foliis minutis, sessilibus, ovalibus, carnosulis, ramulisque junioribus viscoso-scabrellis; floribus solitariis, axillaribus, pedicello elongato, calyceque poculiformi breviter 5-dentato glanduloso-scabrellis; corollæ flavæ laciniis oblongis, obtusiusculis, tubo utrinque glabro sub-campanulato vix brevioribus, intus glanduloso-pubescentibus; staminibus tubo paullo brevioribus, fere æquilongis, puncto rudimentario inter longiora.—In Australiæ austro-occidentalis interioribus.—v. s. in herb. Hook. (Drummond, 177, anno 1849).

This species is extremely different in its habit from any of the former, approaching more in appearance to *Anthocercis genistoides*, but the structure of its flowers and of its capsule is completely that of *Cyphanthera*: the leaves are scarcely a line in length and half a line in breadth, so that the plant appears almost aphyllous: the pedicel is from 2 to 3 lines long, the calyx is 1 line long, the tube of the corolla is 2 lines, the lobes  $1\frac{1}{2}$  line in length; the longer stamens are nearly the length of the tube, the other pair very little shorter, the anthers being all 1-lobed, roundly hippocrepiform and extrorse, and after dehiscence, of the shape of a peltate disk with a globular prominence in the centre; the disk that surrounds the base of the ovary is entire and free on the margin, and the ovary is surmounted by a prominent 4-grooved gland, into which the style is articulated, as occurs in some other species. The capsule is small, globular, about a line in diameter, its four valves being thin and testaceous, its free lunate dissepiment membranaceous, and it contains 4 to 6 seeds, which are almost the length of the valves\*.

\* A sketch of each plant and analytical details of the structure of each species of this genus, will be shown in supplementary plates, at the end of the 2nd vol. of 'Illustrations of South Amer. Plants.'