# Miscellaneous early writing on the New Zealand orchids Part 2: 1834-1933

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**Part 2 (paginated contents in Part 1)**

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1835 Lindley J. *Dendrobium pierardi.* Mr.Pierard's *Dendrobium.* Edwards's *Botanical Register* 21. 1756.
1838 Cunningham A. Florae Insularum Novae Zelandiae Precursor: or a specimen of the Botany of the Islands of New Zealand. *Companion to the Botanical Magazine* 1838; 2: p367.
1840 Lindley J. A sketch of the vegetation of the Swan River Colony. *Edwards's Botanical Register* 25.
1840 Lindley J. *The Genera and Species of Orchidaceous Plants.* London, Ridgeways.
1843 Lindley J. *Earina suaveolens.* Edwards's *Botanical Register* 29.
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# Lindley J.

## *Oncidium ampliatum.* Broad-lipped *Oncidium.*

Edwards's *Botanical Register* 20. 1699, 1834.

GYNANDRIA *MONANDRIA.*

*Nat. ord.* ORCHIDEÆ. *Juss.* (*Introduction to the Natural System of Botany, p.* 262.)

*ONCIDIUM. Supra, vol.* 13. *fol.* 1050.

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O. *ampliatum ;* sepalis omnibus liberis, labello bilobo subrotundo transverso : laciniis lateralibus brevissimis, callo baseos 5-lobo : lobis lateralibus patentissimis planis truncatis intermediis teretibus centrali compresso, alis columnæ cuneatis dentatis reflexis, pseudo-bulbis subrotundis compressis, foliis planis oblongo-lanceolatis, scapo erecto apice ramoso.'

O. ampliatum. *Lindl. in Hook. Bot. misc. v.* 3. *p. Gen. et sp. orch. part* 3. *p.* 202.

Folia *et* pseudobulbi *facie omnino* O. papilionis. Scapus *ascendens, radicalis,* 1½-2-*pedalis, apice ramosus.* Flores *lutei, labelli dorso albo.*

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First found in central America by Mr. Cuming, and afterwards procured in a living state by Richard Harrison, Esq. from whom the beautiful specimen now figured was received in March last.

Peculiar as are its flowers, and distinct as the species is in most respects, it is curious that its leaves and pseudo-bulbs should be so like those of *O. Papilio,* that we have known the latter to be mistaken for it.

Like all the rest of its genus, it requires the hot damp atmosphere of a stove, in which, if we may judge by Mr. Harrison's specimens, it finds itself perfectly at home. We have not yet heard of it in any other collection.

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It is well known that the most considerable part of the Epiphytal Orchideæ is found in the greatest vigour in damp sultry woods of tropical countries; and accordingly we endeavour in our artificial cultivation, to form an atmosphere for them as nearly as possible that which they would naturally breathe in such stations. That this is attended with very great success is obvious from such plants as the one now figured, and from the numerous splendid specimens which are from time to time appearing in the collections of Earl Fitzwilliam, Lord Grey of Groby, the Messrs. Harrison, Bateman, Huntley, Loddiges, and Knight, and the Horticultural Society.



But it is sufficiently evident that although this kind of treatment is admirably suited to a considerable number, there are others which grow most unwillingly, or scarcely survive, under such circumstances. For instance, *Dendrobium speciosum* languishes in situations where the *Stanhopeas* are in their greatest splendour ; and the Chinese *Bletias* almost perish by the side of *Eulophia* and *Zygopetalum.* This arises from the great difference in their respective constitutions, which are each adapted to distinct conditions of life, and our failure arises from our mistaking a general principle for an universal law. If a great majority of Epiphytal Orchideæ swarms in damp tropical forests, there is a considerable minority which lives in an entirely different climate, of which a few examples will not be without instruction. Thus in the genus Oncidium itself, where almost all the species are of tropical habits, *O. nubigenum* is only found on the cool mountains of Peru, at the height of 14,000 feet; it will therefore require a treatment altogether distinct from that of the mass of the genus. *Dendrobium moniliforme* and *catenatum,* again, occur only in Japan, as far north as 37° or 38°, or the parallel of Lisbon, and are periodically subject to a very low temperature.

But the most remarkable instances of a disposition on the part of some Orchideous Epiphytes to depart from the ordinary habits of the tribe are found in Australia and its dependency New Zealand. In some extremely valuable observations upon the geographical distribution of the Orchideous plants of New Holland, which have been placed in our hands by Mr. Allan Cunningham, we find a passage which bears so directly upon this subject, that we cannot do better than quote it entire.

" There are two, if not three plants of this family," says this enterprising and scientific traveller, " that grow on trees or rocks in New South Wales, whose natural constitution should, in cultivating them, form exceptions to the uniformly adopted mode of treatment of Epiphytes generally in our English stoves; namely, that in which high temperature and considerable humidity are employed. These are *Dend. æmulum, Br.,* an Epiphyte uniformly found upon the rugged trunk of Eucalyptus resinifera or Ironbark, in the open very dry forest grounds of the older colony at Port Jackson ;—*Cymbidium canaliculatum, Br.,* which of late years has been observed beyond the Tropic, both at Moreton Bay and still farther to the southward at Hunter's River, growing upon the principal limbs of several of the Eucalypti in the dry open shadeless forest. These two

Epiphytes flourish most luxuriantly in an extremely dry atmosphere, and flower usually in the summer season in their native wilds, the high temperature of which is oftentimes greatly increased by the blighting hot winds, which not unfrequently prevail at that period from the north-west. The third is *Dendrobium undulatum* of Mr. Brown, a handsome species, originally discovered by Sir Joseph Banks at Bustard Bay, and which has been lately found on barren hills, naturally clear of timber, upon the banks of the Brisbane River at Moreton Bay, where the plant forms tufts on bare rocks exposed to the full heat of the sun, which during nine months of the year is very considerable on that part of the coast. These species were some years since received alive at Kew, from New South Wales; and with them was communicated, as a guide to their culture, a note of the particular situations, with regard to exposure to drought, &c. which they naturally occupy and delight in, in their native wilds. These particulars were, however, in all probability wholly unheeded in the King's Gardens—the plants were associated with other Epiphytes of this vast and variable family, from Equinoctial America and the West India Islands, desiring a humid air with warmth to luxuriate in, amongst whom the Australians soon shewed sickness, in consequence of the excess of moisture to which they were constantly subjected; and eventually dying, were not only lost to Kew, but I may add to Europe! Had they been placed in the dry stove among Cacti, Stapeliæ, &c. with but an occasional light sprinkle of water afforded them, they would have fared better! D. æmulum was, I find, notwithstanding, induced to flower, and thus shewed by its delicate blossoms that it was well worthy of better treatment: and might afterwards have been retained, had the notes communicated with the plant from the Colony, and its *look* and constitution, so to speak, been at all consulted. I would just observe, in this place, that it is to be greatly regretted, that collectors of these beautiful vegetables in foreign countries, are not more careful to note and communicate home with the collections they form, the particular localities of the species, which would be of great use to the experienced cultivator; inasmuch as it would enable him to treat them in a way, as nearly accordant with their habits in their respective native countries, as would secure their lives in the Garden, and probably induce them to flower when fully established in their new situations."

To these instances of Orchideous Epiphytes may be added two others, which are worthy of still more attention than those just cited. One is the beautiful little *Gunnia australis*, which has much the aspect of *Chiloschista usneoides* found in the jungle of Nipal; it grows on the branches of shrubs in Emu Bay, in Van Diemen's Land, in about 41° S. Lat. and 146° E. Long. *Earina mucronata* is the other example. This plant, although occurring as far to the Northward as 35° S. Lat. in humid forests at the Bay of Islands, in New Zealand, exists also in abundance in the "very (permanently) damp woods which clothe the shores of Dusky Bay, (Lat. 45° 45′ S.) on the western side of the Larger or Middle Island of New Zealand," where it was originally observed by Forster, in Cook's Second Voyage, and where it has been since met with by Mr. Cunningham, whose words we have quoted.



Considering the lower rate of temperature which prevails in the Southern hemisphere, as compared with that of the Northern in corresponding latitudes, the station of *Earina* in New Zealand is not naturally different from the damper parts of the south-west coast of Ireland.

These remarks will we trust suffice to cause a greater degree of attention to be paid to the differences of constitution of particular species of Orchideous Epiphytes; for although we have only cited extreme cases, we may be assured that minor peculiarities, which it is not less important to study, exist in abundance.

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One of the plants just mentioned being imperfectly known to Botanists, and the other not at all, we subjoin the following brief account of them for the use of our systematic friends.

GUNNIA.—Perianthium ringens. Sepala herbacea, lateralia postica, subfalcata, erecta, ungui labelli lineari longe producto adnata. Petala herbacea, sublanceolata, obtusa, ab ungue columnæ omninò libera, cum sepalo altero distincto pendulo parallela. Labellum carnosum, ungue longè producto lineari erecto, cum basi columnæ continuum, bilobum, anticè cornutum, mucrone inflexo, disco tuberculatum. Columna nana, semiteres, aptera. Pollinia 4, in paribus globosis coadunata; retinaculo lineari. Rostellum bifidum.——Herba epiphyta; radicibus longis tortuosis supra fruticum ramos repentibus. Folia lanceolata, falcata, disticha, basi, articulata. Racemus simplex, strictus, foliorum longitudine.

*Sp.* 1. Gunnia australis.

Hab. in *Insula Van Diemen*, in sinu Emu, *Backhouse*. (*hab. s. sp. comm. cel. Gunn.*)

Tota planta vix 2 pollices excedens. Sepala et petala luteo-viridia. Labellum verosimiliter album, v. leviter rubescens, lobis lateralibus oblongis obtusis; tuberculis 4, luteis, quorum 2 exteriores majores.

We have named this most curious plant after our liberal correspondent, Ronald L. Gunn, Esq. who is now examining the vegetation of Van Diemen's Land, with equal skill and assiduity. The genus is nearly related to *Chiloschista*.

EARINA. (ἐαρινος.)—Sepala erecta, æqualia, acuta, membranacea, carinata. Petala carnosa, obtusata. Labellum carnosum, posticum, cucullatum, trilobum, disco nudo, cum columna continuum et subparallelum. Columna teres, nana, stigmatis obliqui labio inferiore prominulo. Clinandrium proclive. Anthera biocularis. Pollinia 4, per paria cohærentia, collateralia.——Herba caulescens, rhizomate articulato, repente. Folia linearia, disticha, vaginantia. Flores parvi, paniculati, bracteis cartilagineis, striatis, cucullatis.

*Sp.* 1. Earina mucronata.

Epidendrum autumnale. *Forst. prodr. n.* 319.

Cymbidium autumnale. *Swartz. nov. act. ups.* 6. 72. *Willd. sp. pl.* 3. 98.

Hab. in *Nova Zelandia.* (*hab. s. sp. comm. cel. Cunningham.*)

Rhizomata inter muscos mortuos repentia, articulata. Caules ascendentes, palmares, pedalesque, pennæ corvinæ crassitudine, maculati, basi vestigiis laceris vaginarum vestiti. Folia linearisensiformia, apice leviter obliqua, mucronulata. Flores e bracteis rigidis cucullatis mucronatis erumpentes, parvi, ovario recto costato bracteolarum longitudine. Sepala omnia libera, angusta, mucronata, carinulata. Petala latiora, carnosa, obtusiora, æquilonga. Labellum posticum, carnosum, cucullatum, inappendiculatum, basi liberum, cum columna continuum et parallelum, trilobum, nudum; lobo intermedio bipartito laciniis oblongis crenulatis mucrone intermedio. Columna suberecta, nana, antica, teres, clinandrio subcucullato membranaceo-marginato; stigmate excavato, rostello obtuso. Anthera ovata, 2-locularis. Pollinia 4, per paria cohærentia, cereacea, collateralia, materie viscidà rostello adhæreutia.

For fine specimens of this we are indebted to Mr. Cunningham, who observed it "growing commonly in moist woods upon the shores of the Bay of Islands, New Zealand, on mossy rocky banks, and on the limbs of trees, flowering in September and October, which in New Zealand is the season of spring." From the latter circumstance we have contrived the generic name.

This genus belongs to Malaxideæ, and is related to *Cœlogyne* and *Dilochia*, of the latter of which in particular it has much the habit, only on a smaller scale. From the former its wingless column, and from the latter the number of its pollen masses, sufficiently distinguish it, independently of other points of difference.

# Lindley J.

## *Dendrobium pierardi.* Mr.Pierard's *Dendrobium.*

Edwards's *Botanical Register* 21. 1756, 1835.

GYNANDRIA *MONANDRIA.*

*Nat. ord.* Orchideæ § Malaxideæ, *Lindl.* (*Introduction to the Natural System of Botany*, p. 262.)

*DENDROBIUM.—Supra, vol.* 7. *fol.* 548.

D. *Pierardi;* caulibus pendulis glabris, foliis ovato-lanceolatis acutis, floribus geminatis racemum spurium formantibus, sepalis acuminatis membranaceis, petalis sepalo supremo majoribus acuminatis, labello cucullato dilatato subtruncato pubescente ciliato. *Gen. et Sp. Orch. p.* 79.

D. Pierardi. *Roxb. Fl. Ind.* 3. 482. *Hooker Exot. Fl. t.* 9.



Many years since an Orchideous Epiphyte was sent from Chittagong with some other species to the Botanical Garden, Calcutta, when Dr. Roxburgh named one of them *Dendrobium Pierardi*, in compliment to the gentleman who discovered it. In his Flora Indica Dr. Roxburgh adds that it is also a native of various parts of the Delta of the Ganges, where it is generally found on Mangoe Trees.

No one has however been able to discover any plant which answers exactly to Dr. Roxburgh's description of his *D. Pierardi;* and what is now cultivated under that name in the Calcutta Garden appears from Dr. Wallich's specimens to be the plant defined by Dr. Brown in the seventh volume of the first series of this work under the name of *D. cucullatum.*

When the first part of the *Genera and Species of Orchideous Plants* was published, we had satisfied ourselves that in all probability Dr. Roxburgh had confounded two or three different species under the common name of *D. Pierardi;* and accordingly we took the species represented by Dr. Hooker in his Exotic Flora, as the authority for the name, and we considered Dr. Brown's *Dendrobium cucullatum*, to be a mere form of it.

We have since had an opportunity of comparing *D. Pierardi* and *cucullatum* side by side, in the utmost perfection in the stove of the Messrs. Loddiges, where these lovely species flowered in great splendour in January last, forming festoons two or three feet long, quite covered with the most delicate pink and yellow blossoms. At first sight they are so entirely the same that one does not immediately perceive in what their differences consist; but upon a more attentive inspection it is found that *D. cucullatum* has larger flowers, with a broad roundish-ovate lip, the base of which is rolled up into a sort of short stalk, while in *D. Pierardi* the lip is rounded and very blunt, and its base is rolled into a much longer stalk, which quite conceals the column; it is moreover remarkably incurved. These differences are expressed at the bottom of the accompanying plate, where fig. 1. represents *D. Pierardi*, and fig. 2. *D. cucullatum.* Whether or not the latter is really a distinct species may possibly be doubted; but it is certainly so remarkable a form, as to have amply justified Dr. Brown in separating it from *Pierardi.*

Allied to these plants are some new species, which we avail ourselves of the present opportunity of making known to Botanists.

1. D. *ochreatum* (Lindl. in Wall. Cat. no. 7410); caulibus brevibus e squamis membranaceis ventricosis erumpentibus, foliis ovato-lanceolatis acutis, vaginis ventricosis, floribus geminatis sepalis petalisque majoribus lanceolatis acuminatis, labello rhomboideo-ovato unguiculato cucullato intùs tomentoso.

Hab. in Chittagong, *Wallich* (*hab. s. sp. e Museo Anglo-Indico*).

Species vaginis laxis, alioquin facie D. Pierardi, primo intuitu distinguenda. Flores expansi ferè 3 uncias lati, pallidi. Labellum purpureo-maculatum; ungue intùs supra medium calloso.

A beautiful plant.

2. D. *Cunninghamii*; caulibus gracilibus pendulis ramosis vaginis foliorum corneis transversim corrugatis squamatis, foliis ovato-linearibus obtusiusculis, pedunculis oppositifoliis bifloris foliis multò brevioribus, sepalis ovatis acutis, petalis oblongis acutis latioribus, labelli trilobi lobo intermedio subrotundo undulato basi 5-lamellato lateralibus nanis acutis.

Hab. supra truncos Callistemonis elliptici (*A. C.*) in insula septentrionali *Novæ Zelandiæ*, juxta mare, incolis *Raumangha*; R. Cunningham (*hab. s. sp. comm. cel. A. Cunningham*).

This species is nearly allied to *D. biflorum*, of which I had examined no specimens at the time the *Gen. et Sp. Orch.* was published. Having since received that plant in a good state from Mr. Mathews, who found it in Otaheite hanging from the branches of trees, I am enabled to offer a correct definition of that very rare plant.

D. *biflorum* Swartz; caule pendulo gracili tereti, foliis lineari-lanceolatis acuminatis planis, pedunculis bifloris lateralibus e paleis corneis erumpentibus, sepalis petalisque acuminatissimis, labello rhomboideo medio bilamellato trilobo lobis lateralibus acutis nanis intermedio deltoideo acuminato margine fimbriato.

3. D. *Griffithianum*; caulibus erectis elongatis clavatis sursum tetragonis apice diphyllis, foliis lanceolato-oblongis obtusis, racemis laxis flexuosis multifloris pendulis e latere caulium natis, bracteis oblongis membranaceis pedicellis 4-plò brevioribus, petalis oblongis ciliolatis sepalis duplò latioribus, labello ovato pubescente denticulato subrepando, capsulis pyriformibus angulatis.

Hab. in Regno *Burmano* supra arbores, *W. Griffith.* (*hab. s. sp. comm. cel. Griffith.*)

A beautiful species with much the appearance of *D. aggregatum*.

4. D. *extinctorium*; pseudobulbis depressis orbiculatis aggregatis, foliis . . . , pedunculis terminalibus unifloris, sepalis lateralibus posticis basi longè in extinctorii forma productis, labelli ungue longissimo tenui, limbo trilobo: lobis lateralibus erectis acutis intermedio oblongo rotundato, capsula pyriformi angulata.

Hab. in Regno *Burmano* locis humidis supra truncos Careyæ arboreæ, *W. Griffith* (*hab. s. sp. comm. cel. Griffith.*)

This is next *D. pusillum* Blume, and has very much the appearance of a Bolbophyllum. Its leaves have not been seen.



# *Florae Insularum Novae-zealandiae Precursor: or a specimen of the Botany of the Islands of New Zealand.*

Companion to the Botanical Magazine 2: p376. 1837.

ORCHIDEÆ. *R. Br.*

* *Terrestres.*

1. THELYMITRA. *Forst.*

309. T. *Forsteri*; perianthio erectiusculo patulo, cuculli laciniis extimis approximatis antice penicillatis intermedia dorso nudo emarginata, lobulis rotundatis undulatis margine incurvatis, spica multiflora (5—7). *Sw.—Pers. Syn. Pl.* 2. *p.* 511. *A. Rich. Fl. Nov. Zel. p.* 165. *t.* 25. *f.* 2. —T. longifolia. *Forst. Gen. Char. n.* 49.

New Zealand (Middle Island).—1773, *G. Forster.* (Northern Island). Shores of the Bay of Islands, in open fern-lands. —1826, *A. Cunningham.*

Obs. Perianthii foliola tres exteriores pallido-purpureæ, interiores 3 albæ.

2. ORTHOCERAS. *R. Br.*

310. O. *strictum. Br. Prodr.* 1. *p.* 317. *Spreng. Syst. Veg. v.* 3. *p.* 712.—Diuris Novæ Zelandiæ. *A. Rich. Fl. Nov. Zel. p.* 163. *t.* 25. *f.* 1.—Ophrys cornuta. *Sol. MSS.* (1769). *Makukia* of the natives. *R. Cunningham.*

New Zealand (Northern Island).—1769, *Banks* and *Solander.* On hills among Fern; Bay of Islands, Wangaroa, &c.—1834, *R. Cunningham.*

3. MICROTIS. *R. Br.*

311. M. *Banksii*; perianthii foliolis inferioribus ovato-lanceolatis subpatentibus, interioribus lineari-oblongis obtusiusculis, labello oblongo-cuneato lobato, dimidio inferiore dilatato retuso, disco verrucoso marginibus tuberculato-incrassatis, spicæ floribus præcipue distinctis, inferioribus distantibus. *A. Cunningh. in Bot. Mag. t.* 3377.—Ophrys unifolia. *Forst. Prodr. n.* 311.—Epipactis porrifolia. *Sw. Less. Syn.* 2. *p.* 513. *Willd. Sp. Pl.* 4. *p.* 89.—M. porrifolia. *Spreng. Syst. Veg.* 3. *p.* 713.

New Zealand (Northern Island).—1769, *Sir Joseph Banks.* In open fern-grounds between the Bay of Islands and Wangaroa. —1834, *R. Cunningham.*

4. ACIANTHUS. *R. Br.*

312. A. *rivularis*; scapo bibracteato unifloro, perianthii foliolis quatuor æqualibus utrinque linearibus longissimis filiformibus, labello cordato acuminato venoso corrugato, marginibus tenuissime crenulatis.

New Zealand (Northern Island). Discovered growing among moss upon rocks in the bed of a briskly running rivulet, flowing through a deep shaded ravine near Wangaroa, Nov. 1826.—*A. Cunningham.* —1833, *R. Cunningham.*

5. PTEROSTYLIS. *R. Br.*

313. P. *Banksii*; caule unifloro, foliis (caulinis) lato lanceolatis inferne carinatis basi vaginantibus, labelli lamina oblonga obtusa apice subuncinata appendice penicillato. *Br. in Herb. Banks. Bot. Mag. t.* 3172.—P. macrophylla. *A. Cunn. MSS.* 1826. *Tae-toe*, or *Mar-ru* of the natives.

New Zealand.—1769, *Sir Jos. Banks.* Banks of the Kana-Kana River, Bay of Islands.—1826, *A. Cunningham.* Wangaroa.—1834, *R. Cunningham.*

6. GASTRODIA. *R. Br.*

314. G. *sesamoides? Br. Prodr.* 1. *p.* 330.

New Zealand (Northern Island). Vicinity of Wangaroa.—1834, *R. Cunningham.*

Note.—This species, found sparingly in New Zealand, may perhaps prove distinct from the plant of Port Jackson, but the fragment of a specimen with which I have been furnished, has not enabled me to determine it.

** *Parasiticæ.* Potius Epiphytæ.

7. EARINA. *Lindl.*

Gen. Char. *Sepala* erecta, æqualia, acuta, membranacea, carinata. *Petala* carnosa, obtusata. *Labellum* carnosum, posticum, cucullatum, trilobum, disco nudo, cum columna continuum et subparallelum. *Columna* teres, nana, stigmatis obliqui labio inferiore prominulo. *Clinandrium* proclive. *Antheræ* bilocularis. *Pollinia* 4, per paria cohærentibus, collateralia.—Herba *caulescens, rhizomate articulato, repente.* Folia *linearia, disticha, vaginantia.* Flores *parvi, paniculati, bracteis cartilagineis, striatis, cucullatis.* Lindl.

315. E. *mucronata. Lindl. in Bot. Reg. sub t.* 1699.—Epidendrum autumnale. *Forst. Prodr. n.* 319.—Cymbidium autumnale. *Sw.—Willd. Sp. Pl.* 3. *p.* 98. *A. Rich. Fl. Nov. Zel. p.* 169.

New Zealand (Northern Island).—1769, *Sir Joseph Banks.* Moist woods, on rocks and trees, Bay of Islands, Wangaroa, &c. —1826, *A. Cunningham.*—1834, *R. Cunningham.* (Middle Island.) Dusky Bay. —1773, *G. Forster.*

Obs. "This genus belongs to *Malaxideæ*, and is related to *Cælogyne* and *Dilochia*, of the latter of which, in particular, it has much the habit, on a small scale. From the former its wingless column, and from the latter the number of its pollen-masses, sufficiently distinguish it, independently of other points of difference." *Lindley.*

8. DENDROBIUM. *Sw.*

316. D. *Cunninghamii* (*Lindl.*); caulibus gracilibus pendulis ramosis, vaginis foliorum corneis transversim corrugatis squamatis, foliis ovato-linearibus obtusiusculis, pedunculis oppositifoliis bifloris, foliis multo brevioribus, sepalis ovatis acutis, petalis oblongis acutis latioribus, labelli trilobi lobo intermedio subrotundo undulato basi 5-lamellato, lateralibus nanis acutis. *Lindl. in Bot. Reg. t.* 1756.—D. biflorum. *A. Rich. Fl. Nov. Zel. p.* 167. *t.* 26 (*non Sw.*). *Raumangha* of the natives.

New Zealand (Northern Island).—1769, *Sir Joseph Banks.* At Wangaroa, growing on trees, *Pohutu-Kaua* (*Metrosideros tomentosa, A. Rich.*), &c.—1834, *R. Cunningham.* (Middle Island). Shores of Astrolabe Harbour, on trees.—1827, *D'Urville.*

"This species is nearly allied to *D. biflorum*, Swz., a native exclusively of the Society Islands, of which I had examined no specimens at the time the Gen. et Spec. Orchid. was published. Having since received that plant in good condition from Mr. Mathews, who found it in Tahiti, hanging from the branches of trees, I am enabled to offer a correct definition[1] of that very rare plant." *Lindley.*

9. BOLBOPHYLLUM. *Aub. du Pet. Thouars. Lindl.*

317. B. *pygmæum*; rhizomate repente filiformi, foliis solitariis subsessilibus ellipticis pubescentibus coriaceis. *Lindl. Gen. et Sp. Orch. p.* 58.—Dendrobis pygmæum. *Sm. in Rees, Cycl.*

New Zealand (Northern Island). At Wangaroa and Hokianga, growing on *Avicennia tomentosa* and *Vitex littorea*, C., trees of the sea-shore. It has also been found near the Waimate, remote from the sea, on fallen timber.—1834, *R. Cunningham.*

Note.—*Dendrobium pygmæum* (*A. C. MSS.*, 1824) has somewhat longer, acute, entirely smooth leaves; but I possess no specimens in flower to describe it. If it be a genuine *Dendrobium*, it may be called *D. Caleyi*, the late botanic traveller of that name in Australia having, I believe, first found it in N. S. Wales.

[1] The species, above referred to, has been thus defined by Professor Lindley from Mr. Mathews' specimens.

*D. biflorum*, caule pendulo gracili tereti, foliis lineari-lanceolatis acuminatis planis, pedunculis bifloris lateralibus e paleis corneis erumpentibus, sepalis petalisque acuminatissimis, labello rhomboideo medio bilamellato trilobo lobis lateralibus acutis nanis intermedio deltoideo acuminato margine fimbriato. *Lindl. in Bot. Reg. fol.* 1756. *Sw. Act. Holm.* 1800. *p.* 246. *Willd. No.* 17.—Epidendrum biflorum. *Forst. Prodr. n.* 318.

Hab. In Societatis Insulis. *G. Forster.* Taheite. *Mathews.*

**Translation and notes by E.D.Hatch**

4.

## *Acianthus*

n312

***A. rivularis***

**Scape** - with 2 bracts and a single flower.

**Perianth segments** - 4, equal in length on both sides, linear, very long, filiform.

**Labellum** - cordate, acuminate, with corrugated veins, the margins very thin and crenulate.

[It will be noted that there is no reference to either the leaf or the dorsal sepal, which are of diagnostic importance in *Corybas*.]



# A sketch of the vegetation of the Swan River Colony.

*Edwards's Botanical Register* 25, 1840.

From these I think it necessary to distinguish those species which, like *Th. flexuosa*, Endl. and *Th. venosa*, R. Br., have the anther incumbent, and not parallel with the stigma. These have in fact been separated by Mr. Gunn, who names the species met with in Van Diemen's Land *Macdonaldia*, after Mrs. Smith, *née* Macdonald, a lady who has examined the Orchidaceous plants of that island with great care, and from whom a most beautiful series of dried specimens has reached me through the good offices of Mr. Gunn. Of two of these with yellow flowers, viz. *M. Smithiana*,[217] and *antennifera*, there are figures at Plate IX. B & C; much handsomer than either is *M. variegata*, with purple speckled flowers.

Next to Thelymitra in point of beauty are the species of *Glossodia*, *Diuris*, and *Caladenia*; among which are numerous species of the most exquisite forms and gayest colours. *Glossodia Brunonis*, Endl., has violet flowers two inches in diameter, spotted with brilliant purple; both it and *G. emarginata*[224] have large roots, enveloped in numerous coarse skins,

(217) Macdonaldia. Perianthium regulare, patulum. Labellum sessile, foliolis conforme. Columna semiteres triloba, cucullata, laciniis nunc appendiculatis. Anthera terminalis, in stigma incumbens.——Caulis flexuosus, foliosus, apice pauciflorus. (§ 2. *Biaurella*; cuculli lobo medio obsoleto, lateralibus appendiculatis.)

Macdonaldia *Smithiana* (Gunn mss.); caule unifloro 3-phyllo, floribus luteis, sepalis petalisque obtusis, cuculli trilobi glabri laciniis lateralibus nanis. *(Van Diemen's Land.)* Tab. IX. B.

(218) Macdonaldia *concolor*; caule triphyllo subbifloro, floribus luteis, sepalis petalisque obtusis, cuculli trilobi glabri laciniis lateraiibus majoribus rotundatis. *(Thelymitra flexuosa*, Endl.)

(219) Macdonaldia *antennifera* (Tab. IX. C.); caule subtriphyllo paucifloro, floribus luteis, sepalis petalisque obtusis, cucullo a tergo appendicibus 2 carnosis clavatis emarginatis aucto.

(220) Macdonaldia (Biaurella) *variegata*; floribus purpureis, sepalis petalisque linearibus acuminatis, cuculli laciniis lateralibus lanceolatis subcarinatis intermediâ obsoletâ, antherâ carnosâ obtusâ elongatâ loculis brevibus semicircularibus membranaceis.

(221) Macdonaldia (Biaurella) *spiralis*; *folio radicali spirali caulino solitario ovato*, caule unifloro, floribus purpureis, cuculli laciniis lateralibus carnosis dolabriformibus intermediâ obsoletâ, antherâ obtusâ apice papillosâ.

(222) Macdonaldia (Biaurella) *cyanea*; caule stricto subbifloro, floribus cyaneis, cuculli laciniis lateralibus apice dentatis intermediâ obsoletâ, antherâ apice trilobâ. *(Van Diemen's Land.)*

(223) Macdonaldia *venosa*.=Thelymitra venosa. *R. Br.*

# Lindley J.

## *The Genera and Species of Orchidaceous Plants.*

London, Ridgeways, 1840.

15. Pterostylis furcata.

P. foliis in caulem ascendentibus infimis tantùm stellato-patentibus ovato-lanceolatis acutis, bracteâ foliaceâ cucullatâ ovario breviore aut parùm longiore, sepalis glaberrimis lateralium acumine ipsis longiore, labelli laminâ lineari obtusâ, appendice apice fimbriatâ.

Hab. in *Tasmanniâ*. (*hab. s. sp. a cel. Gunn*, 602.)

2. Calochilus herbaceus.

C. labello sepalis ovatis acutis parum longiore: acumine brevi recto semi-lanceolato, columnâ basi biglandulosâ, bracteis apice setaceis ovario æqualibus, spicâ brevi 2-4-florâ, foliis radicalibus nullis caulinis 3 distantibus acuminatis, anthera mucronatâ.

Hab. in *Tasmanniâ*; ad Rocky Cape, arenâ sterili, Decembre florens, *Gunn*. 920. (*hab. s. sp.*)

This plant seems distinct from *C. campestris*, (under which name I have sent it to some of my correspondents) in its close small flowers which are pale green or *white*, in the want of radical leaves, and its tall graceful habit. The glands at the base of the column are smaller than in the last. My specimens are uniformly of the same height, that of a foot.

2. Orthoceras Solandri.

O. bracteis ultra sepalum dorsale vix productis.

Orthoceras strictum. *A. Cunn. Comp. Bot. Mag.* 2. 376.
Diuris Novæ Zelandiæ. *Ach. Rich. fl. nov. zel.* 163. *t.* 25. *f.* 1.
Ophrys cornuta. *Soland. MSS.* 1769.

Hab. in *Nova Zelandia*; in insula septentrionali Banks et Solander, A.D. 1769; in collibus inter filices, in sinu Insularum, ad Wangaroam, alibique, *R. Cunningham*. (*hab. s. sp. comm. cel. Cunn.*)

That this is distinct from the New Holland species I entertain no doubt; its very short bracts and smaller and narrower flowers sufficiently attest that; but I am unfortunately destitute of the means of stating the differences between the species more precisely. The plant is called *Makuku* by the N. Zealanders, not *Makukia*, as it would appear from Mr. Cunningham's notes, in my herbarium.



### 15: *PTEROSTYLIS furcata*

Stem leaves ascending, the lower (leaves) in a semi-rosette, ovate-lanceolate, acute. Floral bract foliaceous, sheathing the ovary, than which it is shorter, or not very much longer. Sepals very smooth, the lateral longer. Lamina of the labellum linear-obtuse, the tip of the appendage fimbriate.

**Habitat** in Tasmania - (based on Gunn 602)

### 2: *CALOCHILUS herbaceus*

Labellum slightly longer than the ovate, acute sepals; the tip (of the labellum) straight, shortly acuminate or semi-lanceolate. Column with 2 glands at the base. Bracts as high as the ovary, the tips mucronate. Spike short, 2-4 flowered. Basal leaves absent, stem leaves 3, distant, acuminate. Anther mucronate.

**Habitat** in Tasmania - in a sterile hollow near Rocky Cape. Flowers December. (based on Gunn 920).

This plant seems distinct from *C. campestris*, (under which name I have sent it to some of my correspondents) in its close small flowers which are pale green or white, in the want of radical leaves, and its tall graceful habit. The glands at the base of the column are smaller than in the last. My specimens are uniformly of the same height, that of a foot.

### 2: *ORTHOCERAS Solandri*

The floral bracts are barely produced beyond the dorsal sepal.

*Orthoceras strictum*
A.Cunn.Comp.Bot.Mag. 2:376
*Diuris Novae Zelandiae*
Ach.Rich.Fl.Nov.Zel. 163.t25.f1.
*Ophrys cornuta* Soland. MSS 1769.

**Habitat** in New Zealand; in the North Island [error? - actually on D'Urville Island, Admiralty Bay. - EDH] Banks & Solander 1769; on hills among ferns in the Bay of Islands, near Wangaroa; fairly commom. R.Cunningham.

That this is distinct from the Australian species I entertain no doubt; its very short bracts and smaller and narrower flowers sufficiently attest that; but I am unfortunately destitute of the means of stating the differences between the species more precisely. The plant is called Makuku by the New Zealanders, not Makukia, as it would appear from Mr Cunningham's notes in my herbarium.

## Lindley J.

### *Earina suaveolens.*

Edwards's *Botanical Register* 29, 1843.

88. EARĪNA suavĕŏlens.

E. *suaveolens;* spicâ oblongâ densâ basi subcompositâ, labello transverso rhombeo versus basin bicalloso obsoletè trilobo laciniâ intermediâ rotundatâ undulatâ emarginatâ.

This extremely rare Orchidaceous plant was sold the other day among a collection of New Zealand varieties, brought to this country by Mr. Bidwill, and is now in the possession of Messrs. Loddiges. It is a tufted species, with stems four to twelve inches high, clothed with narrow distichous somewhat rigid leaves, about three inches long. The stems are terminated by dense oblong spikes of white flowers, having a double yellow spot on the lip. In a memorandum now before me from Mr. Bidwill, I learn that it grows near Roturoa in New Zealand, on trees not very densely covered with leaves; that it is very rare even there, exceedingly beautiful, and most deliciously perfumed. From Earina mucronata it differs altogether in the form of the lip and the size of the flowers, which are collected in dense spikes, and not in slender branched ones. As the temperature of New Zealand is rarely above 75°, that circumstance will have to be attended to in its cultivation.



## Raoul E.F.L.

### *Choix de plantes de la Nouvelle-Zelande.*

Paris, Fortin, Masson, 1846.

ORCHIDEÆ.

* *Thelymitra Forsteri*, Pers. syn. pl. 2, p. 511; A. Rich., l. c., p. 165, t. 25; A. Cunningh., l. c. 2, p. 376. — *T. longifolia*, Forst. Gen. char. 49. Herb. mus. Par., 168.

* *Arthroceras strictum*, R. Br. Prod. 1, p. 317; A. Cunningh., l. c. 2, p. 376. — *Diuris Novæ Zelandiæ*, A. Rich., l. c., p. 163, t. 25. Vulgò *Makukia.*

* *Microtis Banksii*, A. Cunningh. Bot. mag. t. 3377, et l. c. 2, p. 376. — *M. porrifolia*, Spreng. syst. veg. 3, p. 713. — *Ophrys unifolia*, Forst. Herb. mus. Par. 167. — *Epipactis porrifolia*, Sw.; Willd. Sp. pl. 4, p. 89.

*Acianthus rivularis*, A. Cunningh., l. c. 2, p. 376; Hook. fil. Fl. antarct., p. 71.

* *Pterostylis Banksii*, Bot. mag., t. 3172; A. Cunningh., comp. to the Bot. mag. 2, p. 376. Vulgò *Taé-toé.* — *Marru.*

* *P. concinna*, R. Br. Lond. Journ. of Bot. 3, p. 274, t. 136.

* *Gastrodia sesamoides*, R. Br. Prodr., 1, p. 330; A. Cunningh., l. c., 2, p. 376.

*Earina mucronata*, Lindl. in Bot. regist., t. 1699; A. Cunningh., l. c., 2, p. 376; Hook. Ic. pl., t. 431. — *Epidendrum autumnale*, Forst. Prodr., n. 319, Herb. mus. 177. — *Cymbidium autumnale*, Sw.; Willd. Sp. pl. 3, p. 98; A. Rich., l. c., p. 169.

*Dendrobium Cunninghamii*, Lindl. in Bot. regist., t. 1756; A. Cunningh., l. c., 2. p. 377. — *D. biflorum*, A. Rich., l. c., p. 167, t. 26. — *Epidendrum biflorum*, Forst. Prodr., 378; Herb. mus., 169. Vulgò *Rhaumangha.*

*Bolbophyllum pygmæum*, Lindl. Gen. et sp. Orch., p. 58; A. Cunningh., l. c., 2, p. 377. — *Dendrobium pygmæum*, Sm. in Rees. cycl.

# von Mueller F.

## *The Vegetation of the Chatham-Islands, sketched by F.Mueller.*

Melbourne, Government Printer, 1864.

### ORCHIDEÆ.

#### Earina mucronata.

Lindl. Bot. Regist. 1699; All. Cunn. in Hook. Companion to the Bot. Mag. ii. 377; Hook. Icon. Plant. t. 431; J. Hook. Fl. Nov. Zeel. i. 239; Epidendrum autumnale, Forst. Prodrom. 319; Cymbidium autumnale, Swartz in Nov. Act. Soc. Reg. Upsal. vi. 72; Willd. Spec. Plant. iv. 28; A. Rich. Voy. de l'Astrolabe, i. 169.

Chatham-Island, on stems of fern-trees.

Mr. Travers's plant is fruit-bearing. The capsules are about $\frac{1}{3}$" long, narrow-ellipsoid and strongly ribbed.

#### Pterostylis Banksii.

R. Brown, accord. to All. Cunn. in Bot. Mag. t. 3172; All. Cunn. in Hook. Compan. to the Bot. Mag. ii. 376; Lindl. Gener. et Species Orchid. 388; J. Hook. Fl. Nov. Zeel. i. 248.

On grassy places of Chatham-Island.

The plants of Mr. Travers's collection are unusually dwarf, some only of a finger's length.



*Varietas silvicultrix.*

Chatham-Island, in woods only.

The characters of this variety consist in broader and shorter leaves, which are verging from broad-ovate into lanceolate, only 1–2½" long, but ⅔–1" broad and acute but not acuminate, in proportionately broader sepals, of which the inner are lanceolate and simply acute, whilst the outer are hardly or little longer than these and never so much protracted into a narrow acumen as those of the typical form of Pterostylis Banksii. The author however has been unable to detect any important structural differences between these plants and has therefore not ventured to separate them as species, although middle-forms are missing in the collection. New Zealand specimens of P. Banksii prove that plant subject to considerable changes in its external form.

#### Chiloglottis Traversii.

Caladenia bifolia, J. Hook. Fl. Nov. Zeel. i. 247.

*Leaves* subsessile, lanceolate or ovate-lanceolate, *as well as the scape bract and pedicel short- and glandular-downy;* sepals conspersed with glands; upper one broad-cymbiform, simply acute; lower ones linear-lanceolate, almost of equal form with the lateral somewhat smaller sepals; *labellum only along the mid-line and below the middle glandular*, sessile, obovate, blunt, not decidedly appendiculate; column near the almost lobeless summit somewhat dilated.

Amongst ferns as well in Pitt-Island as in Chatham-Island.

Leaves 1–2" long. Scape measuring 3–5". Pedicel during anthesis about half exserted beyond the clasping bract. Upper sepal and the two lower slightly longer than the lip; the latter about 4‴ long; its glands biseriate, not very large, increasing downward in size.

The only New Zealand specimen, which the author had an opportunity of dissecting, and which was collected in the Province of Canterbury, showed no differences in the organization of its flowers from those of the Chatham-plant, but its leaves are broad-ovate.

Dr. Hooker (Flor. Tasm. ii. 23) alludes to the exclusive existence of a Chiloglottis in Lord Auckland's Group and Campbell-Island, but not to the New Zealand plant, as a Caladenia doubtfully combined with an Auckland species in his Flora Nov. Zeel.

Chiloglottis Gunnii (Lindl. Gen. et Spec. Orchid. 387; J. Hook. Fl. Tasm. ii. 23, t. 108 B.) occurs on the mossy stems of fern-trees

in various localities of the colony of Victoria. The following diagnosis and description resulted from the examination of the living plant.

Leaves ovate or oblong or lanceolate, glabrous, distinctly petioled; *upper sepal ovate-cymbiform*, acuminate, about twice as broad as the lateral subfalcate-lanceolate sepals; *labellum sessile, cordate-ovate, only near the axis glandular-tuberculate;* apex of the column bidentate.

Tuber globose-ovate or exactly ovate. Leaves 1–2″ long, beneath paler. Petioles generally from ½–1″ long, channelled. Peduncle 1″ long or longer, finally sometimes much lengthened, cylindrical. Bracteole acuminate, about ½″ long. Sepals all green; the lower from a broader base linear, long and gradually attenuated, channelled, hardly however on the very summit terete, slightly longer than the lip, about as long as and much narrower than the lateral sepals, almost horizontal and lightly recurved at the apex; upper sepal nearly 4‴ broad, sometimes faintly tinged with purple. Labellum hardly longer than the column, towards the apex almost flat and somewhat purplish, towards the blunt greenish basis lightly inflexed; its two basal glands half-adnate, purple; the terminal gland sessile, roundish heart-shaped; the two next ones oblong; the rest on a short or very short stipes, brown-purple. Column pale-green, spatulate, slightly curved.

The differences, expressed by these notes from Mr. Archer's beautiful illustration of the Tasmanian plant, seem not of specific value; but the Victorian plant may as a variety perhaps be distinguished as viridiflora. Dr. Jos. Milligan found C. Gunnii on St. Mary's plains, the Hampshire hills, and on the alpine summit of Ben Lomond; it occurs also at Southport.

Chiloglottis diphylla ranges in East Australia as far north as Moreton Bay.

It is not improbable that still other terrestrial Orchids will be found existing in the Chatham-group.



# H.G. Reichenbach

*in* Beitrage Zur Systematischen Pflanzen kunde 1871

2. **Corybas unguiculatus. Corysanthes unguiculata** R. Br. l. c. 328. Planta tenella pusilla macrocephala. Caulis pars subfoliaris filiformis. Folium radicale petiolatum cordato oblongum apiculatum nervis septenis longitudinalibus. Folium in caule florido sessile ejusdem circumscriptionis. Pedunculus subfloralis brevissimus. Bractea ampla ovata acuta cucullata ovarium pedicellatum non aequans. Sepalum impar unguiculatum cochleato oblongo dilatatum. Sepala et tepala linearilancea acuminata deflexa, haec breviora. Labellum oblongum cucullatum antice obtuse acutum, denticulatnm linea papillarum per medium. Columna incurva buccis in basi.

P. Jackson Jun. Jul. 1804. Ferd. Bauer! unum sincerum specimen vidi in Herb. R. Br. (non duo, altero vix hujus speciei) (Et in Herb. Caes. Vindob.: „prope Sidney N. Holl. inv. Ferd. Bauer!")

3. **Corybas aconitiflorus Salisb. Parad.** Tab. LXXXIII. 1807. **Corysanthes bicalcacarata** R. Br. Prodr. 328. 1810. Tenuis. Tuberidia sphaerica pilosula. Caulis pars subfoliaris tenuis. Folia petiolata reniformi ovata acuta seu apiculata. Folium in caule florido sessile ejusdem circumscriptionis. Pedunculi pars subbractealis nulla seu subnulla, raro evoluta. Bractea convoluta acuta ovario brevior. Galea ligulata obtusata incurva fornicata. Sepala lateralia linearia acuminata minute sub labello inter calcara nunc ascendentia. Tepala linearilancea. Labellum oblongum antice dilatatum obtusum expansum, ceterum basin versus convolutum ima basi calcaribus acutis vulgo curvis ovario appressis illoque multo brevioribus. Columnae apice non ampliatae calcara in basi duo — forsan in calcara labelli Violae ac Comparettiae more descendentia, ubi quidem alia organa eodem modo sibi incumbunt. — Hoc tamen juxta ic. Ferd. Bauer.)

Tarne Cove Ferd. Bauer 1804. North Rocks 1804. Caley! Ita in Herb. R. Brown! — (Prope Port Jackson Ferd. Bauer in Herb. Caes. Vindob.!)

2. **Caleana minor** R. Br. l. c. 329. Tuberidia ovoidea (gemina semper). Collum elongatum tenue hinc flexuosum. Vagina apice acuta arcta sub folio linearisetaceo (? ex sicco, „filiformi- lineari canaliculato“ ex R. Br.). Caulis tenuis subfiliformis usque quatuor seu quinque pollices altus incluso racemo vulgo bifloro, nunc quadrifloro. Bracteae semiovatae acutae pedicellis bene breviores. Sepalum impar lineare apice spatulatum. Sepala lateralia cum pede columnae connata, linearia, convoluta. Tepala linearia apice subspatulata uninervia. Labellum peltatum, ungue curvo canaliculato, carnosum, tuberculorum seriebus margine ac disco, excepto apice triangulo, basi in callum ligulatum (teretiusculum?) apice biclavatum extensum. Columna dorso incura, navicularis, late alata, alis curvatis.

Locus nullus in Herb. Brown! — (Prope Port Jackson. Ferd. Bauer in Herb. Vindob.!)

**Calochilus herbaceus** Lindl., quem ab amico oculatissimo (otii angustia nunc fugaci, sed certissime meritissimo, nunc post mortem a quibusdam scriptoribus vanitate misera Orchideas male mulcantibus superbe condemnato) ipso accepi et cujus multa praesto sunt specimina tasmanica licet laminae foliaris evolutione hebetata discrepans mihi vix differre videtur. Anthera brevius quidem rostrata. Habitus certe in plantis meis nullo pacto gracilior, quam in planta continentali.

Adest icon quaedam in Hooker f. Tasm. Vol. II. CVI. A. Figurae 2 et 3 omnino discrepant ab organis, qualia ego in floribus multis humefactis vidi. Figuram 3 omnino nullus intelligo, eruere non possum. Mera videtur Fitchiana carricatura sordida, coloribus nitidis splendens.

Locus generis certissime juxta ipsissimam Thelymitram, a qua labello heteromorpho recedit.

**Microstis unifolia.** Huc Ophrys unifolia Forst.! Epipactis porrifolia Sw. Microtis porrifolia Spr.! M. vivax Gunn! M. arenaria Lindl.! etc. Bene novi, alias Microtides etiam esse unifolias, sed fas est restituere antiquissimum nomen specificum. Idem valet de Thelymitra longifolia (plurimae longifoliae!)

b. rara: gracilis, parviflora, laxiflora. Bene abit in genuinam. M. rara R. Br. M. javanica Rchb. f. ex Idjen Javae (Ex Tengger Javae habeo genuinam.) 176 Drumm!

Microtis media R. Br. Huc Prasophyllum macrotys Endl. Preiss 2216 ex p. M. alba R. Br. Huc idem ex p. M. pulchella R. Br. Huc idem ex p.



**Corybas** Salisb. Jocosum vere est, quantam operam navaverit ill. R. Brown, ut Salisburio genus prius nominatum injuste destrueret. Haud intelligo, quomodo ad hunc usque diem Corysanthes servata fuerit licet ipse ill. Lindley certe ill. Brown haud lubenter secutus. R. Brown ipsos Anglos arte sua praetextuum superans propterea quod Scotus, studuit ut Botanicis persuaderet plantam in Anglia non floruisse, non quidem id professus, sed indigitans. Salisburius non potuisset Comitissam Essex nominare, si C. non in illius horto floruisset. Ceterum Orchidea parvula multo facilius mitti potuit, quam Byblis, quae etiam apud eandem Comitissam floruit. Quae sunt vitia in icone W. Hookeri a Salisburio edita, ea in descriptione sunt correcta. R. Brown vituperat folia concoloria, non infra violacea picta. Sed in Pogoniis folia infra violacea plantarum cultarum prope viridia evadunt etc. Acianthis & Eriochilis spontaneis videntur nunc infra violacea, nunc infra viridia evadere. Salisburius, quem R. Brown „oculis conniventibus“ plantam contemplasse declaravit foveas nectariferas affert. Hae atque tuberculum in basi columnae tantum a cl. Salisburio afferuntur. Illud etiam in pictura Baueriana Musaei Britannici non pictum. Equidem autem in alabastris cautissime observatis non solum tuberculum, sed nectariorum discum incrassatum reperi, uti a Salisburio allata. Inde mihi quidem certum evadit, hunc autorem certissime non e memoria et fallaciter e speciminibus Brownianis visis, sed juxta specimen vivum descripsisse plantam.

Corysanthes callosa Bl. Orch. 63. fig. 3. 1—3. Recederet, si icon sincera, a C. fimbriato denticulis labelli superioribus brevissimis. Labellum (ruptura?) emarginatum depictum. — Corybas pictus: Corysanthes picta Lindl. — Corybas fornicatus: Corys. fornicata Lindl. — Corybas mucronatus: Corys. mucronata Bl. Corys. limbata Hook. Bot. Mag. 5357. — Corysanthes diemenica Lindl. Specimina ad manus (5) Gunniana bene quadrant cum C. fimbriata, male cum icone Hook. f. Tasm. CVII. — Corybas trilobus: Corys. triloba Hook. f. — Corybas oblongus: Corys. oblonga Hook. f. — Corybas rotundifolius: Corys. rotundifolia Hook. f. — Corybas rivularis: Corys. rivularis Hook. f. — Corybas macranthus: Corys. macrantha Hook. f. — Nova species ex Nova Zeelandia forsan potius a cl. Hook. f. publici juris facienda, cum eam cl. Oliver debuerim. — Corysanthes undulata R. Cunn. mihi omnino incognita.

**Translation and notes by E.D.Hatch**

[The screamer (!) indicates (as indeed it still does), that the author has seen the specimens he cites]

p43/2

***Corybas unguiculatus***

= *Corysanthes unguiculata* R.Br. Prodr. 1: p328 1810

Plant very small and delicate, with a large flower. Stem bracts 2, subfoliate or filiform, the larger bract ovate-acute and sheathing the ovary. Leaf basal, sessile, oblong-cordate, with 7 longitudinal nerves. Floral peduncle very short. Lateral sepals and petals linear-lanceolate, acuminate, deflexed, shorter [than the dorsal.] Dorsal sepal dissimilar, unguiculate, oblong-concave, dilated. Labellum oblong-cucullate, the tip obtuse or acute, with a single central line of denticulate calli. Column incurved, distended at the base.

Port Jackson - June-July 1804 - Ferdinand Bauer! - One good specimen (not 2), seen in R.Brown's herbarium. The other specimen is hardly this species. (and in Herb. Caes. Vindob.: near Sydney, Australia - Ferdinand Bauer!)

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p43/4

***Corybas aconitiflorus*** Salisbury Parad. Lond. t83 1807

= *Corysanthes bicalcarata* R.Br. Prodr. 1: p328 1810

Plant slender. Tubers spherical with fine hairs. The stem slender below the leaf. Leaves petiolate, reniform, ovate, acute or apiculate, in flowering plants sessile, similar. Floral bracts convolute, acute, shorter than the ovary. Secondary bracts absent or rarely partly developed. Dorsal sepal ligulate, arched, obtuse, incurved.



Lateral sepals linear-acuminate, minute, usually below the labellum or ascending between the spurs. Petals linear-lanceolate. Labellum oblong, dilated or expanded in front, otherwise convolute towards the base. Spurs acute, usually curved and appressed to the ovary, but much shorter. These labellar spurs can perhaps be compared with those in the Violets etc., where other organs are convoluted by the same means.

Tarne Cove 1804 - Ferdinand Bauer!: North Rocks 1804 Caley!: These in Brown's Herbarium (in the vicinity of Port Jackson. Also Ferdinand Bauer in Herb. Caes. Vindob.!)

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p44/2

***Caleana minor*** R.Br. Prodr. 1: p329 1810

Tubers ovoid (always in pairs), internodes slender, elongated, flexuose. Surface bract closely sheathing, acute with a linear bristle. (? from a dried specimen. Brown says "linear-filiform with a longitudinal groove"). Stem slender, almost filiform, 4 or 5 inches high overall, with usually 2, rarely 4 flowers. Bracts semi-ovate, acute, shorter than the pedicels. Dorsal sepal dissimilar, linear, the tip spathulate. Lateral sepals fused to the base of the column, linear, convolute. Petals linear, with a single nerve, the tips sub-spathulate. Labellum triangular-peltate, fleshy, grooved, on a curved claw, the disc and margins with a series of ligulate (somewhat terete?) calli, the tip bare, extended, with 2 clavate lobes. Column incurved, boat-shaped, with broad, curved wings.

No locality given in Herb. R.Brown! (Vicinity Port Jackson, Ferdinand Bauer in Herb. Vindob.!)

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p61

***Calochilus herbaceus*** Lindl.

Since [Lindley's] death some people, with rough arrogance, have condemned his orchid work as poor, while a great many others have looked on him as a friend, and taking into account the little leisure he had, considered his writings to have had a very definite merit.

The leaves of Tasmanian specimens [of *Calochilus herbaceus*] have less sheen and the plants are more slender. Otherwise they appear to be much the same as plants from the continent [i.e. Australia]. Anthers short but definitely rostrate.

Figures 2 & 3 of the painting in Hooker's Flora Tasmaniae 2:t16A, differ entirely from similar segments I have examined in many softened-up flowers, and I am unable to understand Figure 3 at all.

Merely looking at Fitch's dingy sketches gives one no idea of the splendid shining colours [of the living flower].

This genus [Calochilus] is certainly very close to *Thelymitra*, from which it differs in the heteromorphic labellum.

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p62

***Microtis unifolia***

= *Ophrys unifolia* Forst.!: *Epipactis porrifolia* Sw.: *Microtis porrifolia* Spr.! etc

The other Microtids described, *M.rara: parviflora* etc. would appear to be genuine species. All however have a single leaf [so that the name is pointless], yet it seems right to restore [Forster's] very old specific name. Another example of this is *Thelymitra longifolia*. All the *Thelymitra* species have very long leaves.

p67
[***Chiloglottis cornuta*** is mentioned by name only, in a group of Chiloglottids transferred to *Caladenia*]

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***Corybas*** Salisb.
= *Corysanthes* R.Br.

It is really amusing to note the lengths to which Brown went, to suppress Salisbury's earlier generic name, and I cannot to this day understand why *Corysanthes* has been conserved. Certainly Lindley followed Brown's example without pleasure.

Brown persuaded himself, as an excuse for not acknowledging *Corybas aconitiflorus*, that the plant would not flower in England, but Salisbury would hardly have named Lady Essex if the plant had not flowered in her garden. [The pressed specimens of the other 2 *Corybas* species] were much smaller and easily sent in a book, as the Lady herself has written.

The errors [of which Brown complained], in W.Hooker's drawing are corrected by Salisbury in the description. [This incidentally is denied by Bentham in Flora Australiensis 6: p352 1873.]

Brown also complains that the violet colour of the underside of the leaf is not shown in the drawing. But in *Pogonia* this under-colour becomes green in cultivated plants, and wild plants of *Acianthus* and *Eriochilus* may be either green or violet.

Brown, looking closely at his plant, discerned a nectar-filled hollow, and a callus at the base of the column, and declared that these had been ignored by Salisbury. However they are not shown in Bauer's painting in the British Museum. Salisbury, in a very rough observation of the flower bud, found that there was no callus at the base of the column, but instead a thickening of the nectarium disc.

I am quite sure that Salisbury did not see Brown's material, or work from memory and deceit, but made his description of the plant from a living specimen...

*Corybas trilobus* = *Corysanthes triloba* Hook.f.:
*Corybas oblongus* = *Corysanthes oblonga* Hook.f.:
*Corybas rotundifolius* = *Corysanthes rotundifolia* Hook.f.:
*Corybas rivularis* = *Corysanthes rivularis* Hook.f.:
*Corybas macranthus* = *Corysanthes macrantha* Hook.f.:
- these species from New Zealand.

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# Bentham G. and Baron F.von Mueller.

## *Flora Australiensis: a Description of the Plants of the Australian Territory* vol 6.

London, L.Reeve & Co 1863-78.

**2. C. Robertsoni,** *Benth.* A stout species, with the habit of the larger specimens of *C. campestris*, but the leaf usually broader. Sepals acuminate, fully ½ in. long in the specimens seen; petals also acuminate, more than half as long. Labellum fringed all over, the terminal smooth and short. Column-wings with a more or less distinct gland on each side in front as in *C. campestris*, but the two wings connected at the base by a transverse raised plate across the base of the labellum, of which I see no trace in the two other species. Anther shortly and obtusely rostrate.

**Victoria.** Heaths on Glenelg river, *Robertson;* Mount M'Ivor, *Herb. F. Mueller;* Bendigo, *Oldfield;* and probably a specimen from Dandenong, *F. Mueller*, with the flower too far advanced for examination.

**10. T. cyanea,** *Lindl. MS.* A smaller and more slender plant than *T. venosa*, of which it is by some considered as a variety. Leaves narrow-linear, channelled, not very long. Flowers 1 to 3, blue or white. Sepals and petals not above ½ in. long. Column-wings produced into erect lateral lobes as long as the anther, lanceolate or oblong, either laterally convolute or with one margin thickened, and more or less distinctly connected by a very short crest behind the anther. Anther acuminate and often 2-dentate.—*Macdonaldia cyanea*, Lindl. Swan Riv. App. 50; Gen. and Sp. Orch. 386; *Thelymitra venosa*, Hook. f. Fl. Tasm. ii. 4, t. 102 A, as to the Tasmanian plant, not of R. Br.

**Tasmania.** Circular Head and Rocky Cape, *Gunn;* Cheshunt and Port Sorell, *Archer;* Macquarrie Harbour, *Milligan;* Southport, *C. Stuart.*

Hooker reduces this to the Port Jackson *T. venosa*, but it appears to me sufficiently distinct in the smaller flowers, the acuminate anther, and differently shaped lateral lobes of the column.

# Berggren S.

## Nagra nya eller ofullstandigt kanda Arter Nya-Zeelandska fanerogamer.

*Minneskr.fisiogr.Sallsk. Lund.* (An English translation is given in *NZ Journal of Science* 1882, p432), 1878.

### Thelymitra Forst.

**T. intermodia** n. sp. — Pl. V. fig. 21—24.

T. caule strictiusculo, floribus roseis, columnæ apice trilobæ lobo intermedio truncato-bifido margine integerrimo lobulis acutis incurvatis, lobis lateralibus longe porrectis apice penicillatis, antheræ apiculo exserto.

Hab. locis siccis ad Bay of Islands insulæ borealis Novæ Zelandiæ (Berggren).

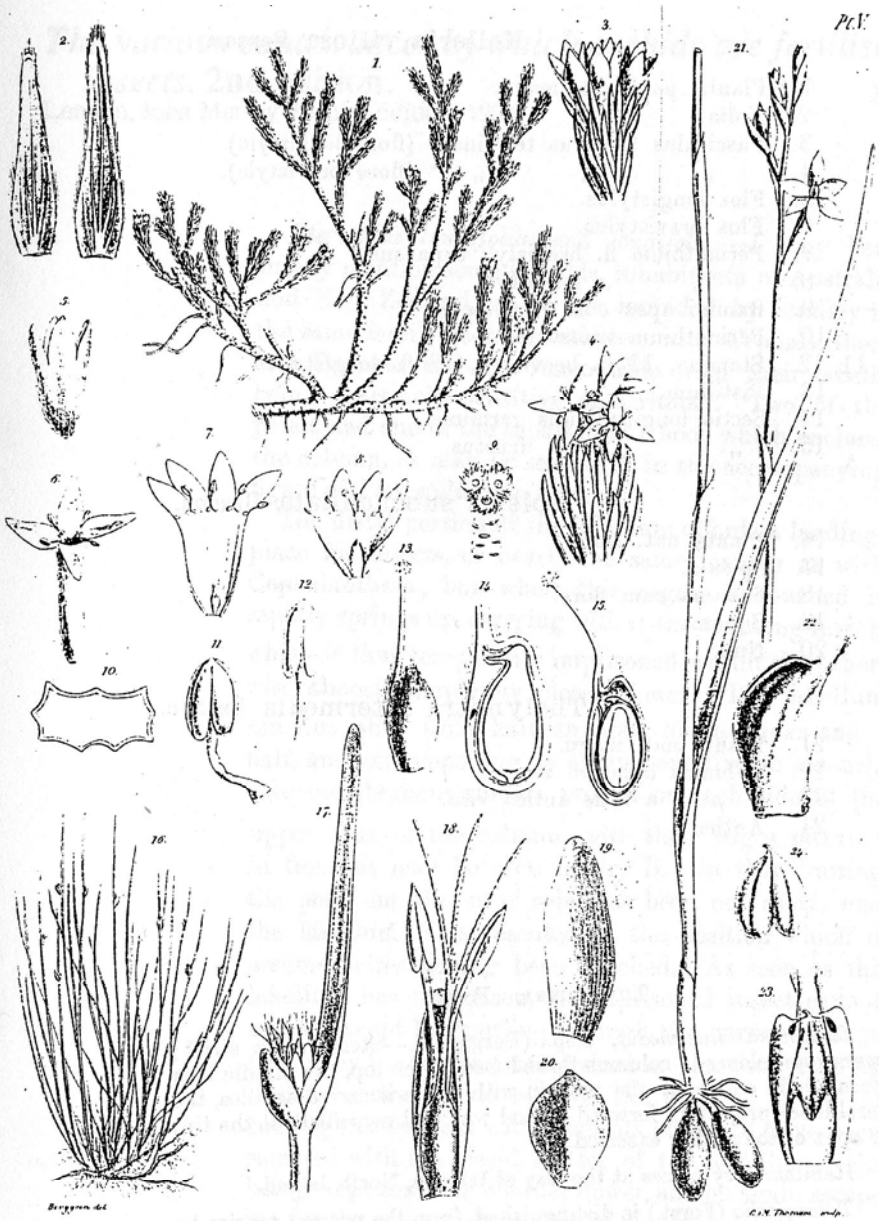
T. longifolia Forst. columnæ lobo intermedio cucullato lobis lateralibus rotundato-plumosis longiore, T. ixioides Swtth perianthio maculato, lobo intermedio columnæ fimbriato vel dentato ab hac specie distinguuntur.

Till habitus ej märkbart afvikande från spädare former af T. longifolia står den här beskrifna med afseende på columnans utseende mellan nämnda art och T. ixioides. *Blomklasen* bär endast 4 små blommor. *Columnans* mellersta flik är kortare än sidoflikarna, snedt tvärhuggen, ej så tydligt hvälfd som hos F. longifolia, i kanten hvarken tandad eller fransig; sidoflikarna längre än mellanfliken i spetsen bärande en lång hårpensel.

Följande tvenne Thelymitriæ, förut bekanta endast från Tasmanien, anträffades äfven på Nya Zeeland, nämligen T. ixioides Swtth vid Bay af Islands, och T. venosa Br. vid Omatangi i närheten af sjön Taupo. Den förstnämnda arten är utmärkt genom fläckiga kalkblad och columnans mellersta flik, som är treklufven och tandad, den sednare genom flerböjd stjelk, köttiga blad, stora blåvioletta blommor, breda trubbiga tunna kalkblad, columnan som saknar sidoflikar och har mellanfliken klufven i två linearа i spetsen inrullade flikar, och genom papillös anthera.

Chiloglottis cornuta Hook. f., förut endast funnen på de antarktiska (Lord Auckland's och Campbell's) öarna, påträffade jag sparsamt i såväl norra som södra öns fjälltrakter. I blommans byggnad afviker den ny-zeeländska växten i någon mån från den antarktiska. Det udda kalkbladet i den yttre kransen är spadlikt spetsigt liksom hos C. Gunnii Lindl. från Tasmanien, de två pariga kalkbladen i den inre kransen äro syllika trubbade af samma längd som de öfriga kalkbladen, läppens flikar vid den hjertlika basen äro inböjda glandelartade och läppen är försedd med två långsgående från sidorna hoptryckta glandler på sidohälfterna och två skål- eller knappformiga glandler på midtlinien.





Kelleria villosa Berggr.

Fig. 1. Plantæ pars nat. magn.
„ 2. Folia.
„ 3. Fasciculus triflorus terminalis (flore longistylo).
„ 4. „ „ „ (flore brevistylo).
„ 5. Flos longistylus.
„ 6. Flos brevistylus.
„ 7. Perianthium fl. brevistyli expansum.
„ 8. „ „ longistyli „
„ 9. Ramuli apex cum receptaculo.
„ 10. Perianthium transverse sectum.
„ 11, 12. Stamina, 11 fl. brevistyli, 12 fl. longistyli.
„ 13. Pistillum.
„ 14. Sectio longitudinalis germinis.
„ 15. „ „ fructus.

Isolepis subcucullata Berggr.

„ 16. Planta nat. magn.
„ 17. Spicula.
„ 18. Squama cum flore.
„ 19. Squama.
„ 20. Nux.

Thelymitra intermedia Berggr.

„ 21. Planta nat. magn.
„ 22. Columna a latere visa.
„ 23. „ a facie antica visa.
„ 24. Anthera.

Thelymitra. Forst.

*Thelymitra intermedia*, n.sp. (Berggren).—Stem rather strict; flowers rose-coloured; columns three-lobed at the top, the middle lobe truncate-bifid entire at the margin with acute incurved lobules, the lateral lobes projecting forward a good way and penicillate at the tip; the apex of the anther exserted.

Habitat: Dry places at the Bay of Islands, North Island.

*T. longifolia* (Forst.) is distinguished from the present species by the middle lobe of the column being hood-shaped and exceeding in length the rounded-plumose lateral lobes.



# Darwin C.

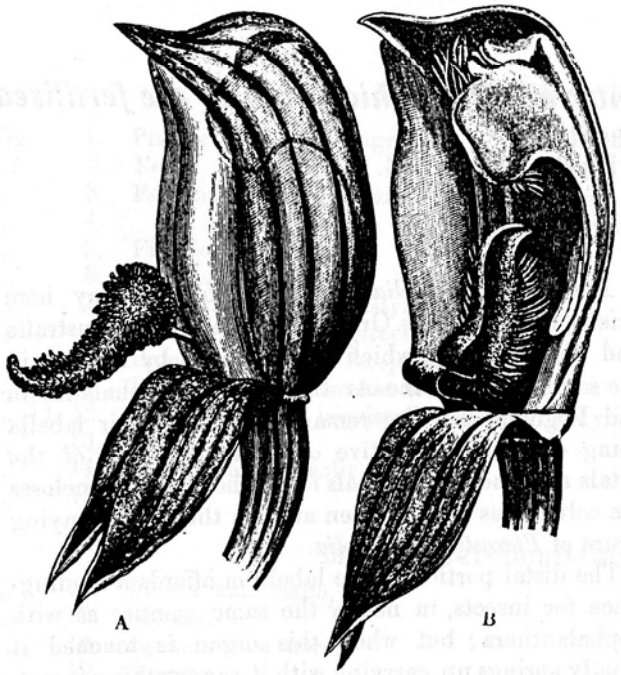
## *The various contrivances by which orchids are fertilised by insects.* 2nd edition.

London, John Murray Popular Edition, 1904.

*Pterostylis trullifolia* and *longifolia*.—I may here briefly mention some Orchids, inhabitants of Australia and New Zealand, which are included by Lindley in the same family of the Arethuseæ with Cephalanthera and Pogonia, and are remarkable from their labella being extremely sensitive or irritable. Two of the petals and one of the sepals form a hood which encloses the column, as may be seen at A in the accompanying figure of *Pterostylis longifolia*.

The distal portion of the labellum affords a landing-place for insects, in nearly the same manner as with Cephalanthera; but when this organ is touched it rapidly springs up, carrying with it the touching insect, which is thus temporarily imprisoned within the otherwise almost completely closed flower. The labellum remains shut from half an hour to one hour and a half, and on reopening is again sensitive to a touch. Two membranous shields project on each side of the upper part of the column, with their edges meeting in front, as may be seen in fig. B. In this drawing the petal on the near side has been cut away, and the labellum is represented in the position which it assumes after having been touched. As soon as the labellum has thus risen, an imprisoned insect cannot escape except by crawling through the narrow passage formed by the two projecting shields. In thus escaping it can hardly fail to remove the pollinia, as, before coming into contact with them, its body will have been smeared with the viscid matter of the rostellum. On being imprisoned in another flower, and on again escaping by the same passage, it will almost certainly leave at least one of the four pollen-masses on the adhesive stigma, and thus fertilise the flower.

Fig. 14.




PTEROSTYLIS LONGIFOLIA. (Copied from Mr. R. D. Fitzgerald's 'Australian Orchids.')

A. Flower in its natural state: the outline of the column is dimly seen within.
B. Flower with the near lateral petal removed, showing the column with its two shields, and the labellum in the position which it occupies after having been touched.

All that I have here said is taken from the admirable description given by Mr. Cheeseman * of *Pterostylis trullifolia;* but I have copied the figure of *P. longifolia* from Mr. Fitzgerald's great work on the Australian Orchids, as it shows plainly the relation of all the parts.

Mr. Cheeseman placed insects within several flowers of *P. trullifolia,* and saw them afterwards crawl out, generally with pollinia attached to their backs. He also proved the importance of the irritable labellum by removing it from twelve flowers whilst young, and in this case insects which entered the flowers would not have been compelled to crawl out through the passage; and not one of these flowers produced a capsule. The

* 'Transact New Zealand Institute,' vol. v. 1873, p. 352; and vol vii. p. 351.



flowers seem to be frequented exclusively by Diptera; but what attraction they present is not known, as they do not secrete nectar. Mr. Cheeseman believes that hardly a quarter of the flowers produce capsules; notwithstanding that on one occasion he examined 110 flowers in a withered condition, and seventy-one of these had pollen on their stigmas, and only twenty-eight had all four pollinia still within their anthers. All the New Zealand species bear solitary flowers, so that distinct plants cannot fail to be intercrossed. I may add that Mr. Fitzgerald also placed a small beetle on the labellum of *P. longifolia,* which was instantly carried into the flower and imprisoned; afterwards he saw it crawl out with two pollinia attached to its back. Nevertheless he doubts, from reasons which seem to me quite insufficient, whether the sensitiveness of the labellum is not as great a disadvantage as an advantage to the plant.

Mr. Fitzgerald has described another Orchid belonging to the same sub-tribe, *Caladenia dimorpha,* which has an irritable labellum. He kept a plant in his room, and says: "A house-fly lighting on the lip was carried by its spring against the column, and becoming entangled in the gluten of the stigma, and struggling to escape, removed the pollen from the anther and smeared it on the stigma." He adds, "Without some such aid the species of this genus never produce seed." But from the analogy of other Orchids we may feel sure that insects usually behave very differently from the fly which he saw caught on the stigma, and no doubt they carry the pollen-masses from plant to plant. The labellum of another Australian genus, Calæna, one of the Arethuseæ, is said by Dr. Hooker * to be irritable; so that when touched by an insect it shuts up suddenly against the column, and temporarily encloses its prey as it were within a box. The labellum is covered by curious papillæ, which, as far as Mr. Fitzgerald has seen, are not gnawed by insects.

* 'Flora of Tasmania,' vol. ii. p. 17.

Mr. Fitzgerald describes and figures several other genera, and states with respect to *Acianthus fornicatus* and *exsertus* that neither species produce seeds if protected from insects, but are easily fertilised by pollen placed on their stigmas. Mr. Cheeseman * has witnessed the fertilisation of *Acianthus sinclairii* in New Zealand, the flowers of which are incessantly visited by Diptera, without whose aid the pollinia are never removed. Out of eighty-seven flowers borne by fourteen plants, no less than seventy-one matured capsules. This plant according to the same observer exhibits one remarkable peculiarity, namely, that the pollen-masses are attached to the rostellum by means of the exserted pollen-tubes, which serve as a caudicle; and the pollen-masses are thus removed together with the rostellum, which is viscid, when the flowers are visited by insects. The flowers of the allied Cyrtostylis are also much frequented by insects, but the pollinia are not so regularly removed as those of the Acianthus; and with Corysanthes, only five out of 200 flowers produced capsules.



# Beitrage zur Kenntnis der Flora von Neu-Kaledonien.

Engler's *Botanische Jahrbucher fur Systematik Pflanzgeschichte und Pflanzengeographie* 39: pp39-42 (English translation in *Contributions to the knowledge of the flora of New Caledonia by Rudolf Schlechter.* Australian Orchid Foundation, Essendon, 1986), 1906.

## Acianthus R. Br.

Unter den Gattungen der *Neottiinae* dürfte wohl *Acianthus* diejenige sein, welche auf der Insel Neu-Kaledonien als artenreichste gelten kann. Außer den hier beschriebenen 5 neuen Arten waren aus dem Gebiete bisher drei bekannt, nämlich: *A. elegans* Rchb. f., *A. atepetalus* Rchb. f. und *A. cymbalariifolius* F. v. M. et Krzl. Es unterliegt für mich keinem Zweifel, daß außer diesen 8 Arten noch eine ganze Reihe neuer Formen aus dem Gebiete zu erwarten sind. Ich selbst besitze noch verschiedene, die ich während meiner Reise auf der Insel sammelte, die jedoch schon zu stark in Frucht übergegangen sind, um zur Beschreibung auszureichen.

Die Gattung *Cyrtostylis* R. Br. unterscheidet sich vom *Acianthus* in keiner Weise. Die einzelnen Blütenteile und die Columna sind bei beiden Gattungen durchaus identisch. Die Stellung des Laubblattes ist unwesentlich, umsomehr, als auch bei *Acianthus* sehr tief stehende Stengelblätter vorkommen, während bei schwachen Exemplaren des *A. reniformis* Schltr. (*Cyrtostylis reniformis* R. Br.) und *A. oblongus* Schltr. (*Cyrtostylis oblonga* Hk. f.) dieselben auch höher am Stengel emporgerückt sein können.

## Acianthus R.Br.

Among the genera of the Neottiinae, Acianthus may be regarded as the most abundant in species in New Caledonia. Besides the five new species described here, three others were previously known from the region, viz. A. elegans Rchb.f., A. atepetalus Rchb.f. and A. cymbalariifolius F.v.M. et Krzl. I have no doubt that apart from these eight species, a whole series of new forms may be expected from the region. In addition, I possess others which I collected during my travels in the island, but which were too far advanced in fruit to permit a description.

The genus Cyrtostylis R.Br. can in no respect be distinguished from Acianthus. The individual floral segments and the column of both genera are quite identical. The location of the leaf is immaterial, all the more so since in Acianthus, leaves occur low down on the stem, whilst in less robust specimens of Acianthus reniformis Schltr.(Cyrtostylis reniformis R.Br.) and A. oblongus Schltr. (Cyrtostylis oblonga Hook.f.) they may be found higher up on the stem.

# Schlechter R.

## Die Gattung *Townsonia*.

*In* Fedde's *Repertorium Specierum novarum regni vegetabilis*. 9. 249., 1911.

### LIII. Die Gattung *Townsonia* Cheesem.

Von R. Schlechter.

(Originaldiagnose.)

Im Jahre 1906 wurde von Th. F. Cheeseman in seinem „Manual of the Flora of New Zealand", p. 691 eine neue Orchidaceen-Gattung veröffentlicht, die den Namen *Townsonia* erhielt, zu Ehren des Mr. W. Townson, der die Pflanze auf der südlichen Insel von Neu-Seeland bei West-Port zuerst entdeckt hatte. In seinen Bemerkungen über die Verwandtschaft der neuen Gattung gibt Cheeseman an, dass sie wohl in die Nähe von *Adenochilus* Hk. f. zu setzen sei.

Als ich im vergangenen Jahre eine neue Gruppierung der *Polychondreae* (*Neottiinae* Pfitz) vornahm, stiess ich bei dem Versuche, diese Gattung nach der mir damals allein bekannten Beschreibung unterzubringen, auf erhebliche Schwierigkeiten, so dass ich mich gezwungen sah, die Frage ihrer näheren Verwandtschaft offen zu lassen. Auf meine Bitte um einige Proben der Pflanze war nun Mr. Cheeseman so liebenswürdig, mir ein vorzügliches Herbar- und Spiritusmaterial zu übersenden, das mir die Möglichkeit bot, die Gattung genau zu untersuchen. Auf Grund dieser Untersuchungen konnte ich dann auch feststellen, dass die Gattung unzweifelhaft ein Mitglied meiner Gruppe *Acianthinae* ist und daselbst am besten zwischen *Acianthus* R. Br. und *Stigmatodactylus* Maxim. untergebracht wird. Eine gewisse Annäherung an die *Caladeniinae* findet statt durch die breit geflügelte Säule, die in der Gruppe der *Acianthinae* die Pflanze auch vor allen anderen vier Gattungen auszeichnet. Das Labellum das abgesehen von zwei kurzen Leisten keine weiteren Erhöhungen oder Protuberanzen zeigt, und auch der Habitus verweisen die Pflanze in die Gruppe der *Acianthinae*. Auffallend ist, dass sich am Grunde der blühenden, ein Laubblatt tragenden Stämmchen stets ein gestieltes Grundblatt findet, das bei dem nahe verwandten *Acianthus* nie zu beobachten ist. Die Petalen zeichnen sich durch ihre starke Reduktion aus, doch finden sich Anklänge hierzu bei einigen neukaledonischen *Acianthus*-Arten, wenngleich dort auch die Reduktion nie so weit geht. An *Stigmatodactylus* erinnert das fingerförmig ausgezogene Rostellum.



Sobald ich die ersten trockenen Exemplare der *Townsonia* sah, fiel mir deren grosse Ähnlichkeit mit *Acianthus viridis* Hk. f. von Tasmanien auf, was mich veranlasste, auch diese Pflanze einer näheren Untersuchung zu unterziehen. Diese Untersuchung zeigte, dass die Pflanze ebenfalls eine echte *Townsonia* sei, die sich von *Townsonia deflexa* Cheesem. nur eben genügend unterscheidet, um als eigene Art betrachtet zu werden.

Den verwandten Gattungen gegenüber liegen die Unterschiede der Gattung *Townsonia* somit in den bei beiden bisher bekannten Arten in auffallend gleichen Charakteren, nämlich dem gestielten Grundblatt und der breitgeflügelten Säule deren Flügel oben in je einem Zahn endigen.

Die Gattung ist also eine typisch antarktische, indem eine Art auf Tasmanien, die zweite auf die Südinsel von Neu-Seeland beschränkt ist.

#### Schlüssel der Arten.

I. Mittellappen des Labellums die Hälfte der Länge der Lippe einnehmend, Säule etwa 2,5 mm lang . . . . . 1. *T. deflexa* Cheesem.

II. Mittellappen des Labellums etwa ein Viertel der Länge der Lippe einnehmend, Säule etwa 3,5 mm lang . . 2. *T. viridis* (Hk. f.) Schltr.

#### Aufzählung der Arten.

1. *T. deflexa* Cheesem., Man. Fl. New Zeal., p. 692.

Neu-Seeland: Bei West-Port, an der Westküste der Südinsel. — W. Townson, blühend im November-Dezember.

2. **T. viridis** (Hk. f.) Schltr.

*Acianthus rigidis* Hk. f., Fl. Tasm., II, p. 372; Bth. Fl. Austr., VI, p. 371; F. v. Müll., Fragm., IX, p. 50.

Tasmania: In moosigen Buchenwäldern. Auf dem Mount Wellington. — F. et B. Gulliver.

# Schlechter R.

## Die Polychondriae (Neottiinae Pfitz.) und ihre systematische Einteilung.

Engler's *Botanische Jahrbucher fur Systematik Pflanzgeschichte und Pflanzengeographie* 45, 1911.

61. **Chiloglottis** R. Br.

8 Arten, davon 6 in Australien und *C. cornuta* Hk. f. sowie *C. bifolia* Hk. f.) Schltr. (*Caladenia bifolia* Hk. f., *Chilogl. Traversii* F. v. M.) in Neu-Seeland. Von den australischen Arten bisher keine aus dem westlichen Teile des Kontinents bekannt.

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### Gastrodia R. Br.

Prodr. (1810) p. 330; *Gamoplexis* Falc., in Trans. Linn. Soc. XX p. 293 t. 13.

Wie die verwandten Gattungen besteht *Gastrodia* nur aus typischen Saprophyten. Das Verbreitungsgebiet erstreckt sich von dem Himalaya bis Japan und südlich bis nach Neu-Seeland. Einige tropische Arten, sämtlich der Sektion *Codonanthos* angehörig, sind im malayischen Gebiete anzutreffen und besitzen merkwürdigerweise eine Verwandte im tropischen West-Afrika. Die Arten der Sektion *Eu-Gastrodia* scheinen an offeneren Plätzen aufzutreten, meist in sandigem Boden oder zwischen Gras, während die Arten der Sektion *Codonanthos* typische Urwald-Saprophyten sind.

In der Gestaltung ihrer Blüten, besonders des Labellums, scheint eine merkwürdige Verschiedenheit vorhanden zu sein. Ganz isoliert steht *G. orobanchoides* Bth. in dieser Hinsicht da, denn bei ihr sind sämtliche Blütenteile in eine rundliche Glocke verwachsen, während bei allen anderen Arten das Labellum frei ist.

Die Gattung läßt sich in drei Sektionen teilen, von denen *Strogadia* sich durch das mit den Sepalen eng verwachsene Labellum auszeichnet; der Unterschied zwischen den beiden anderen Sektionen, *Eu-Gastrodia* und *Codonanthos* ist kein so scharfer, wie er zu wünschen ist, doch erscheint mir die Trennung angebracht, da dadurch die tropischen Arten von den subtropischen und denen der gemäßigten Klimate geschieden werden.



**Schlüssel der Sektionen und Arten.**

I. Labellum mit den Sepalen eng verwachsen . . . . . I. *Strogadia.*
Einzige Art . . . . . 1. *G. orobanchoides* (Falc.) Bth.
II. Labellum frei.
A. Corolla nach vorn verengt oder zylindrisch . . . . . II. *Eu-Gastrodia.*
I. Säule sehr kurz.
A. Traube vielblütig . . . . . 2. *G. Cunninghamii* Hk. f.
B. Traube 3—5-blütig . . . . . 3. *G. minor* Petrie.
II. Säule verlängert.
A. Blüten eiförmig oder rundlich, nicht zylindrisch.
1. Lippe am Grunde mit 2 Öhrchen.
a. Lippe mit Längslamellen . . . . . 4. *G. sesamoides* R. Br.
b. Lippe ohne Längslamellen nur in der Mitte verdickt . . . . . 5. *G. clata* Bl.
2. Lippe am Grunde mit 2 runden Calli.
a. Blüten aufrecht . . . . . 6. *G. gracilis* Bl.
b. Blüten nickend . . . . . 7. *G. Dyeriana* King et Pantl.
B. Blüten zylindrisch . . . . . 8. *G. exilis* Hk. f.
C. Corolla nach vorn deutlich erweitert . . . . . III. *Codonanthus.*
I. Blüten vorn nicht weit nach unten gespalten.
A. Lippe fast dreilappig . . . . . 9. *G xeylanica* Schltr.
B. Lippe ganz.
1. Art aus West-Afrika . . . . . 10. *G. africana* Krzl.
2. Arten der malayischen Region.
a. Lippe mit fünf verdickten Linien . . . . 11. *G. abscondita* J. J. Smith.
b. Lippe mit 5 dünnen und 2 dicken Linien 12. *G. verrucosa* Bl.
II. Blüten vorn fast bis zur Basis gespalten.
A. Petalen kleiner als die Sepalenlappen . . . . . 13. *G. javanica* Bl.
B. Petalen ebenso groß wie der mittlere Sepalumlappen . . . . . 14. *G. Hasseltii* Bl.

1. **G. orobanchoides** (Falc.) Bth. ex Hk. f., Fl. Br. Ind. VI. p. 122.
*Gamoplexis orobanchoides* Falc., in Trans. Linn. Soc. XX. p. 293. t. 13.
Verbreitung: Himalaya.

2. **G. Cunninghamii** Hk. f., Fl. N. Zel. I. p. 251.
Verbreitung: Neu-Seeland, Stewart- und Chatham-Inseln.

3. **G. minor** Petrie, in Trans. N. Zel. Instit. XXV (1892) p. 273. t. 20.
Verbreitung: Süd-Insel von Neu-Seeland.

4. **G. sesamoides** R. Br. Prodr. (1810) p. 330.
Verbreitung: Australien.

5. **G. clata** Bl., Mus. Bot. Lugd. Bat. II. p. 174.
Verbreitung: Japan, China, Tibet.

6. **G. gracilis** Bl., Mus. Bot. Lugd. Bat. II. p. 174.
Verbreitung: Japan.

7. **G. Dyeriana** King et Pantl., in Journ. As. Soc. Beng. LXIV. p. 312.
Verbreitung: Sikkim-Himalaya.

8. **G. exilis** Hk. f., Fl. Brit. Ind. VI (1886) p. 123.
Verbreitung: Khasia-Gebirge.
9. **G. zeylanica** Schltr., in Fedde Repertor. III. p. 77.
Verbreitung: Ceylon.
10. **G. africana** Krzl., in Engl. Jahrb. XXVIII. (1901) p. 179.
Verbreitung: Kamerun.
11. **G. abscondita** J. J. Smith, in Icon. Bogor. II. (1903) t. 3.
Verbreitung: Java.
12. **G. verrucosa** Bl., Mus. Bot. Lugd. Bat. II. p. 175.
Verbreitung: Sumatra, Java.
13. **G. javanica** Endl., Gen. Pl. p. 212.
*Epiphanes javanica* Bl., Bijdr. (1835) p. 421, p. IV.
Verbreitung: Java.
14. **G. Hasseltii** Bl., Mus. Bot. Lugd. Bat. II. p. 175.
Verbreitung: Java.

**Nicht genügend bekannte Arten.**

**G. leucopetala** Colenso, in Trans. N. Zel. Instit. XVIII. (1885) p. 268.
Verbreitung: Neu-Seeland — Colenso.
**G. sikokiana** Makino, in Tokyo Bot. Mag. VI. (1892) p. 48.
Verbreitung: Japan.

**Auszuschließende Arten.**

**G. Hectori** J. Buchan. ist ein *Prasophyllum* (wahrscheinlich *P. Colensoi* Hk. f.).

**G. ovata** Bail. ist nach der Beschreibung zu urteilen eine Physurea, eine *Cheirostylis*-Art.



# Rogers R.S. and B.Rees.

*Proc.Roy.Soc.Vict.* n.s.25, 112, t6 a-c, 1912.

PRASOPHYLLUM SUTTONI, Rogers and Rees. (Orchidacea).

Buffalo Plateau, Victoria, Dr. Sutton, December, 1902.

Plant about 10 inches, fistula about 3 inches below spike, leaf about 2 inches. Spike consists of about 9 flowers, from which the colours have been discharged in the process of drying, although the faint tints on all the sepals and the dark tints on the column suggest that these have been purple. The petals look as though they had been white, with a coloured dark central streak.

Flowers very shortly stalked and subtended by a small semi-ovate bract about as broad as long. Lateral sepals about 4 lines, quite free, not gibbous, rather narrow lanceolate, dark stripe down middle, convex below, channelled on top (i.e., labellar side). Dorsal sepals about 3 lines, rather narrowly hooded, pointed, not recurved. Lateral petals broader and longer than lateral sepals, 4½ lines, rather broadly linear with triangular tips, membranous, with dark stripe down middle. Lateral index 112. Labellum on short claw, obovate recurved at an angle of about 60 deg. at the middle, proximal part measuring about 2 lines from claw to bend, not gibbous, with entire margins, distal part measuring about 2 lines from bend to tip, latter rather broadly blunt and rounded, margins and surface almost entirely membranous, slightly crenulated; callous portion rather narrow, channelled, increasing in thickness towards the bend and ending slightly beyond the latter in 2 raised lines. Anther not pointed, hidden behind rostellum and much shorter than latter. Appendages of column large, reaching quite to level of rostellum, falcate, with small basal ovate lobe, adnate only to base of column. Rostellum voluminous, purple, much higher than anther, triangular. Stigmatic surface large. Ovary short (about 2½ lines), turgid, obovate, on very short pedicel.

The species appears to be perhaps most closely allied to *P. fuscum*, though also related to other species. The examination and description of the plant was carried out jointly by Dr. Rogers and Miss Rees.

# Druce G.C.

*Reports of the Botanical Society and Exchange Club of the British Isles* 2. Manchester, 1916.

CALADENIA CATENATA (Smith Exotic Botany, t. 104, plate dated Aug. 1, 1906, as Arethusa): comb. nov., Orchidaceae. Vice C. carnea R. Br. Prod. 324, 1810. Cited Fl. Austral. vi., 386, 1873, and I.K.

# Rogers R.S.

## Contributions to Australian Orchidology.

*Trans. R. S. South Australia* 44: *pp*322-359, 1920.

CALADENIA IRIDESCENS, n. sp.

A slender plant 10-20 cm. in height; stem reddish-purple, beset with fine hairs, a small clasping subulate bract below the middle, a tubular scarious sheath from 5-10 mm. long at the base; leaf narrow-linear, 5-8 cm. long generally reaching beyond the bract, sparsely hirsute.

Flowers usually solitary, rarely 2, a dusky-red mingled with iridescent golden tints, rather more than 2 cm. in diameter; ovary hairy, narrow, elongated, on a slender pedicel 7-10 mm. long, subtended by a narrow acute lanceolate bract; habit approaching that of *Caladenia carnea*, Br.

Lateral sepals spreading as in *C. carnea*, falcate-lanceolate, 11-13 mm. long; upper-surface a deep red (almost claret-colour), sometimes passing into a greenish-gold at the tips; lower-surface dull gold, iridescent, studded with dark-reddish glands. Dorsal sepal erect but much incurved, about 10 mm. long, contracted towards the base, spathulo-lanceolate, rather wider than lateral sepals, its dorsal surface glandular and similar in colour to the lower surface of the lateral sepals. Lateral petals narrower than the other segments, about same length as the dorsal sepal, coloured as in the case of the lateral sepals.



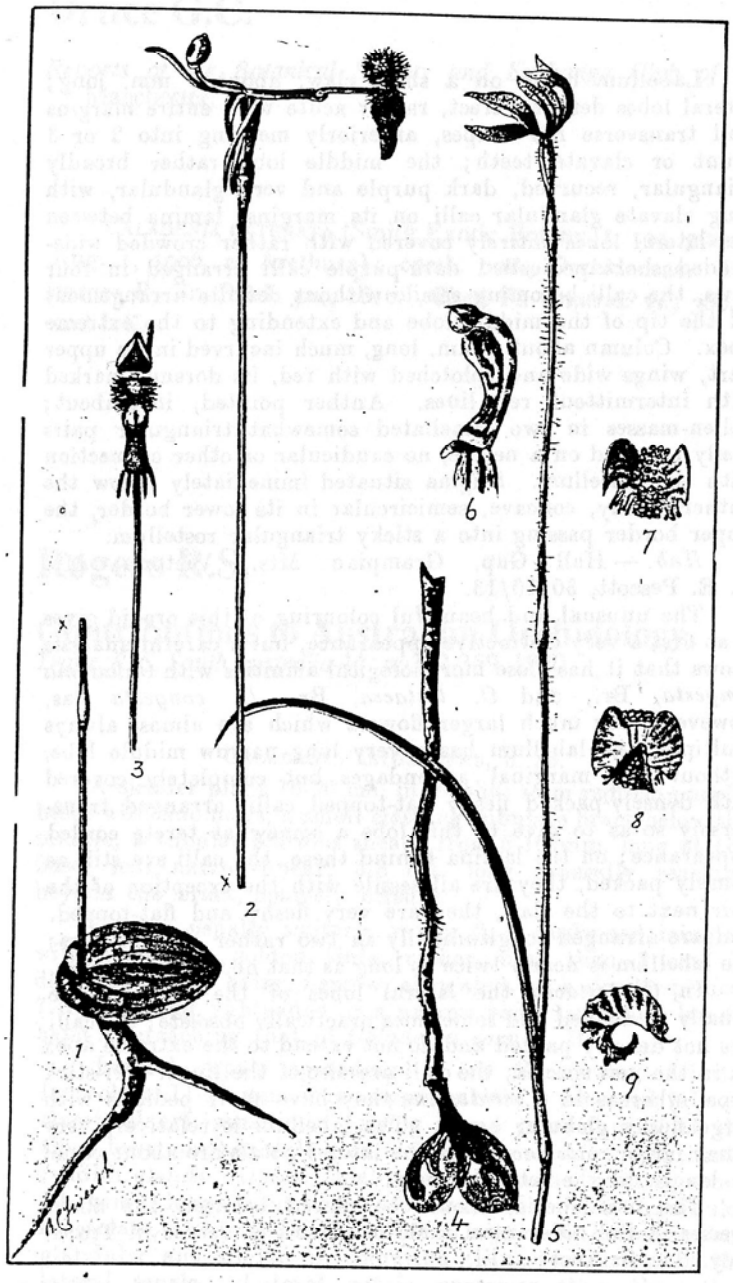
Labellum ovate on a short claw, about 5 mm. long; lateral lobes definite, erect, rather acute with entire margins and transverse red stripes, anteriorly merging into 2 or 3 blunt or clavate teeth; the middle lobe rather broadly triangular, recurved, dark purple and very glandular, with long clavate glandular calli on its margins; lamina between the lateral lobes entirely covered with rather crowded wide-headed short pedicelled dark-purple calli arranged in four rows, the calli becoming sessile without definite arrangement on the tip of the middle lobe and extending to the extreme apex. Column about 6 mm. long, much incurved in its upper part, wings wide and splotched with red, its dorsum marked with intermittent red lines. Anther pointed, incumbent; pollen-masses in two lamellated somewhat triangular pairs easily removed on a needle, no caudicular or other connection with the rostellum. Stigma situated immediately below the anther, fleshy, concave, semicircular in its lower border, the upper border passing into a sticky triangular rostellum.

*Hab.* — Hall Gap, Grampian Mts., Victoria, Mr. E. E. Pescott, 30/10/13.

The unusual and beautiful colouring of this orchid gives it at first a very distinctive appearance, but a careful analysis shows that it has close morphological affinities with *Caladenia congesta*, Br., and *C. testacea*, Br. *C. congesta* has, however, very much larger flowers which are almost always multiple; the labellum has a very long narrow middle lobe, without any marginal appendages but completely covered with densely-packed fleshy flat-topped calli, arranged transversely so as to give to this lobe a somewhat terete corded appearance; on the lamina behind these, the calli are still as densely packed, they are all sessile with the exception of the pair next to the claw, they are very fleshy and flat-topped. and are arranged longitudinally in two rather obscure rows; the labellum is nearly twice as long as that of the new species.

In *C. testacea* the lateral lobes of the labellum are usually ill defined and sometimes practically obsolete; the calli are not densely packed and do not extend to the extreme apex as in the new species; the calli are also of the linear-golf-stick type, whereas in *C. iridescens* they have short pedicels with large fleshy globular heads. The labellum is relatively very much larger in *testacea* and the lateral petals are about equal in length to the lateral sepals.

The new species should be placed between the above species in the differential table of these *Caladenias* in Trans. Roy. Soc. S. Austr., xlii., 32.




*Drakaea Jeanensis.* *Caladenia iridescens.*

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**Rogers R.S.**

# Contributions to the orchidology of Australia and New Zealand.

*Trans.R.S.South Australia* 46: pp148-59, 1922.

**Pterostylis humilis,** n. sp. Planta robusta, perbrevis, 2-3 cm. alta. Folia 4-6, rosulata v. subrosulata, sessilia, imbricata, 0·5-2·5 cm. longa, ovata v. oblonga. Flos unicus, sessilis; ovarium basibus foliorum in parte obtectum. Sepalum dorsale ovato-lanceolatum, circiter 15 mm. longum cum petalis connivens. Galea subangusta, apice acutiuscula. Labium inferius oblongo-cuneatum, erectum, sinu acutissimo, lobi subulati circiter 13 mm. longi galeam multo superantes. Labellum unguiculatum, lineari-oblongum, ad apicem obtusum sensim contractum; lamina circiter 11 mm. longum, linea longitudinalis elevata in medio; appendix linearis, curvata, penicillata. Columna circiter 10 mm. longa; anthera terminalis, obtusa, bilocularis, erectiuscula; lobi superiores laciniarum breves lineares, inferiores longi falcati acutissimi. Stigma perprominens, infra columnam mediam, late cordatum, lobis distinctissimis.

A rather stout plant of low stature, arising from two more or less conical or globose tubers. Leaves (in the flowering stage) 4-6, rosulate or subrosulate, sessile, sheathing, imbricate; lamina of varying length, oblong, ovate or oblong-ovate. Flower solitary apparently sessile, the ovary partly hidden by the sheathing bases of the leaves. Dorsal sepal ovate-lanceolate, about 15 mm. long (when extended), connivent with the petals to form a rather narrow erect galea, apex of galea rather acute but not prolonged into a filiform point. The base of the lower lip oblong-cuneate, erect; lobes subulate (hardly filiform), including a very acute sinus, embracing the galea. Labellum reddish-brown, on a movable irritable claw, oblong-linear, tapering a little towards a very blunt and slightly recurved tip; lamina traversed by a raised longitudinal line with a corresponding groove below; basal appendage linear, curved, penicillate. Column (extended) about 10 mm. long. Anther terminal, bilocular, quite blunt, rather erect. Wings of column with a short linear upper lobe or tooth; the lower lobe long, falcate, very acute. Stigma very prominent, situated below the middle of the column; its two lobes very distinct, together forming a broadly cordate disk. Rostellum linear-oblong situated between the bases of the anther loculi and connected to the stigma by a split tube.

*New Zealand:* The Haunted Whare, near Waimarino (H. B. Matthews).

Mr. Matthews states that his specimens were removed from their natural habitat near the base of Ruapehu (within three miles of perpetual snow), and cultivated in Auckland, 200 miles north of their native locality. He thinks that the change to abnormal conditions may have produced a dwarfed growth in the plant. Along with his spirit specimens, he forwarded a photograph of a fruiting specimen. This indicates a plant of different habit, with a stature of 11 cm.; with leaves on well-marked petioles and lamina from 3·75-6 cm. long. It is probable that the scape becomes elongated after pollination, so as to assist in the maturation of the fruit, as happens in the case of many Australian orchids, notably in the genus *Corysanthes*. On the other hand, it must be remembered, that in certain other species of the genus, dwarfed specimens are by no means infrequent. This is particularly true of *P. cucullata*, where dwarf forms are often to be found growing side by side with normal plants. These show such a departure from the type that even experienced botanists like Sir J. D. Hooker and Robt. Brown fell into error and described them as separate species.

Mr. Matthews further states that unlike other members of the genus, the flower is reversed, the labellum being uppermost, owing apparently to a retroflexion of the column on the ovary.

The new species appears to correspond rather closely to the description of *P. trifolia*, published by Colenso in New Zealand Inst., xxxi. (1898), 281. As only a single specimen of Colenso's plant was discovered, and that is not available for comparison, it is not possible to say whether the two orchids are identical. Cheeseman, however, regards *P. trifolia* as conspecific with *P. venosa*, which differs from Mr. Matthews' plant in column and in some other respects.



# Schlechter R.

## *Corybas* Salisb. oder *Corysanthes* R. Br.

*In* Fedde's *Repertorium Specierum novarum regni vegetabilis.* 19: 23, 1923.

### III. R. Schlechter, *Corybas* Salisb. oder *Corysanthes* R. Br.?

Wenn ich diese alte Streitfrage, welche zuerst von R. Brown selbst aufgeworfen, von Lindley zugunsten des letzteren, von Reichenbach fil. im Sinne Salisburys, von Bentham wieder in gleicher Weise wie von Lindley entschieden wurde, hier nochmals behandle, so geschieht dies aus dem Grunde, weil neuerdings Oakes Ames wieder für Corybas eingetreten ist. Leider steht keiner der beiden Namen auf dem „Index" der aufrecht zu haltenden Gattungsnamen, der offenbar in sehr kurzer Zeit zusammengestellt werden mußte und daher eine bedauerlich große Zahl von Lücken enthält, die, wenn er nicht bald neu redigiert wird, eine Umtaufung von Tausenden von Arten zur Folge haben wird.

*Corybas* wurde im Jahre 1807 von Salisbury im „Paradisus Londinensis" auf t. 83 aufgestellt. Drei Jahre später veröffentlichte R. Brown seine Gattung *Corysanthes*, die ohne Zweifel mit *Corybas* identisch ist. Nach R. Brown Prodr. p. 328 soll es sich, wie O. Kuntze in seiner Revisio Generum II, p. 656 sagt, um eine Unterschlagung handeln, doch ist diese Tatsache nie bewiesen worden und wird auch nie bewiesen werden können. Reichenbach fil. stellte bei seiner Bearbeitung der Orchideen des „Herbarium Robert Brown" den Namen *Corybas* wieder her. Spätere Autoren ließen ihn aber wieder fallen. In seiner „Revisio Generum" trat O. Kuntze im Jahre 1891 sehr energisch für die Wiederherstellung von *Corybas* ein und führte dafür Gründe an, die immerhin nicht außer acht gelassen werden dürfen. Trotz alledem wurde von den meisten Autoren, so auch von Pfitzer in seiner Bearbeitung der Orchideen für die „Pflanzenfamilien" *Corysanthes* weiter gehandhabt. Neuerdings nun macht Oakes Ames wieder auf *Corybas* aufmerksam und um die Schaffung weiterer neuer Namen zu vermeiden, wird es nun doch wünschenswert, daß die Orchideologen sich über die Anerkennung eines der beiden Namen klar werden.

Nach Überlegung aller bekannten Tatsachen über die Geschichte der Gattung und Besprechung derselben mit verschiedenen Autoritäten auf dem Gebiete der Nomenklaturfragen scheint es mir unumgänglich zu sein den Namen *Corybas* anzunehmen. Es muß und kann uns ganz gleichgültig sein, ob die Vorwürfe, welche R. Brown wegen der früheren Beschreibung der Gattung Salisbury machte, gerechtfertigt waren oder

Neu-Seeland.

42. **Corybas Cheesemanii** (Hk. f.) O. Ktze., Rev. Gen. II (1891), p. 657.
*Corysanthes Cheesemanii* Hk. f., ex Trans. N. Zeal. Inst. III (1871), p. 180.
Neu-Seeland.

43. **Corybas macranthus** (Hk. f.) O. Ktze., Rev. Gen. II (1891), p. 657.
*Nematoceras macrantha* Hk. f., Flor. N. Zeal. I (1855), t. 229.
*Corysanthes macrantha* Hk. f., Handb. N. Zeal. Fl. (1867), p. 266.
*Corysanthes papillosa* Colenso, in Trans. N. Zeal. Inst. XVI (1884), p. 337.
*Corybas papillosa* O. Ktze., Rev. Gen. II (1891), p. 657.
Neu-Seeland.

44. **Corybas Matthewsii** (Cheesem.) Schltr., nov. comb.
*Corysanthes Matthewsii* Cheesem., in Trans. N. Zeal. Inst. XXXI (1899), p. 351.
Neu-Seeland.

45. **Corybas oblongus** (Hk. f.) O. Ktze., Rev. Gen. II (1891), p. 657.
*Nematoceras oblonga* Hk. f., Fl. N. Zeal. I (1855), p. 249.
*Corysanthes oblonga* Hk. f., Handb. N. Zeal. Fl. (1867), p. 266.
Neu-Seeland.

46. **Corybas rivularis** (Hk. f.) O. Ktze., Rev. Gen. II (1891), p. 657.
*Nematoceras rivularis* Hk. f., Fl. N. Zeal. I (1855), p. 251.
*Corysanthes rivularis* Hk. f., Handb. N. Zeal. Fl. (1867), p. 266.
Neu-Seeland.

47. **Corybas rotundifolius** (Hk. f.) O. Ktze., Rev. Gen. II (1891), p. 657.
*Nematoceras rotundifolia* Hk. f., Fl. N. Zeal. I (1855), p. 249.
*Corysanthes rotundifolia* Hk. f., Handb. N. Zeal. Fl. (1867), p. 266.
*Corysanthes orbiculata* Colenso, in Trans. N. Zeal. Inst. XXIII (1891), p. 389.
Neu-Seeland.

48. **Corybas trilobus** (Hk. f.) O. Ktze., Rev. Gen. (1891), p. 657.
*Nematoceras triloba* Hk. f., Fl. N. Zeal. I (1855), p. 250.
*Corysanthes triloba* Hk. f., Handb. N. Zeal. Fl. (1867), p. 265.
*Corysanthes hypogaea* Colenso, in Trans. N. Zeal. Inst. XVI (1884), p. 336.
Neu-Seeland.



# Carse H.

## Three interesting plants.

*NZ Journal of Science and Technology* 8, 1926.

Corysanthes Carsei Cheesem. in *Trans. N.Z. Inst.*, xliv (1912) 162.

North Island: Peaty swamps between Lake Tongonge and the coast, H. Carse and H. B. Matthews! —*Manual of the New Zealand Flora* (1925), 364.

In the early years of the present century the late Mr. R. H. Matthews, Mr. H. B. Matthews, and I noted the three plants mentioned above on the peat bog which lies between Lake Tangonge (misprinted Tongonge in the *Manual*) and the inner consolidated sand-dunes which lie along the west coast of Mangonui, the most northerly county in the Dominion.

Of these three *Lycopodium Drummondii* had been discovered in 1839 by the late Rev. W. Colenso, possibly on the same spot, but not necessarily so, for there are thousands of acres of similar country between Lake Tangonge and the North Cape. *Lepyrodia Traversii* had previously been recorded from two widely separated habitats—the Ohaupo Swamp, in the neighbourhood of Hamilton, Waikato, and the Chatham Islands—over four hundred miles apart; and now, three hundred miles farther north, it again appeared. *Corysanthes Carsei* was an entirely new discovery.

The three plants were found close together within a very limited area, associated with various mosses, liverworts, *Schoenus brevifolius*, *Cladium glomeratum*, *C. teretifolium*, *Hypolaena lateriflora*, *Thelymitra* spp., *Orthoceras strictum*, *Leptospermum Scoparium* (depauperated form), *Epacris pauciflora*, &c.

A few years after our discovery of these plants a big ditch was dug through the bog, and they quickly disappeared, leading us to the conclusion that, so far as the lycopod and the orchid were concerned, they were now extinct in New Zealand, and that, as the Ohaupo Swamp had also been drained, *Lepyrodia* was now to be looked for only in the Chathams.

In November, 1923, I spent some time at Tauhei, near Morrinsville, in Piako County, some twenty or thirty miles from the Ohaupo Swamp. Much of the land in this neighbourhood consists of peat bog, which stretches for twenty miles or so westward towards the Waikato lakes. In the bog about Tauhei I found *Lepyrodia* to be abundant, and of vigorous habit of growth. The *Manual* (p. 284) gives the height of this plant as "2–5 ft." The Tauhei plants are 3–10 ft. high, the stems being thick in proportion. The taller forms are found in the shelter of dense *Leptospermum* scrub, intermixed with large quantities of *Epacris pauciflora*, 5–8 ft. high.

In November, 1925, I was again at Tauhei. It had struck me that as the plant association was so similar to that of the Tangonge bog there was a possibility of the occurrence here of *Lycopodium Drummondii*. I made careful search, and, on a spot from which the scrub had been burnt off some years before, I found a stunted form of *Lycopodium laterale*, and mixed with it a lycopod much lighter in colour and more closely appressed to the surface of the ground. Soon I found numerous dry but unmistakable spikes of the previous season's growth—undoubtedly *Lycopodium Drummondii!*

I at once sent specimens to Dr. Holloway, at Dunedin, and within a week received his congratulatory reply. Some days later, in a much wetter part of the bog, I found this lycopod in abundance, in patches 1–10 ft. in diameter. Owing to the backward season the new spikes were very immature when I left the district at the end of December. However, I secured a fair number of specimens showing the dry spikes and a few of the immature ones.

Having now found these two plants of the Tangonge association, I made careful search for the orchid, and, at last, found three of last season's plants with remains of flowers and a number of seedlings. As the flowering-period is about September, I could do no more. Mr. H. B. Matthews, who has done more probably in the study of New Zealand orchids than any other recent botanist, confirmed my opinion that my find was *Corysanthes Carsei*.

The plant association at Tauhei, so far as the three species I am referring to, is almost identical with that at Tangonge, with the addition of *Sphagnum* sp. in large rounded masses, *Lycopodium laterale*, *Thelymitra venosa*, *Drosera spathulata*, *D. binata*, *Utricularia novae zealandiae* (not common), and *U. delicatula* (abundant).

It is noteworthy that *Hypolaena lateriflora* in this association, in place of being "9–18 in., but sometimes forming dense masses 2–3 ft. high" (*Manual*, 286).. often forms dense masses scrambling over *Leptospermum* to the height of 6–10 ft.

The fact that the lycopod and orchid in both habitats occur only on parts of the bogs burnt off within recent years naturally leads to the inquiry to the whence of the spores of the one and the seeds of the other. Have they been lying dormant *in situ* for years awaiting favourable conditions to enable them to germinate? The two plants are so small, so close to the surface of the ground, that the wind can hardly be taken as a factor in their distribution. Can science explain?

It would be interesting if some Chatham Island botanist would examine carefully the bogs in which *Lepyrodia Traversii* occurs to ascertain if either *Lycopodium Drummondii* or *Corysanthes Carsei* is there also.

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# Rupp H.M.R.

## Australian and New Zealand orchids.

*Victorian Naturalist* 49. pp151-2, 1932.

At the recent Sydney Congress of the Australian and New Zealand Association for the Advancement of Science, several speakers denounced the theory of a former land-connection between these two countries. I am not in any way qualified to defend this theory, nor am I particularly concerned to do so. But one argument used in its demolition was to the effect that the widely different character of the floras of Australia and New Zealand supports the contention that no such connection ever existed. This argument, it seems to me, is hardly square with the facts.

It is quite true that plants like *Eucalyptus*, *Acacia* and the Proteaceae, which are so characteristic of Australia, are almost entirely lacking in New Zealand. But, on the other hand, there are plants belonging to the same genera of several important natural orders, such as the Myrtaceae (*Metrosideros*, *Leptospermum*), Scrophulariaceae, Rubiaceae, and Pinaceae, found in both countries; while there is actually a very considerable number of *identical species*. This is well illustrated by a comparison of Australian and New Zealand Orchids. In New Zealand a number of "new" species of orchids found in recent years are still waiting [illegible], for publication of authoritative descriptions, so that it is not possible to state accurately the total number of species; but sixty-five may be taken as an approximate estimate. Of these, twenty-seven are epiphytes, viz.:—

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| *Dendrobium* | 1 |
| *Bulbophyllum* | 2 |
| *Sarcochilus* | 1 |
| *Earina* | 3 |

The last-named is the only genus not represented in Australia, but the two species of *Bulbophyllum* are closely related to Australian forms. Of the terrestrials, the following genera are common to both countries:—

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| *Gastrodia* | *Pterostylis* |
| *Spiranthes* | *Caleana* |
| *Calochilus* | *Acianthus* |
| *Thelymitra* | *Townsonia* |
| *Orthoceras* | *Lyperanthus* |
| *Prasophyllum* | *Chiloglottis* |
| *Microtis* | *Caladenia* |
| *Corysanthes* | |

When we come down from genera to species, we find at le
twenty-four New Zealand terrestrials conspecific with Australi
forms. These include such well-known species as *Gastrod*
*sesamoides*, *Spiranthes sinensis*, *Calochilus paludosus*, *C. Robert*
*sonii*, six *Thelymitra*, two *Microtis*, *Orthoceras strictum*, *Pter*
*stylis nutans*, *P. nana*, *P. barbata*, and *Caleana minor*.

Even more striking and suggestive is the relation between le
known and rarer forms. *Chiloglottis formicifera*, so far as
know, has been recorded only in New South Wales on our co
tinent, yet it occurs in New Zealand. The Australian speci
of *Adenochilus* (*A. Nortonii*) is restricted to a few highland are
in New South Wales, and the only other known species, close
related, is *A. gracilis* of New Zealand. An analogous case is th
undoubted affinity of the New Zealand *Townsonia deflexa* wit
the Tasmanian *T. viridis*. And it seems probable that furthe
comparison of Australian and New Zealand terrestrials will ad
to the list of actual species common to both countries, for on
recently it has been found that several supposed New Zealan
endemic forms are identical with Australian species. Hooker'
*Pterostylis puberula* is undoubtedly Robert Brown's *P. nana*; an
Cheeseman's *P. Matthewsii* tallies in every detail with th
familiar *P. nutans*. It is quite likely that comparative study wi
reveal further cases like these.

How are we to account for the identity of species and th
affinities of other closely-related forms in so many genera? Th
orchid flora of New Zealand appears to be more nearly relate
to that of Australia than to that of any other region. It is con
ceivable, perhaps, that minute seeds of orchids have been con
veyed by wind across the Tasman Sea, and that only those form
which have found suitable provision for their necessities in the
new home have survived. But this theory seems to be open t
many objections, and to be incapable of explaining all the fact
that are involved.

The whole subject provides a most interesting field for investi
gation, and meanwhile it seems hardly wise to ignore the remark
able affinities between the New Zealand and Australian floras, i
order to use their alleged absence as an argument against a former
land-connection.

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# Rupp H.M.R.

## An interesting Tasmanian orchid.

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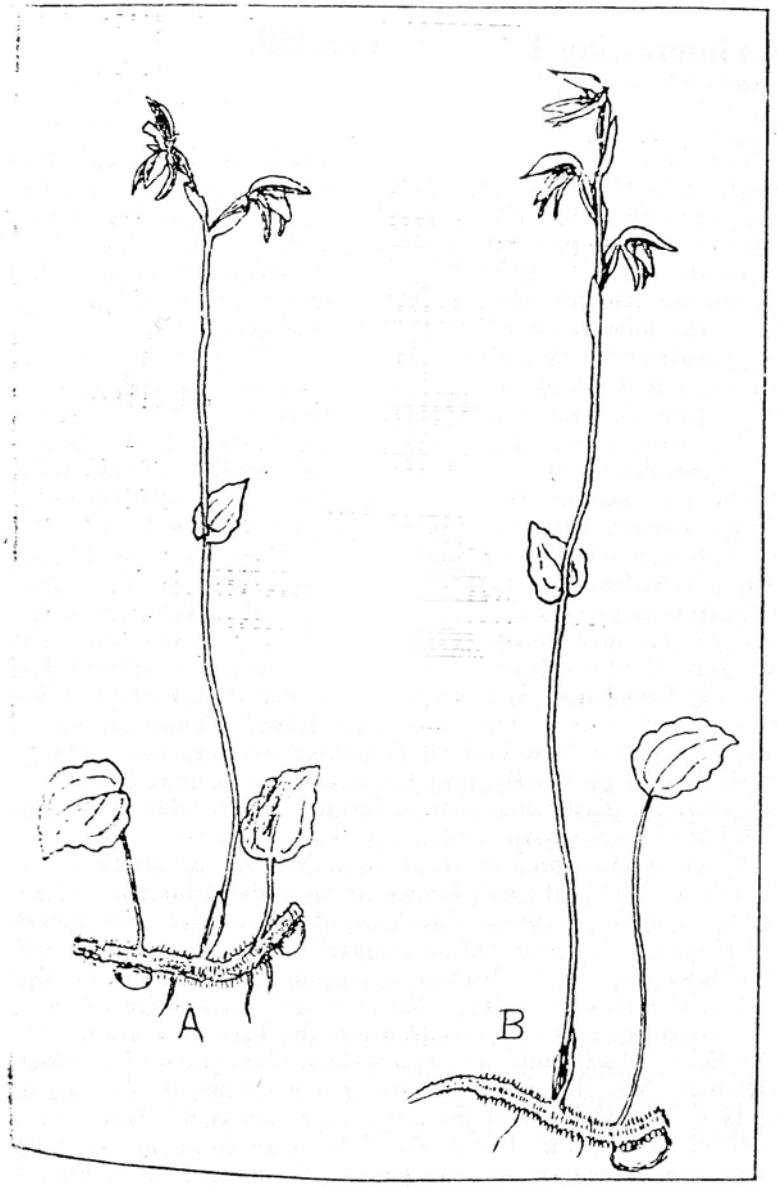
In a brief article on the affinities of Australian and New Zealand Orchids, published in this journal, October, 1932, I alluded to the relationship between the New Zealand *Townsonia deflexa* Cheeseman and the Tasmanian *T. viridis* (Hook.). Dr. F. A. Rodway, of Nowra, N.S.W., son of the veteran and distinguished Tasmanian botanist, Mr. Leonard Rodway, wrote to me inquiring as to the identity of the Tasmanian *Townsonia*, since it is not mentioned in his father's *Tasmanian Flora*. The correspondence which ensued led me to look more closely into the characters of these New Zealand and Tasmanian plants.

For some years I had had herbarium specimens, collected on the Tasmanian western highlands, of the orchid which appears in Rodway's *Flora* (p. 201, with a plate), under the name *Acianthus viridis* Hook. In the course of some correspondence with Dr. R. S. Rogers, the latter pointed out that if the late T. F. Cheeseman's New Zealand genus *Townsonia* (*Manual of the N.Z. Flora*, 1906 edition, p. 691) be recognized as valid, the Tasmanian *Acianthus viridis* must inevitably be removed to it, as the two plants are very closely related indeed. From the outset, since I first saw the Tasmanian plant, I had noticed that it appeared to differ in important respects from any other *Acianthus* known to me. I had not seen the New Zealand *Townsonia deflexa*, but I assumed, from the gist of Dr. Rogers's letter, that it was quite in order to recognize the Tasmanian plant in future as *Townsonia viridis*, and this I have always since done.

A few years ago I received from Mr. H. B. Matthews, of Remuera, Auckland—well known as an authority on the orchids of the Dominion—a most valuable assortment of specimens, including two of *Townsonia deflexa* collected by W. Townson himself. The flowers are at an advanced stage, and the rhizome or caudicle and basal leaves are lacking; but even with these defects I could see at once the intimate resemblance to the Tasmanian form. Mr. Matthews subsequently sent an excellent photograph of a colour-sketch by Mrs. Brownlee of three living specimens, showing all parts of the plant; and no one seeing this could doubt for a moment, if acquainted with the Tasmanian form, the necessity of placing the two in the same genus. My material being limited, I have not cared to risk damaging my specimens by over-handling, but I must confess that, after subjecting them to considerable and careful examination, I am strongly disposed to regard them as not merely closely related, but actually conspecific.—Whether this be the case or not, however, the fact remains that they must be included in the same genus; and the question to be faced in respect




*Townsonia* or *Acianthus*?

*Townsonia deflexa* Cheeseman. Drawn from herbarium specimens and Mrs. Brownlee's colour sketch.

*Acianthus viridis* Hooker. Drawn from herbarium specimens after corm, stem, and flower.



of this is whether Cheeseman was justified or not in establishing the genus *Townsonia*. Probably opinions will differ; my own view is that he was.

I cannot find it possible to suppose that Cheeseman was acquainted with Hooker's Tasmanian species, *Acianthus viridis*; his omission of any allusion to it when describing *Townsonia* would in that case be inexplicable. Yet it is a fact that in describing New Zealand orchid species distinguished botanists have been strangely oblivious to the existence of certain long-established Australian species. Thus Hooker describes, under the name *Corysanthes Cheesemannii*, a form which cannot be separated from R. Brown's *C. bicalcarata* (now *C. aconitiflora* Salisb.), and under the name *Pterostylis pubescens*, a form indistinguishable from *Pt. nana* R. Br.; and Cheeseman himself described as a new species (*Pt. Matthewsii*) our old friend *Pt. nana* R. Br.

It is curious that Cheeseman, in describing *Townsonia*, makes no reference whatever to the genus *Acianthus*. He certainly knew the Dominion *A. Sinclairii* Hook. (very close to our *A. exsertus* R. Br.), and it does not seem to have occurred to him at all that Townson's discovery might be included in this genus. He considered it close to Hooker's *Adenochilus*, and mentions its affinities with *Chiloglottis*, *Caladenia*, and *Burnettia*.

The plate illustrating *Acianthus viridis* in Rodway's *Tasmanian Flora* shows the flowers far more erect than in any specimens I have seen. In all my western highlands specimens, and in one recently received from Mr. A. J. Tadgell, which came from the neighbourhood of Mount Wellington, they are exactly described by Cheeseman's words for *Townsonia*, "perianth horizontal or deflexed". But in Mrs. Brownlee's *Townsonia* sketch the upper flower on two stems is fairly erect; it seems reasonable, therefore, to suppose that "perianth *soon becoming* horizontal or deflexed" might fit the facts.

I have already given the reference in Cheeseman's *Manual* for his description of *Townsonia*. Descriptions of *Acianthus viridis* in addition to that of Rodway, will be found in Hooker's *Fl. Tasm.* ii, 372, and Bentham, *Fl. Austr.*, vi. 371. I now append a tabulation of the points which appear to me to justify the retention of Cheeseman's genus.

| *Townsonia* Cheeseman | *Acianthus* R.Br. |
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| Plant with a creeping rhizome or caudicle, thickened at intervals into tubers, with a few short fibrous roots also, and more or less covered with short hairs except at the growing point. | Plant with slender, succulent fibrous roots only. Tubers usually two, at the end of the main and the chief adventitious root, but other tubers may be developed by smaller roots under certain circumstances. |
| Radical leaves 1-3, prominently petiolate on the rhizome, sometimes 1 at the base of the flowering stem. | Leaf solitary, sessile or amplexicaul on the stem, varying in incidence from the base to above half-way |

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| Stem leaf lamina ovate-orbicular or cordate, with crenulate margins. | up, usually cordate with an acute apex, not crenulate, but exhibiting occasional tendency to lobation, and in one species often deeply multi-lobed. |
| Flowers 1-4, soon becoming horizontal or deflexed | Flowers 1-10 or even more, but seldom solitary; erect |
| Perianth-segments acute or obtuse. | Perianth-segments acute to finely acuminate or filamentose. |
| Petals very minute, erect or somewhat reflexed. | Petals small, often completely reflexed. |
| Labellum rather broad in front, hardly acute. | Labellum very acute or acuminate except in *A. reniformis*, where it is very blunt or emarginate. |
| Basal calli obscure, reduced to two flat ridges or apparently sometimes absent | Basal calli always prominent. |
| Column erect, prominently winged. | Column bent forward, usually not winged (except *A. reniformis*). |

It would appear that the labellum and column of *A. reniformis* serve to link the genera together, but it does not seem to me that this is the case. Of all species of *Acianthus*, *A. reniformis* is least like *Townsonia*, and the labella in particular do not resemble each other. If the consensus of botanical opinion is against Cheeseman, be it so. In any case, I hope that this article may be of service in revealing the character of a species (or is it two?) which is unfamiliar to many of our orchid-students.