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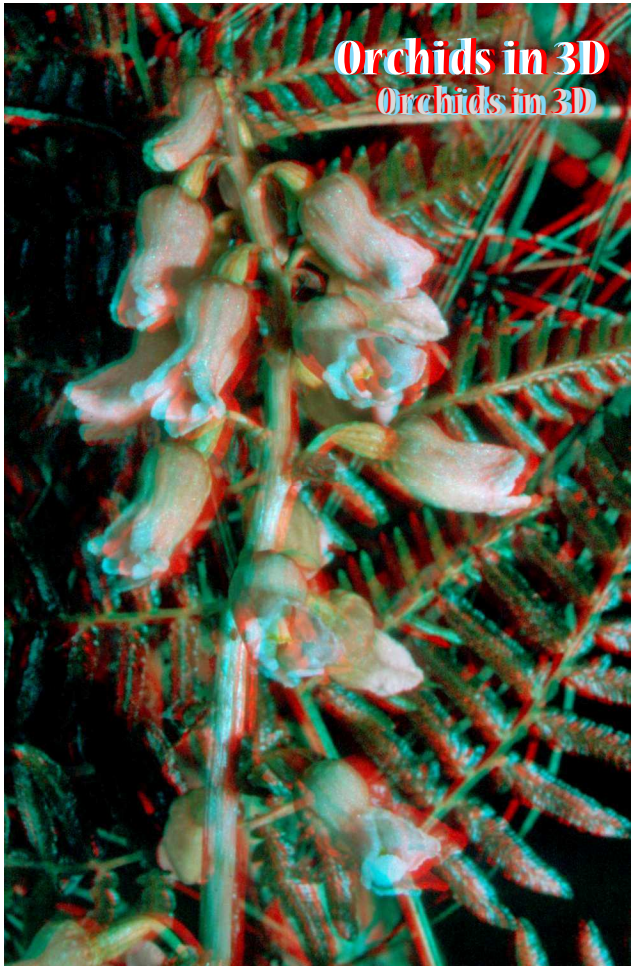
Contents



The Type locality

Ian St George

Aporostylis bifolia Rüpp & Hatch

Photograph by Kevin Grant

Edward Daniel (Dan) Hatch, an accountant by profession, became New Zealand's foremost orchidologist of the 20th century. His father was born in Nicaragua, where his grandfather was vice-consul for the Mosquito Coast. Dan, the third ED Hatch, was born in London in 1919, spent the first few years of his childhood in Salisbury, and came to New Zealand with his parents in 1922. His father was familiar with the swamps of Central America, and gravitated to Laingholm as the wildest place he could find. Dan lived there, on the Manukau coast at the foot of the Waitakeres, in the midst of native bush.

As a child Dan was acquainted with botany – his father's friend, James Hunter, was a friend of Cockayne's, and from the age of 14 Dan took a keen interest in plants. He got into orchids by chance, when he was stationed at Waiouru in the early 1940s. Ostensibly deer-stalking with friends at weekends, he constantly rode away on his army issue bike and botanised the tussock. He found seven orchids not in Cheeseman's *Manual of the New Zealand Flora* and sent specimens to DSIR at Wellington for identification. They didn't know them either, and referred him to HMR Rüpp in Sydney. Hatch then set out to describe all the New Zealand orchids.

He did this from 1945 to 1963 in a series of nineteen papers, illustrated mainly by his father, for the *Transactions of the Royal Society of New Zealand*.

Three orchids are named for him, *Danhatchii australis*, *Thelymitra hatchii* and *Corybas hatchii*. In 1988 his contribution to the study of New Zealand orchids was recognised by his election to Fellowship of the Linnæan Society.

In a guest editorial in the New Zealand Native Orchid *Journal* on the occasion of his 80th birthday, he said that he was interested, ignorant and wanted to know. In the process of his learning, he wrote well over a hundred scientific papers.

He and Rüpp wrote a paper on the transtasman orchids, including a description of *Aporostylis bifolia:* "Relation of the orchid flora of Australia to that of New Zealand, with the description of a new monotypic genus for New Zealand". *Proc. Roy. Soc. N.S.W.* 1946. 70: 60.

A NEW ORCHID GENUS FOR NEW ZEALAND

APOROSTYLIS, n. gen.

Genus monotypicum. Planta terrestria 7–23 cm. alta, plerumque pubescens, tuberibus parvis. Bractea basalis lata, acuminata, bracteae caulinae absentes. Folia duo, inaequalia, fere basalia vel folium minus altius quam folium majus; patentia, breviter petiolata, 3–7 cm. longa; majus magnopere latius quam minus. Flos solitarius, albus vel puniceus, cum sub ovario bractea laxe vaginante. Sepalum dorsale lanceolatum, erectum, circiter 15 mm. longum: sepala lateralia, tam longa quam dorsale: petala similia, paulum breviora. Labellum sessile, prope basem erectum, deinde paulum recurvum, obovatum vel fere orbiculare, apice rotunrlo et marginibus laevis, circiter 12 mm. longum: discus cum glandium flavidorum ordinibus duobus. Columna illae *Chiloglottis* instar, sed alis non pone antheram extendentibus.

A monotypic genus created to absorb the anomalous species *Caladenia bifolia* Hook. f. (*FI. Nov. Zel.*, I, 1853, p, 247). The description of the genus is therefore that of the solitary species, *Aporostylis bifolia* (Hook. f.) Rupp and Hatch.

A terrestrial herb 7–23 cm. high, usually pubescent or even hirsute but occasionally glabrous, with small tubers. General habit that of *Chiloglottis*. Sheathing bract at the base of the stem broad, acuminate; cauline bracts absent. Leaves two, unequal, almost basal or the smaller one above the larger; spreading, shortly petiolate, 3–7 cm. long; the larger leaf usually very much broader than the smaller one but varying from linear-lanceolate to ovate-oblong or almost orbicular, mucronate; the smaller one elliptical to broadly linear, acute. Flower solitary, white or pink, with a loosely-sheathing bract subtending the ovary. Dorsal sepal erect, lanceolate, about 15 mm. long; lateral sepals broad-linear, about as long as the dorsal; petals similar but a little shorter. Labellum sessile, the basal portion erect, then gently recurved, obovate or almost orbicular, with rounded apex and entire margins, about 12 mm. long: disc with two rows of yellow calli extending from the base to about the middle. Column resembling that of *Chiloglottis*,

but with wings neither lobed nor produced behind the anther.—*Caladenia bifolia* Hook.f. l.c.; Cheeseman, *Man. N.Z. Fl.*, 1925, p. 360, and *Illustr. N,Z. Fl.*, ii, 1914, t. 197 B; *C. macrvphylla* Colenso, *Trans. N.Z. Inst.*, xxvii, 1895, p. 396; *Chiloglottis traversii* F. Muell., *Veg. Chath. Is.*, 1864, p. 51; *Ch. bifolia,* (Hook. f.) Schltr., *Engl. Bot. Jahrb.*. xlv, 1911, p. 383.

Distribution.—New Zealand: North and South Islands, Stewart Island, Chatham and Auckland Islands. Usually alpine or sub-alpine, but descending to sea-level in Stewart and the outlying islands.

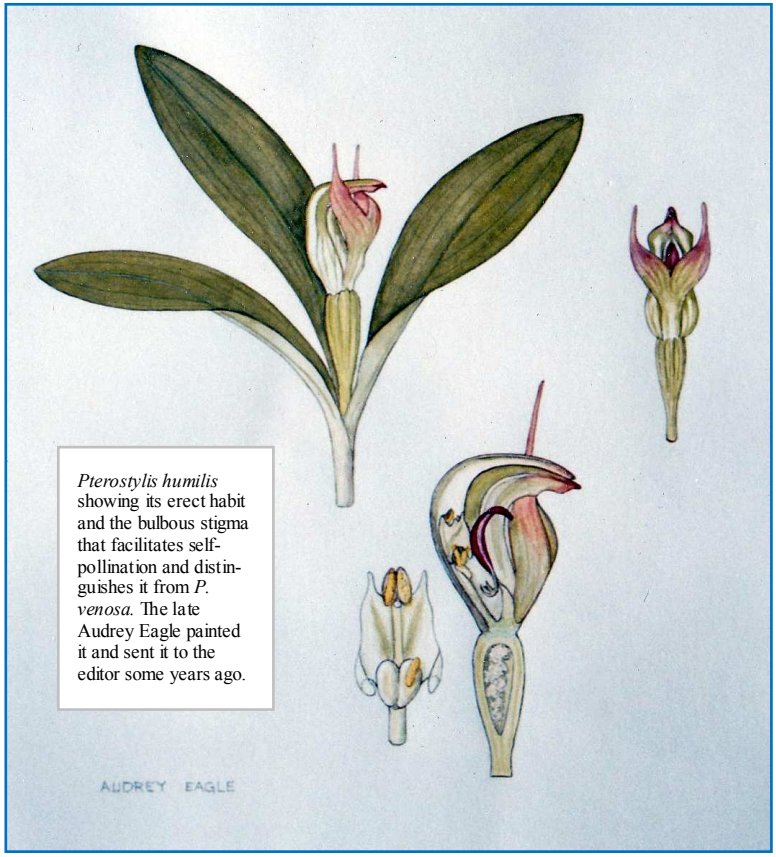
"A curious plant, the genus of which is doubtful" (Cheeseman, *Man. N.Z. Fl.*, l.c,). Hooker placed it in Caladenia, Mueller removed it to *Chiloglottis*, and Schlechter endorsed this, restoring Hooker's specific name. In either case it exceeds the limits of the generic character, and we believe that the most satisfactory way out of the difficulty is to make it the type of a new genus. It probably originated as an inter-generic cross between ancestral forms of *Chiloglottis cornuta* Hook. f. and *Caladenia Lyallii* Hook. f. Its distribution is very similar, and it is reasonable to suppose that these species, or their ancestral forms, were spread over the ancient Zelandic continent which arose in the Cretaceous period. The affinities of *Aporostylis* with *Chiloglottis* and *Caladenia* are obvious; but the anomalous character of the column distinguishes it from either. The general habit, the occasionally glabrous surface of stem and leaves, and the structure of the column apart from its wings, are all reminiscent of *Chiloglottis*; but the sub-erect, gently recurved labellum with two rows of yellow calli, the broad column wings neither lobed nor produced behind the anther, and the common pubescence of stem and leaves, are more suggestive of *Caladenia*. The great variability of the leaves, and their alternation between the glabrous and pubescent forms, seem to indicate a hybrid origin.

The type locality for *Aporostylis bifolia* is that of *Caladenia? bifolia* Hook.f.—first collected by Hooker himself from the Auckland Islands, then described from specimens collected by David Lyall when the *Acheron* called at Otago.

Use your 3D glasses ►

Eric Scanlen's 3D image of an alba form of *Aporostylis bifolia* from Iwitahi.

The Inbox



Pterostylis humilis showing its erect habit and the bulbous stigma that facilitates self-pollination and distinguishes it from *P. venosa*. The late Audrey Eagle painted it and sent it to the editor some years ago.

In the Muséum National d'Histoire Naturelle in Paris are 25 plant specimens collected by William Colenso and donated by Sir William Hooker in 1854 or 1863. Among them are four orchids. Interestingly the *Corybas oblongus* is identified by Hooker as *Corybas rotundifolius*, which Colenso found in Central Hawke's Bay, a most unlikely place to find what we are calling *C. rotundifolius*, but where *C. oblongus* can be found. (Control-Click on the orange label to see the *Gastrodia* and *Pterostylis*).

[338]
Gastrodia cunninghamii Hook.f.
MNHN-P-P00337737 Herbier
Collection *Hook.*
Nouvelle-Zélande (NZ)
Colenso, W.

[339]
Corybas macranthus (Hook.f.) Rchb.f.
MNHN-P-P00339416 Herbier
Nouvelle-Zélande (NZ)
Colenso, W.

[340]
Corybas oblongus (Hook.f.) Rchb.f.
MNHN-P-P00339420 Herbier
Collection *Hook.*
Nouvelle-Zélande (NZ)
Colenso, W.

[341]
Pterostylis foliata Hook.f.
MNHN-P-P00347182 Herbier
Collection *Hook.*
Nouvelle-Zélande (NZ)
Colenso, W.

Auckland schoolgirl and orchid researcher Irisa Hudson photographed the *Pterostylis* at left from a colony of similar plants on a subalpine route at Arthur's Pass: I'd say it's an unzipped *Pterostylis oliveri*.

Colenso's *P. speciosa* had a flower like this ("lateral petals loose from dorsal sepal") —but are we seeing more mutations now that the ozone layer is not so efficiently filtering radiation? (most recently reported examples are too far off the beaten track to be attributed to sprays).

In 1992 I reported what I called the exploded *Pterostylis* of Upper Morrison's Creek, Dunedin: a *P. montana* colony two metres across with 50–60 plants [J41:2]. It was still there several years later—either longlasting or reproducing (a).

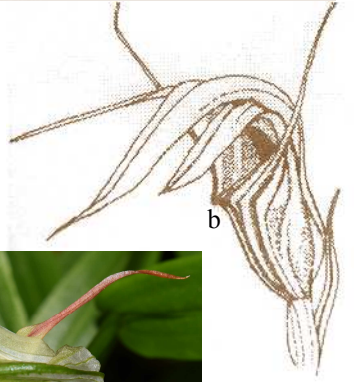
Eric Scanlen pointed out the "trident" deformity in *P. trullifolia* found at Bream Tail Reserve in 1998 and grown by Allan Ducker [J68: 21,23] (b). It set no seed [J73:18]. Pat Enright found it plentifully near Carterton [J80:14].

Pat Enright and I examined a "trident" form of *P. alobula* [J 81:14] and found the deformity was caused by failure of the mechanism that zips the dorsal sepal and lateral petals to make a protective hood over the reproductive parts.

In the last issue I reported [J148:19] that in a Kepler track (Manapouri) colony of *P. australis*, half the flowers showed the trident deformity (c).

In Ms Hudson's flower the petals, free of the dorsal sepal, have retained *P. oliveri's* propensity for curling, to encircle the lateral sepals.

a

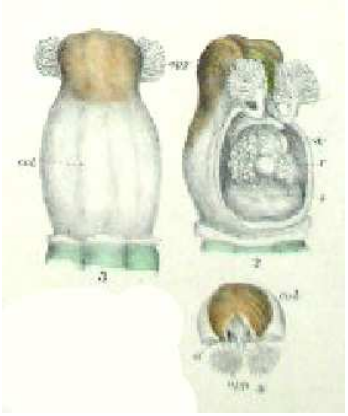


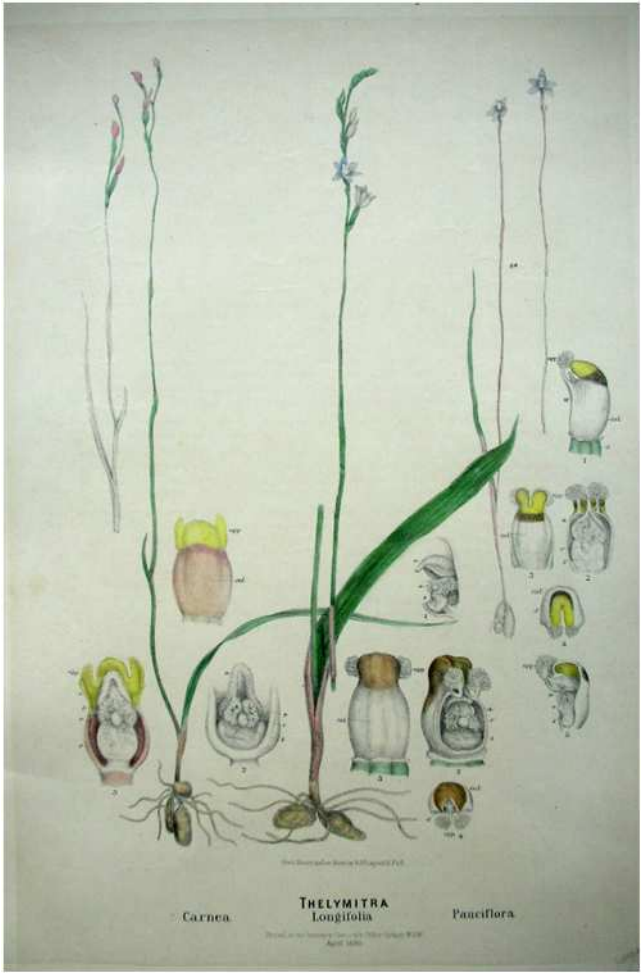
b

c

We might ponder the nature of what RD FitzGerald published in April 1880 as *T. longifolia*. ► It has the general morphology with the broad ridged leaf but has a deeply cleft column midlobe ▼ and is Australian. [There is no evidence he examined NZ specimens].

On the same page is his concept of *T. pauciflora*—a pallid, single-flowered, redstemmed plant—surely what Colenso tagged *T. "straminea"* (strawlike) and we are calling *T. colensoi* and Berggren called *T. intermedia*? FitzGerald's sketch of *T. intermedia* is simply a copy of Berggren's.





Thelymitra intermedia Berggren. Pencil drawing between 1870 and 1879 by Robert David Fitzgerald 1830-1892. National Library of Australia. Downloaded from https://catalogue.nla.gov.au/Record/2177734

Gita reveals Park secret

By Philip Simpson

When Project Janszoon got underway in 2013 one of the first tasks was to find out more about the interior of Abel Tasman National Park, so a team was despatched to look at the vegetation. Way up top, a single individual of a species never before seen in the park, a perching orchid called 'little spotted moa', *Drymoanthus flavus*, was found growing on the trunk of a hall's totara.

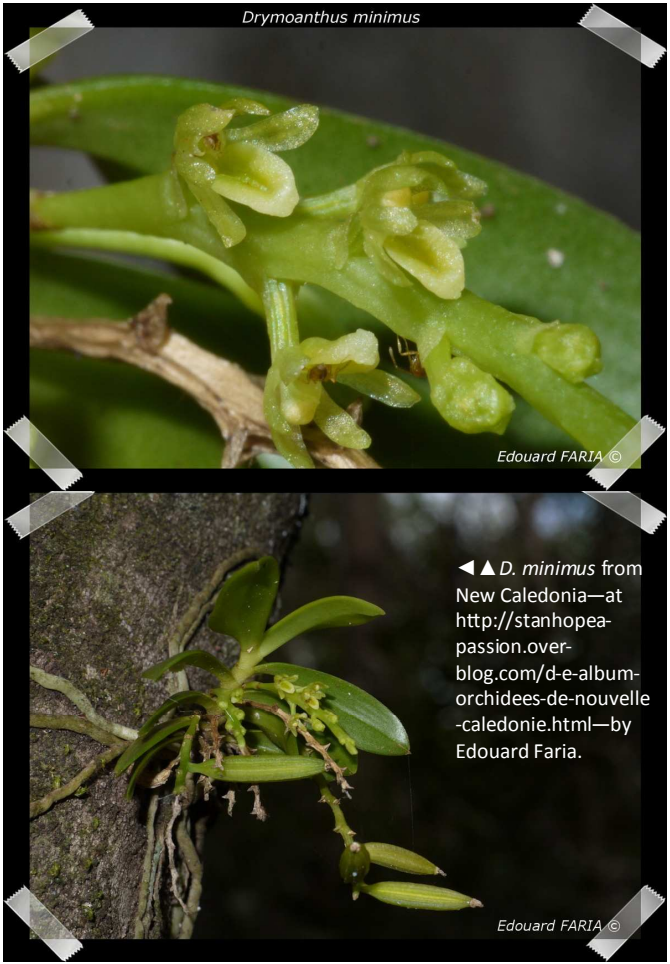
Recently I was on the trail of a cluster of moa gizzard stones at the head of the Awaroa inlet. The track was blocked by a large miro that had been uprooted by a slip during ex-cyclone Gita and I had to scramble over the canopy to get through. Lo and behold I was confronted by a mass of *Drymoanthus*. Not only were there clusters of the deep green large species, *D. adversus*, but on the little branches up in the miro leaves were the unmistakable small, yellow-green blotchy leaves of *D flavus*, not common but enough to prove they weren't freaks and one had a ripe seed capsule. In between these two species, on the medium sized branches, were plants intermediate in size, shape and colour. The big glossy one is a lowland species here sheltered

under the canopy. The little spotted one is an upland or cold-climate species here growing in the high leafy exposed canopy. In between are plants capable of growing in shelter under the canopy but in pretty exposed places. They look like hybrids but unfortunately *D. flavus* is diploid, and *D. adversus* tetraploid. Is hybridisation possible? Polypoidy, in effect, produces an instant species because it genetically isolates the tetraploid from its progenitor. If, in a rare circumstance, that diploid *D. flavus* and tetraploid *D. adversus* did manage to cross, the progeny would be triploid, ie infertile. The intermediates I saw all bear good capsules. It's interesting that *D. flavus* is the ancestor and *D. adversus* the derived. The other species in the genus are *D. minutus* (Queensland) and *D. minimus* (New Caledonia): both obviously small plants, like *D. flavus*. So it seems the *D. adversus* is the odd one.

It is a pity we have lost a miro, but that loss allowed me to explore the canopy and an orchid treasure, although perplexing, was discovered. In all likelihood *D. flavus* is not that locally rare, but scattered through the exposed canopy of many trees, especially it seems, the miro.

The other members of the genus *Drymoanthus:* 4 species: *D. adversus* and *D. flavus* endemic in New Zealand, *D. minutus* endemic in Australia and *D. minimus* endemic in New Caledonia.

D. minutus: ▲ by Mark Clements ▼ by John Varigos



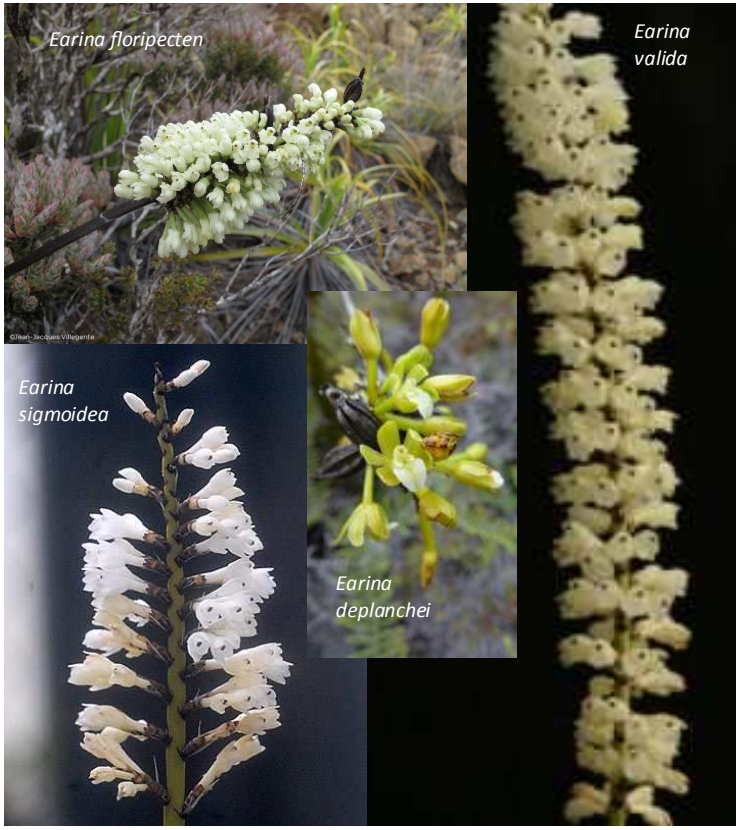
◄▲ *D. minimus* from New Caledonia—at http://stanhopea-passion.over-blog.com/d-e-album-orchidees-de-nouvelle-caledonie.html—by Edouard Faria.

New *Corybas* from New Caledonia

At http://sciencepress.mnhn.fr/en/periodiques/adansonia/38/2/diversite-du-genre-corybas-salisb-orchidaceae-diurideae-en-nouvelle-ca you can read Edouard Faria's "Diversity in the genus *Corybas* Salisb. (Orchidaceae, Diurideae) in New Caledonia" [*ADANSONIA* 38 (2): 175-198] published on 30 December 2016. Therein "*Corybas Salisb.* diversity in New Caledonia is reassessed, *Corybas neocaledonicus* (Schltr.) Schltr. concept is reviewed and delimited, *C. aconitiflorus* Salisb. is recorded for the first time in New Caledonia and three new taxa are described: *C. echinulus* E Faria, sp. nov. with a small flower, less than one centimeter, and a dorsal sepal marked with checkerboard pattern, *C. pignalii* E.Faria, sp. nov., the biggest species, characterised by a lip with wide lateral lobes, densely pubescent and two glabrous gibbosities and *C.* × *halleanus* E.Faria, hybr. nat. nov., a natural hybrid between the two new species here described. A key to the genus in New Caledonia and a few conservation recommendations for each taxon are proposed".

Corybas echinulus E. Faria

The other members of the genus *Earina*: 7 species, *Earina aestivalis*, *Earina autumnalis* and *Earina mucronata* New Zealand; *Earina deplanchei* and *Earina floripecten* New Caledonia; *Earina sigmoidea* Vanuatu; *Earina valida* Vanuatu, New Caledonia, Fiji, Samoa.



Whoops, dropped it! a sandfly sized insect was frightened away from *Acianthus sinclairii* at Airlie Rd north of Wellington on 17 May. It seems to have dropped a pollinium onto the lateral sepal.

New *Corybas* from China

Corybas (Orchidaceae), a genus of some 100 species, is distributed from the Himalayas and southern China, through the Philippines, Malaysia, Indonesia and New Guinea, to Australia, New Caledonia, Tasmania, New Zealand and the islands of Polynesia. There are three recorded species in China, *C. sinii* Tang & Wang, *C. daliensis* Tang & Wang, and *C. taiwanensis* T. P. Lin & S. Y. Leu.

In this paper, a new species, *Corybas fanjingshanensis* from Fanjing mountain nature reserve is described and illustrated….

—Xiong Yuan-Xin, Luo Ying-Chun, Shangguan Fa-Zhi and Wang Hui. 2007. *Corybas fanjingshanensis* Y.X. Xiong, A New Species of Orchidaceae from Guizhou, China. *Acta Phytotaxonomica Sinica*. 45 (6); 808–812. (http://www.jse.ac.cn/wenzhang/aps06146.pdf).

Fig. 3. *Corybas fanjingshanensis* Y. X. Xiong
A, Habit. B, Lateral view of flower. C, Above view of flower. E, Population.
Photo from *Y. X. Xiong 1966703*

The New Zealand Native Orchid Group

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Original paper

Pterostylis natural hybrids. Is there evidence?

By Mark Moorhouse

On a visit to the Cobb Valley area in Nelson earlier in the year, I was searching for the larger *Pterostylis* species. This was part of an ongoing project to study specimens in detail to ascertain whether there are really significant differences among the variations we run across every day when visiting colonies in various locations—but it has unwittingly posed me a new question, with new observations and new colonies visited and some strange in-betweens discovered.

Quite apart from the natural variations we might expect to find, are we in fact also looking at hybrid crosses within the genus from time to time? Could this explain some of the more unusual variations we observe on occasions or the huge intra-specific natural variation we see so often?

Supposing that all the larger New Zealand species are compatible enough to cross and form hybrids just how many possible permutations are there? Let's take the base species as following: *Pterostylis areolata, P. australis, P. banksii, P. cardiostigma, P. graminea, P. irsoniana, P. montana* and *P.patens.* There are well over 25 primary crosses possible in this lot. They commonly grow in similar conditions and can often be found growing in close proximity to each other. Flower breeders in Australia have recently produced crosses between *P. banksii* and *P. irsoniana* artificially. Of the above list, these two seem to be the furthest removed from each other physically, which suggests that all other hybrids might well be achievable within this group. It would be expected that some would be sterile, however others may not be, and this could greatly increase possible permutations and considering that *P. agathicola, P auriculata, P cernua, P irwinii, P paludosa, P porrecta, P silvicultrix* and *P subsimilis* could all conceivably be added to the mix, the possibility of hybrids, artificial or natural seems endless.

Compared to Australia, New Zealand is relatively poor in fungus gnat species, especially species that are large enough to perform pollen transfer between flowers of the larger *Pterostylis* species. This presents an interesting scenario and problems to the larger members of the genus *Pterostylis*. ie If the plants use gnats large enough to carry pollen any significant distance, the choice of gnats is small and different species of *Pterostylis* are likely to utilise the same vector, running the risk of cross pollination and gradual degradation of the species into a hotchpotch of highly variable plants. Conversely, if the plants utilise an undersize species of gnat to perform fertilization then that gnat is unlikely to be able to carry pollinia more than a couple of metres. This means successful species would need to form close growing clumps to remain both viable and pure-bred.

My observations suggest that probably both situations occur perhaps more frequently than we realise. It is situations where habitat encourages species to grow side by side that clearly run the greatest risk to the integrity of each species, and this brings me back to my opening statement. The visit to the Cobb area produced some plants which I can only explain away as hybrids. One I believe to be *Pterostylis australis* X *P. oliveri.* The other *P. irsoniana* X *P. banksii.* The first, situated in the scrub above the road along the side of the Cobb Reservoir has some of the hallmarks of both species rolled into one.

My mission into the Cobb was to study *P. australis* (especially colonies with frilly lower leaves) and pallid specimens of any *Pterostylis* I could locate to record habitat better for the latter, and fine detail for the former. As *P. oliveri* presented itself at every turn, I also took some fine comparitive measurements and documented as much physical information as possible by dissection.

Fig 1 Shows a dissection comparison between a standard [but frilly leaf] *P. australis* and the purported hybrid between *P. australis* and *P. oliveri.* Both species were present in the area in recognisable specific form within metres of this plant. Note that the leaves are pretty much a standard *P. australis,* [**Fig 2**] however the flower is radically different. Details to note: [a] Dorsal sepal is long and down curving, however the petal which is also long and down curving, lacks the broad exposed part always present in *P. oliveri.* [b] Internally the labellum is almost totally dark red, a *P. oliveri* trait, and the tip is long and pinched, unlike the local *P. australis* population. Even more convincing, [c] column wings are not parallel to the column , the lower lobes lying out at 35 degrees. This is typical of *P. oliveri* while those in *P. australis* are consistently parallel to the column. I feel this is sufficient evidence to sug-

gest strongly a natural hybrid, and the normal look of the stigma, which is higher than many *P. australis* and full ovary suggests fertility is possible. I would expect to see plants similar to this by fertilising a *P. australis* with *P. oliveri* pollen.

Earlier in the visit I had walked up to the asbestos mine in the hope of spotting the *Gastrodia cooperae* which Georgina Upson had seen the previous year along the track. In that I was disappointed. They rested this year! However there were many *Pterostylis irsoniana* present and some *P. banksii* which had recently finished flowering. On occasions the two species growing sympatrically along the old road edge to the mine. After seeing dozens of *P. irsoniana* in normal 80-90mm height I was struck by the sheer size of one growing amongst *P. banksii* which was in excess of 270 mm high with leaves larger than most *P. banksii* [**Fig 3**]. The normal appearing 21mm high galea was smaller than most of the short plants I had seen to that point. It seemed quite convincing that this plant had received some sort of "genetic boost" from the surrounding *P. banksii* population, perhaps the current status the result of a *banksii-irsoniana* cross which had back-crossed several times. These anomalies are difficult to explain without factoring in some vector which has caused change from the normal. Other *P. irsoniana* plants close by were again quite normal.

A general comment. There are large areas in Nelson Province where our bigger *Pterostylis* species are extremely ill defined or—another way of describing it—highly variable. One such spot, in the Nelson Lakes/ Tophouse district displays this characteristic. Here *P. australis* merges into mixtures of *P. oliveri* and *P graminea*. Some suggest hints of *P. areolata*. Here also *P. montana* merges into *P. graminea*. *P. graminea* has departed from its true form as published and so has *P. australis* from its southern counterparts. It is difficult to recognise with confidence either in the area, but something akin is there aplenty. If this were the work of a single species of gnat that has no longer associated itself to a single *Pterostylis* species it could explain the presence of these very variable plants here. The Volcanic Plateau area of the North Island with *P. montana* in a similar state is another such site. Kelly's Creek on the West Coast has odd plants too. A genetic study of hybridism among larger N. Z. *Pterostylis* might lay to rest much of this and leave us happy to accept "plonkers" as natural accidents and to cease to place endless tags on the variations.

The NZ orchids: the editor's 2018 list

Acianthus R.Br. Prodr. Fl. Nov. Holland.: 321 (1810).

Acianthus sinclairii Hook.f. Fl. Nov.-Zel. 1: 245 (1853).
Acianthus fornicatus var. sinclairii (Hook.f.) Hatch. Trans. & Proc. Roy. Soc. New Zealand 75: 369 (1945).

Adenochilus Hook.f. Fl Nov.-Zel. 1: 246, t.56 (1853)

Adenochilus gracilis Hook.f. Fl. Nov.-Zel. 1: 246, t.56 (1853).

Aporostylis Rupp & Hatch. Proc. Linn. Soc. New South Wales 70: 60 (1946)

Aporostylis bifolia (Hook.f.) Rupp & Hatch. Proc. Linn. Soc. New South Wales 70: 60 (1946).
Caladenia bifolia Hook.f. Fl. Nov.-Zel. 1: 247 (1853).
Chiloglottis traversii F.Muell. Veg. Chath. Is. 51 (1864).
Caladenia macrophylla Colenso. Trans. & Proc. New Zealand Inst. 27: 396 (1895).
Chiloglottis bifolia (Hook.f.) Schltr. Engl. Bot. Jahrb. 45: 383 (1911).

Bulbophyllum Thouars. Hist. Orchid., Tabl. Esp. 3. (1822).

Bulbophyllum pygmaeum (Sm.) Lindl. Gen. Sp. Orchid. Pl. 58 (1830).
Dendrobium pygmaeum Sm. in Rees. Cycl. (Rees) 11: n.27 (1808).
Bolbophyllum ichthyostomum Colenso. Trans. & Proc. New Zealand Inst. 26: 319 (1894).
Ichthyostomum pygmaeum (Sm.) D.L.Jones, M.A.Clem. & Molloy. Orchadian 13(11): 499 (2002).

Bulbophyllum tuberculatum Colenso. Trans. & Proc. New Zealand Inst. 16: 336 (1884).
Adelopetalum tuberculatum (Colenso) D.L.Jones, M.A.Clem. & Molloy. Orchadian 13(11): 498 (2002).
Bulbophyllum exiguum as meant by Buchanan. Trans. & Proc. New Zealand Inst. 16: 397 (1884), is not that of F.Muell. (1861).

Caladenia R.Br. (1810). Prodr. Fl. Nov. Holland. 323 (1810).

Caladenia alata R.Br. Prodr. Fl. Nov. Holland.: 324 (1810).
Caladenia minor Hook.f. var. exigua Cheeseman. Man. New Zealand Fl. 688 (1906).
Caladenia exigua Cheeseman. Trans. & Proc. New Zealand Inst. 45: 96 (1913).
Caladenia carnea R.Br. var. alata (R.Br.) Domin. Bibliotheca Botanica Heft 85: 549 (1915).
Caladenia carnea R.Br. var. exigua (Cheeseman) Rupp. Proc. Linn. Soc. New South Wales 69: 75 (1944).
Caladenia holmesii Rupp. Victoria Naturalist 70: 179 (1954).
Caladenia catenata (Sm.) Druce var. exigua (Cheeseman) W.M.Curtis. Stud. Fl. Tasman., 4A: 133 (1979).
Petalochilus alatus (R.Br.) D.L.Jones & M.A.Clem. Orchadian 13 (9): 406 (2001).

Caladenia atradenia D.L.Jones, Molloy & M.A.Clem. Orchadian 12(5): 221 (1997).
Stegostyla atradenia (D.L.Jones, Molloy & M.A.Clem.) D.L.Jones & M.A.Clem. Orchadian 13(9): 414 (2001).
Caladenia iridescens as meant by Hatch. NZNOG Newsletter 16: 1 (1985), is not that of R.S.Rogers (1920).
Caladenia carnea R.Br. var. minor forma calliniger Hatch. Trans. Roy. Soc. New Zealand, Bot. 2: 187 (1963).

Caladenia bartlettii (Hatch) D.L.Jones, Molloy & M.A.Clem. Orchadian 12(5): 227 (1997).
Caladenia carnea R.Br. var. bartlettii Hatch. Trans. & Proc. Roy. Soc. New Zealand 77: 402 (1949).
Petalochilus bartlettii (Hatch) D.L.Jones & M.A.Clem. Orchadian 13(9): 406 (2001).

Caladenia chlorostyla D.L.Jones, Molloy & M.A.Clem. Orchadian 12(5): 223 f1 (1997).
Petalochilus chlorostylus (D.L.Jones, Molloy & M.A.Clem.) D.L.Jones & M.A.Clem. Orchadian 13(9): 406 (2001).
Caladenia catenata as meant by Cooper. Field guide to the NZ native orchids 17 (1984), is not that of Druce (1917).
Arethusa catenata and Caladenia alba are names used for Australian plants once confused with NZ taxa.
Petalochilus calyciformis R.S.Rogers. J. Bot. 62: 66 (1924) and Petalochilus saccatus R.S.Rogers. J. Bot. 62: 66, t.571, 4–7 (1924) are regarded as aberrant floral mutations, probably of this species.
A number of similar forms have been tagged C. "redstem", C. "greenstem", etc.

Caladenia fuscata (Rchb.f.) M.A.Clem. & D.L.Jones, Austral. Orchid Res. 1: 25 (1989).
The NZ plant tagged by HB Matthews as Caladenia "nitidoa-rosea" may be C. fuscata or the Tasmanian C. atrochila.

Caladenia lyallii Hook.f. Fl. Nov.-Zel. 1: 247 (1853).
Stegostyla lyallii (Hook.f.) D.L.Jones & M.A.Clem. Orchadian 13 (9): 413 (2001).
There seem to be a number of taxa currently included in the C. lyallii group, including a small form from Nelson Lakes, tagnamed C. "Bacon creek". Some plants appear close to the Australian Caladenia alpina.

Caladenia minor Hook.f. Fl. Nov.-Zel. 1: 247, t.56b (1853).
Caladenia carnea var. pygmaea (R.S.Rogers) Rupp. Proc. Linn. Soc. New South Wales 69: 74 (1944).
Caladenia carnea R.Br. var. minor (Hook.f.) Hatch. Trans. & Proc. Roy. Soc. New Zealand 77: 401 (1949).
Caladenia catenata var. minor (Hook.f.) W.M.Curtis. Stud. Fl. Tasman., 4A: 106 (1979).
Petalochilus minor (Hook.f.) D.L.Jones & M.A.Clem. Orchadian 13(9): 410 (2001).
The identity of Caladenia minor is disputed, but here it is treated as the NZ form of C. pusilla, which may differ from Caladenia pusilla W.M.Curtis. Stud. Fl. Tasman., 4A: 133 (1980).

Caladenia nothofageti D.L.Jones, Molloy & M.A.Clem. Orchadian 12(5): 226, f.1 (1997).
Petalochilus nothofageti (D.L.Jones, Molloy & M.A.Clem.) Jones & M.A.Clem. Orchadian 13(9): 410 (2001).

Caladenia variegata Colenso. Trans. & Proc. New Zealand Inst. 17: 248 (1885).
Petalochilus variegatus (Colenso) D.L.Jones & M.A.Clem. Orchadian 13(9): 410 (2001).
Some flowers have a clear two rows of calli on the labellum, others have extra calli scattered to either side of the two rows.

Caleana R.Br. Prodr. Fl. Nov. Holland.: 329 (1810).

Caleana minor R.Br. Prodr. Fl. Nov. Holland.: 329 (1810).
Paracaleana minor (R.Br.) Blaxell. Contr. New South Wales Natl. Herb. 4: 281 (1972).
Caleya minor (R.Br.) Sweet. Hort. Brit. (Sweet) 385 (1827).
Caleya sullivanii F.Muell. Australas. Chem. Druggist 4: 44 (1882).
Caleana nublingii Nicholls. Victoria Naturalist 48: 15 (1931).
Paracaleana sullivanii (F.Muell.) Blaxell. Contr. New South Wales Natl. Herb. 4:281 (1972).
Sullivania minor (R.Br.) D.L.Jones & M.A.Clem. Orchadian 15: 36 (2005).

Calochilus R.Br. Prodr. Fl. Nov. Holland.: 320 (1810)

Calochilus herbaceus Lindl. Gen. & Spec. Orch. Plant.: 45 (1840).
Calochilus campestris as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 77: 248 (1949), is not that of R.Br. (1810).

Calochilus paludosus R.Br. Prodr. Fl. Nov. Holland.: 320 (1810).

Calochilus robertsonii Benth. Fl. Austral. 6: 315 (1873).
Calochilus campestris as meant by Fitzg. Austral. Orchids 1(4): t.6 (1878), is not that of R.Br. (1810).
Calochilus campestris as meant by Cheeseman. Man. New Zealand Fl. 686 (1906), is not that of R.Br. (1810).

Chiloglottis R.Br. Prodr. Fl. Nov. Holland.: 323 (1810).

Chiloglottis cornuta Hook.f. Bot. Antarct. Voy., Vol. 1, Fl. Antarct.: 69 (1844).

Caladenia comuta (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
Simpliglottis comuta (Hook.f.) Szlach. Polish Bot. J. 46(1): 13 (2001).
The colour of labellar calli varies.

Chiloglottis formicifera Fitzg. Austral. Orchids 1(3): (1877).
Myrmechila formicifera (Fitzg.) D.L.Jones & M.A.Clem. Orchadian 15(1): 37 (2005).
Only one record of this vagrant 100 years ago.

Chiloglottis trapeziformis Fitzg. Austral. Orchids 1(3): (1877).
Myrmechila trapeziformis (Fitzg.) D.L.Jones & M.A.Clem. Orchadian 15(1): 37 (2005).

Chiloglottis valida D.L.Jones. Austral. Orchid Res. 2: 43–44, t. 54, plate p.92 (1991).
Simpliglottis valida (D.L.Jones) Szlach. Polish Bot. J. 46(1): 14 (2001).
Chiloglottis gunnii as meant by Molloy. Native orchids of NZ: 9 (1983), is not that of Lindl. (1840).

Corybas Salisb. Parad. Lond. t.83 (1805).

Corybas acuminatus M.A.Clem. & Hatch. New Zealand J. Bot. 23: 491, f.2 (1985).
Nematoceras acuminatum (M.A.Clem. & Hatch) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corysanthes acuminata (M.A.Clem. & Hatch) Szlach. Richardiana 3(2): 97 (2003).
Corybas rivularis as meant by Cheeseman. Man. New Zealand Fl. 697 (1906), and others (1906–1985), is not Acianthus rivularis of A.Cunn. (1837).

Corybas carsei (Cheeseman) Hatch. Trans. & Proc. Roy. Soc. New Zealand 75: 367 (1945).
Corysanthes carsei Cheeseman. Trans. & Proc. New Zealand Inst. 44: 162 (1912).
Anzybas carsei (Cheeseman) D.L.Jones & M.A.Clem. Orchadian 13(10): 443 (2002).
Corybas unguiculatus as meant by L.B.Moore. Fl. New Zealand Vol. 2: 116 (1970) is not Corysanthes unguiculatus of R.Br. (1810).

Corybas cheesemanii (Hook.f. ex Kirk) Kuntze. Revis. Gen. Pl. 2: 657 (1891).
Corysanthes cheesemanii Hook.f. ex Kirk. Trans. & Proc. New Zealand Inst. 3: 180 (1871).
Corybas aconitiflorus as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 75: 367 (1945), is not that of Salisb. (1807).

Corybas confusus Lehnebach Phytotaxa 270 (1): 9 (2016).
The species tagged *C.* "roundleaf". A form on the Chathams identified as C. aff. sulcatus may fall within C. confusus.

Corybas cryptanthus Hatch. Trans. Roy. Soc. New Zealand 83: 577 (1956).
Molloybas cryptanthus (Hatch) D.L.Jones & M.A.Clem. Orchadian 13(10): 448 (2002).
Corybas saprophyticus as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 366, t.71 (1952), is not that of Schltr. (1923).

Corybas dienemus D.L. Jones Fl. Australia 50: 572 (1993).
Corysanthes dienema (D.L.Jones) Szlach
Nematoceras dienemum DL Jones et al. Orchadian 13(10): 437-468 (2002).

Corybas hatchii Lehnebach. N.Z. Native Orchid Journal 139: 4 (2016).
Corybas macranthus (Hook.f.) Rchb.f. var. longipetalus Hatch. Trans. & Proc. Roy. Soc. New Zealand 76: 580, t.60(1) (1947).
Nematoceras longipetalum (Hatch) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corybas longipetalus (Hatch) Hatch. NZNOG Journal 47: 6 (1993), is not that of Schltr. (1923).
Corybas "Waiouru" tagname.

Corybas hypogaeus (Colenso) Lehnebach. N.Z. Native Orchid Journal 139: 5 (2016).
Corysanthes hypogaea Colenso. Trans. & Proc. New Zealand Inst. 16: 336 (1884).
Nematoceras hypogaeum (Colenso) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).

Corybas iridescens Irwin & Molloy. New Zealand J. Bot. 34: 1, f.1 (1996).
Nematoceras iridescens (Irwin & Molloy) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corysanthes iridescens (Irwin & Molloy) Szlach. Richardiana 3 (2): 98 (2003).

Corybas macranthus (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
Nematoceras macranthum Hook.f. Fl. Nov.-Zel. 1: 250 (1853).
Corysanthes macrantha (Hook.f.) Hook.f. Handb. N. Zeal. Fl. 266 (1864).
There are several entities in the C. macranthus group as well as probable hybrids with members of the C. trilobus group.

Corybas oblongus (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
Singularybas oblongus (Hook.f.) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Nematoceras oblonga Hook.f. Fl. Nov.-Zel. 1: 250, t.57B (1853).
Corysanthes oblonga (Hook.f.) Hook.f. Handb. N. Zeal. Fl. 266 (1864).
There are two or three taxa included in this complex. One appears to be identical with HB Matthews's Corysanthes "aestivalis" (see Scanlen E. Matthews & son on orchids. NZNOG Historical Series 2006; 14: 12). A white flowered form (Nelson lakes and subantarctic islands) is more clearly separate.

Corybas obscurus Lehnebach Phytotaxa 270 (1): 11 (2016).
The species tagged *C.* "darkie".

Corybas orbiculatus (Colenso) L.B.Moore. Fl. New Zealand Vol. 2: 118 (1970).
Corysanthes orbiculata Colenso. Trans. & Proc. New Zealand Inst. 23: 389 (1891).
Nematoceras orbiculatum (Colenso) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corybas orbiculatus as meant by L.B.Moore. Fl. New Zealand Vol. 2: 118 (1970) and others (1970–1996), is not Corysanthes orbiculata of Colenso (1891) (see Molloy & Irwin. New Zealand J. Bot. 34 (1): 5 [1996]).

Corybas papa Molloy & Irwin. New Zealand J. Bot. 34(1): 5, f.1 (1996).
Nematoceras papa (Molloy & Irwin) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corysanthes papa (Molloy & Irwin) Szlach. Richardiana 3(2): 98 (2003).

Corybas papillosus (Colenso) Lehnebach. N.Z. Native Orchid Journal 139: 5 (2016).
Corysanthes papillosa Colenso. Trans. & Proc. New Zealand Inst. 16: 337 (1884).
Nematoceras papillosum (Colenso) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
This is a valid name for one form of C. macranthus, but which one?

Corybas rivularis (A.Cunn.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
Nematoceras rivulare (A.Cunn.) Hook.f. Fl. Nov.-Zel. 1: 251 (1853).
Acianthus rivularis A.Cunn. Companion Bot. Mag. 2: 376 (1837).
Corysanthes rivularis (A.Cunn.) Hook.f. Handb. N. Zeal. Fl. 266 (1864).
Nematoceras panduratum (Cheeseman) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corysanthes rotundifolia var. pandurata Cheeseman. Man. New Zealand Fl. 366 (1925), is not Nematoceras rotundifolia of Hook.f.
Corysanthes rotundifolia as meant by Cheeseman. Man. New Zealand Fl. 695 (1906), is not Nematoceras rotundifolia of Hook.f. (1853).
Corybas orbiculatus as meant by L.B.Moore. Fl. New Zealand Vol. 2: 118 (1970) and others (1970–1996), is not Corysanthes orbiculatus of Colenso (1891).
Undescribed related taxa have been tagged C. "Kaimai", C. "rest area", C. "Kaitarakihi", C. "whiskers" (aka C. "viridis"), C. "Mangahuia", C. "sphagnum", C. "Pollok" and C. "Motutangi".

Corybas rotundifolius (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
Nematoceras rotundifolia Hook.f. Fl. Nov.-Zel. 1: 251 (1853).
Corysanthes rotundifolia (Hook.f.) Hook.f. Handb. N. Zeal. Fl. 266 (1864).
Corysanthes matthewsii Cheeseman. Trans. & Proc. New Zealand Inst. 31: 351 (1899).
Corybas matthewsii (Cheeseman) Schltr. Repert. Spec. Nov. Regni Veg. 19: 23 (1923).
Anzybas rotundifolius (Cheeseman) D.L.Jones & M.A.Clem. Orchadian 13(10): 443 (2002).
Corybas unguiculatus as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 75: 367 (1945), is not Corysanthes unguiculatus of R.Br. (1810).

Corybas sanctigeorgianus Lehnebach Phytotaxa 270 (1): 12 (2016).
The species tagged *C.* "trisept".
Corybas trilobus (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
Nematoceras trilobum Hook.f. Fl. Nov.-Zel. 1: 250 (1853).
Corysanthes triloba (Hook.f.) Hook.f. Handb. N. Zeal. Fl. 265 (1864).
A number of taxa in the Corybas trilobus group are still of speculative taxonomic status; they include the tiny May to July flowering forms with the tagname C. "pygmy"; C. "Rimutaka", C. "Craigielea", C. "tribrive", C. "tridodd", C. "Trotters" and others.
Corybas vitreus Lehnebach Phytotaxa 270 (1): 12 (2016).
The species tagged *C.* "eastern hills".
Corybas walliae Lehnebach Phytotaxa 270 (1): 13 (2016).
The species tagged *C.* "triwhite".

Cryptostylis R.Br. Prodr. Fl. Nov. Holland.: 317 (1810)

Cryptostylis subulata (Labill.) Rchb.f. Beitr. Syst. Pflanzenk. 15 (1871).
Malaxis subulata Labill. Nov. Holl. Pl. 2: 62, t.212 (1806).

Cyrtostylis R.Br. Prodr. Fl. Nov. Holland.: 322 (1810).

Cyrtostylis oblonga Hook.f. Fl. Nov.-Zel. 1: 246 (1853).
Acianthus reniformis var. oblonga (Hook.f.) Rupp & Hatch. Proc. Linn. Soc. New South Wales 70: 59 (1946).
Cyrtostylis rotundifolia Hook.f. Fl. Nov.-Zel. 1: 246 (1853).
Cyrtostylis macrophylla Hook.f. Fl. Nov.-Zel. 1: 246 (1853).
Caladenia reniformis (R.Br.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
Cyrtostylis oblonga (Hook.f.) var. rotundifolia (Hook.f.) Cheeseman. Man. New Zealand Fl. 685 (1906).
Acianthus reniformis (R.Br.) Schltr. Engl. Bot. Jahrb. 34: 39 (1906).
Acianthus reniformis var. reniformis (Hook.f.) Rupp & Hatch. Proc. Linn. Soc. New South Wales 70: 59 (1946).
Cyrtostylis reniformis as used by many authors until now is not that of R.Br. Prodr. Fl. Nov. Holland.: 322 (1810).

Danhatchia Garay & Christenson. Orchadian 11(10): 469, f.471 (1995)

Danhatchia australis (Hatch) Garay & Christenson. Orchadian 11(10): 470 (1995).
Yoania australis Hatch. Trans. Roy. Soc. New Zealand, Bot. 2: 185 (1963).

Dendrobium Swartz. Nova Acta Regiae Soc. Sci. Upsal., ser. 2, 6: 82. (1799).

Dendrobium cunninghamii Lindl. Bot. Reg. 21 sub. t.1756 (1835).
Dendrobium biflorum as meant by A.Rich. Essai Fl. Nov. Zel. 221 (1832), is not that of Sw. (1800).
Dendrobium lessonii Colenso. Trans. & Proc. New Zealand Inst. 15: 326 (1883).
Winika cunninghamii (Lindl.) M.A.Clem., D.L.Jones & Molloy. Orchadian 12(5): 214 (1997).

Drymoanthus Nicholls. Victorian Naturalist 59: 173 (1943)

Drymoanthus adversus (Hook.f.) Dockrill. Australasian Sarcanthinae: 32, t.3 (1967).
Sarcochilus adversus Hook.f. Fl. Nov.-Zel. 1: 241 (1853).
Sarcochilus breviscapa Colenso. Trans. & Proc. New Zealand Inst. 14: 332 (1882).
Drymoanthus flavus St George & Molloy. New Zealand J. Bot. 32: 416, f.1 (1994).

Earina Lindl. Bot. Reg. sub t.1699 (1834)

Earina aestivalis Cheeseman. Trans. & Proc. New Zealand Inst. 51: 93 (1919).
Earina autumnalis (G.Forst.) Hook.f. Fl. Nov.-Zel. 1: 239 (1853).
Epidendrum autumnale G.Forst. Prodr. 60 (1786).
Earina suaveolens Lindl. Bot. Reg. 29 (1843).
Earina alba Colenso. Trans. & Proc. New Zealand Inst. 18: 267 (1886).
Earina mucronata Lindl. Bot. Reg. 20 sub t.1699 (1834).
Earina quadrilobata Colenso. Trans. & Proc. New Zealand Inst. 15: 325 (1883).

Gastrodia R.Br. Prodr. Fl. Nov. Holland.: 330 (1810)

Gastrodia cooperae Lehnebach & J.R.Rolfe. Phytotaxa 277 (3): 242 (2016). The species tagged G. "long column black".
Gastrodia cunninghamii Hook.f. Fl. Nov.-Zel. 1: 251 (1853).
Gastrodia leucopetala Colenso. Trans. & Proc. New Zealand Inst. 18: 268 (1886).
Gastrodia minor Petrie. Trans. & Proc. New Zealand Inst. 25: 273, t.20, f.5–7 (1893).
Gastrodia molloyi Lehnebach & J.R.Rolfe. Phytotaxa 277 (3): 244 (2016). The species tagged G. "long column".
Gastrodia sesamoides as meant by Cheeseman. Man. New Zealand Fl. 697 (1906), may not be that of R.Br. (1810).

Genoplesium R.Br. Prodr. Fl. Nov. Holland.: 319 (1810)

Genoplesium nudum (Hook.f.) D.L.Jones & M.A.Clem.
Lindleyana 4(3): 144 (1989).
Corunastylis nuda (Hook.f.) D.L.Jones & M.A.Clem. Orchadian 13(10): 461 (2002).
Prasophyllum nudum Hook.f. Fl. Nov.-Zel. 1: 242 (1853).
Prasophyllum tunicatum Hook.f. Fl. Nov.-Zel. 1: 242 (1853).
Prasophyllum variegatum Colenso. Trans. & Proc. New Zealand Inst. 20: 208 (1888).
Genoplesium pumilum (Hook.f.) D.L.Jones & M.A.Clem.
Lindleyana 4(3): 144 (1989).
Corunastylis pumila (Hook.f.) D.L.Jones & M.A.Clem. Orchadian 13(10): 461 (2002).
Prasophyllum pumilum Hook.f. Fl. Nov.-Zel. 1: 242 (1853).

Microtis R.Br. Prodr. Fl. Nov. Holland.: 320 (1810).

Microtis arenaria Lindl. Gen. Sp. Orchid. Pl. t.306 (1840).
Microtis biloba Nicholls. Victoria Naturalist 66: 93, f.O–L (1949).
Microtis papillosa Colenso. Trans. & Proc. New Zealand Inst. 18: 269 (1886). The type has not been found but Colenso's notched labellum suggests M. arenaria (which in turn has been included in M. unifolia by others).
Microtis oligantha L.B.Moore. New Zealand J. Bot. 6: 473, f.1 (1969).
Microtis magnadenia as meant by Hatch. Trans. Roy. Soc. New Zealand, Bot. 2: 185–189 (1963), is not that of R.S.Rogers (1930).
Microtis parviflora R.Br. Prodr. Fl. Nov. Holland.: 321 (1810).
Microtis javanica Rchb.f. Bonplandia 5: 36 (1857).
Microtis benthamiana Rchb.f. Beitr. Syst. Pflanzenk. 24 (1871).
Microtis longifolia Col. Trans. & Proc. New Zealand Inst. 17: 247 (1885).
Microtis porrifolia (Sw.) R.Br. ex Spreng. var. parviflora (R.Br.) Rodway. Tasman. Fl. 159 (1903).
Microtis aemula Schltr. Bot. Jahrb. Syst. 39: 37 (1906).
Microtis bipulvinaris Nicholls. Victoria Naturalist 66: 92–94, f.A–F (1949).
Microtis holmesii Nicholls. Victoria Naturalist 66: 93, f.G–I (1949).
Microtis unifolia (G.Forst.) Rchb.f. Beitr. Syst. Pflanzenk. 62 (1871).
Ophrys unifolia G.Forst. Fl. Ins. Austr. 59 (1786).
Epipactis porrifolia Sw. Kongl. Vetensk. Acad. Nya Handl. 21: 233 (1800).
Microtis porrifolia (Sw.) R.Br. ex Spreng. Syst. Veg. (ed. 16) [Sprengel] 3: 713 (1826).
Microtis banksii A.Cunn. Bot. Mag. 62: sub t.3377 (1835).
Microtis frutetorum Schltdl. Linnaea 20: 568 (1847).
Microtis viridis F.Muell. Fragm. (Mueller) 5: 97 (1866).
Microtis longifolia Colenso. Trans. & Proc. New Zealand Inst. 17: 247 (1885). This is an autumn flowering form and may be distinct.
Microtis pulchella as meant by Lindl. Gen. Sp. Orchid. Pl. 395 (1840), is not that of R.Br. (1810).

Orthoceras R.Br. Prodr. Fl. Nov. Holland.: 316 (1810)

Orthoceras novae-zeelandiae (A.Rich.) M.A.Clem., D.L.Jones & Molloy. Austral. Orchid Res., 1: 100 (1989).
Diuris novae-zeelandiae A.Rich. Essai Fl. Nov. Zel. 163 t.25, f.1 (1832).
Orthoceras solandri Lindl. Gen. Sp. Orchid. Pl. 512 (1840).
Orthoceras rubrum Colenso. Trans. & Proc. New Zealand Inst. 18: 273 (1886).
Orthoceras caput-serpentis Colenso. Trans. & Proc. New Zealand Inst. 22: 490 (1890).
Orthoceras strictum R.Br. forma viride Hatch. Trans. Roy. Soc. N.Z. Bot.2; 195 (1963).
Orthoceras strictum R.Br. Prodr. Fl. Nov. Holland.: 317 (1810).
Many botanists regard Orthoceras as a monotypic genus, noting

the reported differences between O. strictum and O. novae-zelandiae as inconsistent.

Prasophyllum R.Br. Prodr. Fl. Nov. Holland.: 317 (1810)

Prasophyllum colensoi Hook.f. Fl. Nov.-Zel. 1: 241 (1853).
Prasophyllum pauciflorum Colenso. Trans. & Proc. New Zealand Inst. 18: 273 (1886).
Prasophyllum rogersii as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 76: 290 (1946), is not that of R.S.Rogers & Rees (1921).
Probably a number of taxa, including Irwin's P. "A" and P. "B" (NZNOG Journal 79: 9–10 [2001]).

Prasophyllum hectorii (Buchanan) Molloy, D.L.Jones & M.A.Clem. Orchadian 15: 41 (2005).
Gastrodia hectori Buchanan. Trans. & Proc. New Zealand Inst. 19: 214 (1886).
Prasophyllum patens as meant by Cheeseman. Man. New Zealand Fl. (1906), is not that of R.Br. (1810).
Prasophyllum suttoni as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 76: 291 (1946), is not that of Rupp (1928).

Pterostylis R.Br. Prodr. Fl. Nov. Holland.: 326 (1810).

Pterostylis agathicola D.L.Jones, Molloy & M.A.Clem. Orchadian 12(6): 266 (1997).
Pterostylis graminea (Hook.f.) var. rubricaulis H.B.Matthews ex Cheeseman. Man. New Zealand Fl. 351 (1925).
Pterostylis montana (Hatch) var. rubricaulis (Cheeseman) Hatch. Trans. & Proc. Roy. Soc. New Zealand 77: 240, plate 23 (1949).

Pterostylis alobula (Hatch) L.B.Moore. New Zealand J. Bot. 6: 486, f.3 (1969).
Pterostylis trullifolia as meant by Cheeseman. Man. New Zealand Fl. (1906), is not that of Hook.f.
Pterostylis trullifolia Hook.f. var. alobula Hatch. Trans. Roy. Soc. NZ 77: 244, t.30, f.3E–H (1949).
Diplodium alobulum (Hatch) D.L.Jones, Molloy & M.A.Clem. Austral. Orchid Res. 4: 70 (2002).

Pterostylis alveata Garnet. Victoria Naturalist 59: 91 (1939).
Diplodium alveatum (Garnet) D.L.Jones & M.A.Clem. Austral. Orchid Res. 4: 70 (2002).

Pterostylis areolata Petrie. Trans. & Proc. New Zealand Inst. 50: 210 (1918).

Pterostylis auriculata Colenso. Trans. & Proc. New Zealand Inst. 22: 489 (1890).

Pterostylis australis Hook.f. Fl. Nov.-Zel. 1: 248 (1853).

Pterostylis brumalis L.B.Moore. New Zealand J. Bot. 6: 485, f.3 (1969).
Pterostylis trullifolia Hook.f. var. rubella Hatch. Trans. & Proc. Roy. Soc. New Zealand 77: 244 (1949).
Diplodium brumale (L.B.Moore) D.L.Jones, Molloy & M.A.Clem. Austral. Orchid Res. 4: 70 (2002).

Pterostylis banksii A.Cunn. Companion Bot. Mag. 2: 376 (1837).

Pterostylis cardiostigma D.Cooper. New Zealand J. Bot. 21: 97, f.1,2 (1983).

Pterostylis cernua D.L.Jones, Molloy & M.A.Clem. Orchadian 12 (6): 267, f.2 (1997).

Pterostylis emarginata Colenso. Trans. & Proc. New Zealand Inst. 15: 328 (1883) .
Structurally similar to P. banksii but consistently smaller and with a consistently notched labellum tip.

Pterostylis foliata Hook.f. Fl. Nov.-Zel. 1: 249 (1853).
Pterostylis vereenae R.S.Rogers. Trans. & Proc. Roy. Soc. South Australia 38: 360–361, f.18(2) (1914).
Pterostylis gracilis Nicholls. Victoria Naturalist 43: 324–326 (1927).

Pterostylis graminea Hook.f. Fl. Nov.-Zel. 1: 248 (1853).
There are several taxa in the P. graminea complex, including tagnamed P. "sphagnum" and P. "peninsula".

Pterostylis humilis R.S.Rogers. Trans. & Proc. Roy. Soc. South Australia 46: 151 (1922).

Pterostylis irsoniana Hatch. Trans. & Proc. Roy. Soc. New Zealand 78: 104, t.18 (1950).

Pterostylis irwinii D.L.Jones, Molloy & M.A.Clem. Orchadian 12 (6): 269 (1997).

Pterostylis micromega Hook.f. Fl. Nov.-Zel. 1: 248 (1853).
Pterostylis polyphylla Colenso. Trans. & Proc. New Zealand Inst. 22: 489 (1890).
Pterostylis furcata Lindl. var. micromega Hatch. Trans. Roy. Soc. New Zealand 80: 326 (1953).

Pterostylis montana Hatch. Trans. & Proc. Roy. Soc. New Zealand 77: 239, t.22 (1949).

Pterostylis montana group: may include as many as 14 undescribed taxa.

Pterostylis nutans R.Br. Prodr. Fl. Nov. Holland.: 327 (1810).
Pterostylis matthewsii Cheeseman. Trans. & Proc. New Zealand Inst. 47: 46 (1915).

Pterostylis oliveri Petrie. Trans. & Proc. New Zealand Inst. 26: 270 (1894).

Pterostylis paludosa D.L.Jones, Molloy & M.A.Clem. Orchadian 12(6): 271 (1997).
Pterostylis furcata Lindl. var. linearis Hatch. Trans. & Proc. Roy. Soc. NZ 77: 243, plate 29, 2 (1949).

Pterostylis patens Colenso. Trans. & Proc. New Zealand Inst. 18: 270 (1886).
Pterostylis banksii Hook.f. var. patens (Colenso) Hatch. Trans. & Proc. Roy. Soc. New Zealand 75: 370 (1945).

Pterostylis porrecta D.L.Jones, Molloy & M.A.Clem. Orchadian 12(6): 272 (1997).

Pterostylis puberula Hook.f. Fl. Nov.-Zel. 1: 249 (1853).
Linguella puberula (Hook.f.) D.L.Jones, M.A.Clem. & Molloy. Austral. Orchid Res. 4: 75 (2002).
Pterostylis nana as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 77: 237 (1949), is not that of R.Br. (1810).

Pterostylis silvicultrix (F.Muell.) Molloy, D.L.Jones & M.A.Clem. Austral. Orchid Res. 4: 66 (2002).
Pterostylis banksii var. silvicultrix F.Muell. Veg. Chath. Is. 51 (1864).

Pterostylis speciosa Colenso. Trans. & Proc. New Zealand Inst. 22: 488 (1890).
This name is apt for a widespread entity resembling P. australis.

Pterostylis subsimilis Colenso. Trans. & Proc. New Zealand Inst. 28: 611 (1896).
This name is here applied to distinct large-flowered Ruahine & Taranua plants.

Pterostylis tanypoda D.L.Jones, Molloy & M.A.Clem. Orchadian 12(6): 273 (1997).
Hymenochilus tanypodus (D.L.Jones, Molloy & M.A.Clem.) D.L.Jones, M.A.Clem. & Molloy. Austral. Orchid Res. 4: 74 (2002).
Pterostylis cycnocephala as meant by L.B.Moore. Fl. New Zealand Vol. 2: 135 (1970) and others (1970–1997), is not that of Fitzg. (1876).

Pterostylis tasmanica D.L.Jones. Muelleria 8(2): 177 (1994).
Plumatichilos tasmanicum (D.L.Jones) Szlach. Polish Bot. J. 46 (1): 23 (2001).
Pterostylis squamata as meant by Hook.f. Fl. Nov.-Zel. 1: 249 (1853), is not that of R.Br. (1810).
Pterostylis barbata as meant by Cheeseman. Man. New Zealand Fl. 683 (1906), is not that of Lindl. (1840).
Pterostylis plumosa as meant by Cooper. Field guide to NZ native orchids 51 (1981), is not that of Cady (1969).

Pterostylis tristis Colenso. Trans. & Proc. New Zealand Inst. 18: 271 (1886).
Hymenochilus tristis (Colenso) D.L.Jones, M.A.Clem. & Molloy. Austral. Orchid Res. 4: 74 (2002).
Pterostylis mutica as meant by Cheeseman. Trans. & Proc. New Zealand Inst. 15: 300 (1883), is not that of R.Br. (1810).

Pterostylis trullifolia Hook.f. Fl. Nov.-Zel. 1: 249 (1853).
Pterostylis rubella Colenso. Trans. & Proc. New Zealand Inst. 18: 271 (1886).
Pterostylis trullifolia Hook.f. var. gracilis Cheeseman. Trans. & Proc. New Zealand Inst. 47: 271 (1915).
Diplodium trullifolium (Hook.f.) D.L.Jones, Molloy & M.A.Clem. Austral. Orchid Res. 4: 72 (2002).

Pterostylsi venosa Colenso. Trans. & Proc. New Zealand Inst. 28: 610 (1896).
Pterostylis trifolia Colenso. Trans. & Proc. New Zealand Inst. 31: 281 (1899).
Pterostylis confertifolia Allan. Trans. & Proc. New Zealand Inst. 56: 32 (1926).

Spiranthes Rich. De Orchid. Eur. 20, 28, 36 (1817)

Spiranthes novae-zelandiae Hook.f. Fl. Nov.-Zel. 1: 243 (1853).
Spiranthes australis as meant by Hook.f. Handb. N. Zeal. Fl. 272 (1864), is not that of Lindl. (1824).
Spiranthes sinensis as meant by Rupp & Hatch. Proc. Linn. Soc. New South Wales 70: 58 (1946), is not that of Ames (1908).
Spiranthes lancea as meant by Hatch. Trans. Roy. Soc. New Zealand 82: 614 (1954), is not that of Backer, Bakh.f. & Steenis (1950).

Spiranthes alticola D.Jones has been applied to Kew specimens from New Zealand (wrongly we think).
The names Neottia sinensis and Spiranthes sinensis var. australis (R.Br.) H.Hara & Kitam. Acta Phytotox. Geobot. 36 (1–3): 93 (1985) have been used for Spiranthes australis in Australia.

Spiranthes "Motutangi": a larger plant, not separable by DNA.

Taeniophyllum Blume, Bijdr. Fl. Ned. Ind.: 355 (1825)

Taeniophyllum norfolkianum D.L.Jones, B.Gray & M.A.Clem. in Jones et al., 15: 157 (2006)

Thelymitra J.R.Forst. & G.Forst. Char. Gen. Pl. 97 t.49 (1776)

Thelymitra aemula Cheeseman. Trans. & Proc. New Zealand Inst. 51: 94 (1919).

Thelymitra brevifolia Jeanes. Muelleria 19: 19–79 (2004).

Thelymitra carnea R.Br. Prodr. Fl. Nov. Holland.: 314 (1810).
Thelymitra imberbis Hook.f. Fl. Nov.-Zel. 1: 244 (1853). A yellow form.
Thelymitra carnea R.Br. var. imberbis (Hook.f.) Rupp & Hatch. Proc. Linn. Soc. New South Wales 70: 59 (1946).

Thelymitra colensoi Hook.f. Handb. N. Zeal. Fl. 271 (1864)
Thelymitra intermedia Berggr. Minneskr. Fisiog. Sallsk. Lund 8: 21 f (1878) is a synonym.
Thelymitra longifolia J.R.Forst. & G.Forst. var. stenopetala Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 396, plate 80 F–H (1952).
Thelymitra longifolia J.R.Forst. & G.Forst. var. intermedia Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 396, plate 80 J (1952).

Thelymitra cyanea (Lindl.) Benth. Fl. Austral. 6: 323 (1873).
Macdonaldia cyanea Lindl. Bot. Reg. 25 (1840).
Thelymitra uniflora Hook.f. Bot. Antarct. Voy., Vol. 1, Fl. Antarct.: 70 (1844).
Thelymitra venosa as meant by Cheeseman. Man. New Zealand Fl. 671 (1906), is not that of R.Br. (1810).
Thelymitra venosa R.Br. var. typica Hatch Trans. & Proc. Roy. Soc. New Zealand 79: 390, plate 77 A–C (1952).
Thelymitra venosa R.Br. var. cedricsmithii Hatch Trans. & Proc. Roy. Soc. New Zealand 79: 390, plate 77 D–E (1952).
Thelymitra venosa R.Br. var. cyanea Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 391, plate 77 F–H (1952).

Thelymitra X dentata: a sterile hybrid of T. longifolia X T. pulchella.
Thelymitra dentata L.B.Moore. New Zealand J. Bot. 6: 478, f.2 (1969).

Thelymitra formosa Colenso. Trans. & Proc. New Zealand Inst. 16: 338 (1884).
Thelymitra circumsepta as meant by Hatch. NZNOG Journal 65: 8 (1997), is not that of Fitzg. (1878).

Thelymitra hatchii L.B.Moore. New Zealand J. Bot. 6: 477, f.2 (1969).
Thelymitra pachyphylla as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 394, plate 79 D–H (1952), is not that of Cheeseman (1906).
Thelymitra concinna Colenso. Trans. & Proc. New Zealand Inst. 20: 207 (1888) appears to be the pink-ciliated form of T. hatchii, and if so has precedence.

Thelymitra ixioides Swartz. Kongl. Vetansk. Acad. Nya Handl. 21: 253, t.3, f.L (1800).
Thelymitra ixioides var. typica (Hook.f.) Rupp & Hatch. Proc. Linn. Soc. New South Wales 70: 59 (1945).
This may not be the same as the Australian plant.

Thelymitra longifolia J.R.Forst. & G.Forst. Char. Gen. Pl. 98 t.49 (1776).
Serapias regularis Banks & Sol. ex G.Forst. Prodr. 59 (1776).
Thelymitra forsteri Sw. Kongl. Vetensk. Acad. Nya Handl. 21: 228 (1800).
Thelymitra nemoralis Colenso. Trans. & Proc. New Zealand Inst. 17: 249 (1885).
Thelymitra alba Colenso. Trans. & Proc. New Zealand Inst. 18: 272 (1886).
Thelymitra cornuta Colenso. Trans. & Proc. New Zealand Inst. 20: 206 (1888).
Thelymitra longifolia J.R.Forst. & G.Forst. var. alba (Colenso) Cheeseman. Man. New Zealand Fl. 339 (1925).
Thelymitra longifolia J.R.Forst. & G.Forst. var. forsteri Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 396, plate 80 B–E (1952).
Thelymitra aristata as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 395, plate 79 M–N, plate 80 A (1952), is not that of Lindl. (1840), and has been tagnamed T. "tholinigra" by Scanlen.
If the name T. longifolia is restricted to plants with wide ridged floppy leaves and entire column midlobes, some of the plants included in synonymy above may indeed prove to be separate.

Thelymitra longifolia group: some undescribed taxa that appear to be insect-pollinated.

Thelymitra malvina M.A.Clem., D.L.Jones & Molloy. Austral. Orchid Res. 1: 141 (1989).

Thelymitra matthewsii Cheeseman. Trans. & Proc. New Zealand Inst. 43: 177 (1911).

Thelymitra nervosa Colenso. Trans. & Proc. New Zealand Inst. 20: 207 (1888).
Thelymitra decora Cheeseman. Man. New Zealand Fl. 1151 (1906). Spotted and unspotted forms grow together.

Thelymitra pauciflora R.Br. Prodr. 314 (1810).
Thelymitra pauciflora sens. strict. is in NZ according to Jeanes (Muelleria 19: 19–79 [2004]); however, there are also a number of other forms in this group.

Thelymitra pulchella Hook.f. Fl. Nov.-Zel. 1: 244 (1853).
Thelymitra fimbriata Colenso. Trans. & Proc. New Zealand Inst. 22: 490 (1890).
Thelymitra pachyphylla Cheeseman. Man. New Zealand Fl. 1151 (1906).
Thelymitra caesia Petrie. Trans. & Proc. New Zealand Inst. 51: 107 (1919).
T. pulchella is a very variable species, yet all of these appear to have features that are relatively stable in some populations.
Thelymitra "sans fimbria" with plain blue flowers from Far North (see Scanlen. NZNOJ 98: 36 & 102: 39, 45) has a similar column.

Thelymitra purpureofusca Colenso. Trans. & Proc. New Zealand Inst. 17: 249 (1885).

Thelymitra sanscilia Irwin ex Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 397, plate 81 B–E (1952).

Thelymitra tholiformis Molloy & Hatch. New Zealand J. Bot. 28: 111, f.6 (1990).
Thelymitra intermedia as meant by L.B.Moore. Fl. New Zealand Vol. 2: 129 (1970), is not that of Berggren (1878).

Thelymitra "Ahipara": an unnamed taxon from the Far North, similar to T. "darkie".

Thelymitra "Comet": a large, late-flowering Thelymitra from the Kaweka range. Appears to be sterile, so probably a hybrid.

Thelymitra "darkie": undescribed taxon from the Far North (see McCrae. NZNOG Journal 24: 11; 77: 22 [1987]).

Thelymitra "fusca": a tiny, brown-leaved beech forest plant.

Thelymitra "rough leaf": undescribed taxon from the Far North (see McCrae. NZNOG Journal 24: 11; 77: 22 [1987]).

Thelymitra "sky": undescribed taxon from the Far North (see Scanlen. NZNOG 70: 30–35, f.6 [1998]).

Thelymitra "tholinigra": (see Scanlen. NZNOJ 85: 10, 15).

Thelymitra "Whakapapa": undescribed taxon from Ruapehu, that may correspond to T. purpureofusca, or may be distinct.

Townsonia Cheeseman. Man. New Zealand Fl. 692 (1906).

Townsonia deflexa Cheeseman. Man. New Zealand Fl. 692 (1906).
Townsonia viridis as meant by Schltr. Repert. Spec. Nov. Regni Veg. 9: 250 (1911), is not Acianthus viridis of Hook.f. (1860).
Acianthus viridis as meant by L.B.Moore. Fl. New Zealand Vol. 2: 107 (1970), is not that of Hook.f. (1860).

Waireia D.L.Jones, M.A.Clem. & Molloy. Orchadian 12(6): 282 (1997)

Waireia stenopetala (Hook.f.) D.L.Jones, M.A. Clem. & Molloy. Orchadian 12(6): 282 (1997).
Thelymitra stenopetala (Hook.f.) Bot. Antarct. Voy., Vol. 1, Fl. Antarct.: 69 (1844).
Lyperanthus antarcticus Hook.f. Bot. Antarct. Voy., Vol. 1, Fl. Antarct.: 544 (1847).