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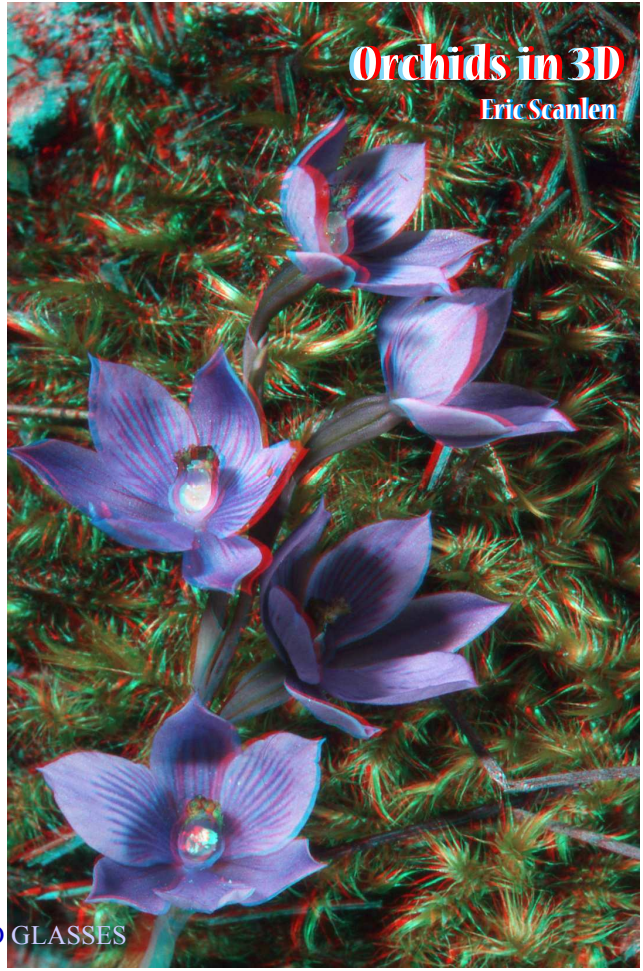
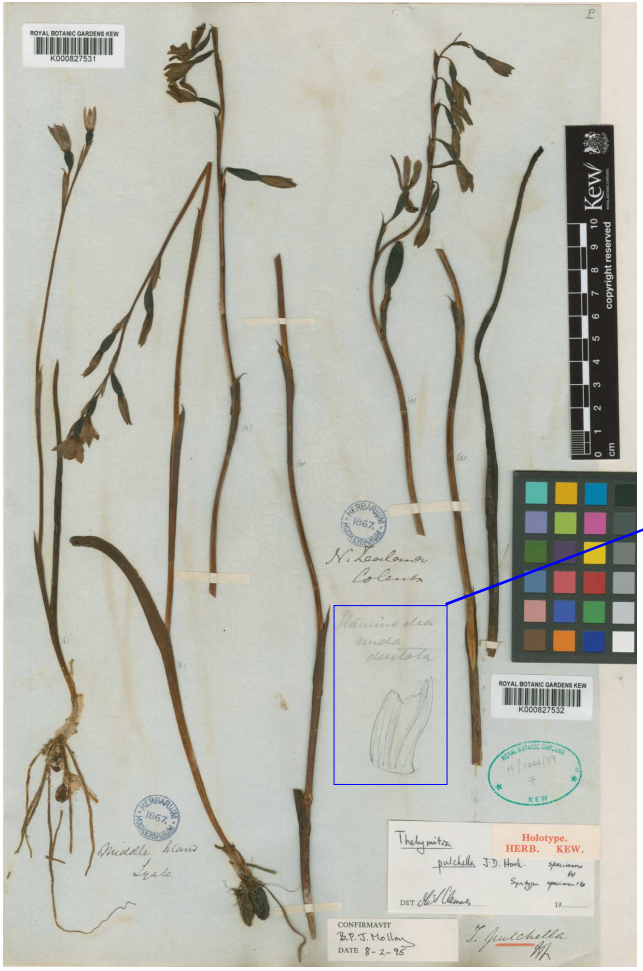


The Type locality: *Thelymitra fimbriata* Col. in Otago

It's a long and tortuous story. The Type sheet for *T. pulchella* at Kew (right ►) has two collections, one from William Colenso (Northland) and one from David Lyall (Otago). Colenso's specimen is not numbered, so we can say with confidence it is an early Northland specimen.

It is almost certainly the one he collected in 1838 and sent on 14 February 1840 to Sir William Hooker, writing, "*Thelymitra grandiflora n. sp. perianthis erectiusculo, cuculli laciniis extrinis cuspidatis eroso-denticulatis imberbibus: intermedia dorso nudo emarginata tuberculata, margine incurvato incrassato, spica multiflora—W.C. in litt., 1838. A very remarkable species; nearly 3 feet high, of a most brilliant Indigo colour &c.*"

That description could also fit *T. cyanea* —but I have never seen one so tall and there is no Colenso specimen of *T. cyanea* at Kew.



Hooker drew the column (above) and made the note "*Staminodia nuda, dentata*" (column arms bare, toothed).

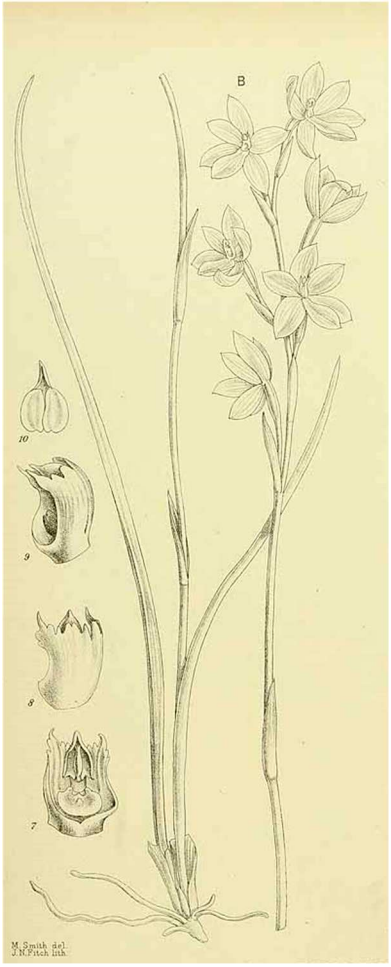
Kew, however, also received a specimen from Lyall, from the South Island (also on the type sheet) so in his 1853 formal description Joseph Hooker described the staminodia as "erect, toothed or fimbriate". The Kew collection therefore included northern forms with toothed bare column arms, and southern forms with fimbriate

column arms; Joseph Hooker saw them as a single species.

Colenso described *T. fimbriata* in 1890 from Southland specimens, probably sent to him by fellow school inspector Donald Petrie, differentiating it from *T. pulchella* by (among other things) its column "truncate, with small toothed wings shorter than staminodia; staminodia largely fimbriate; fimbriæ spreading, irregular, flat, flexuous, sometimes forked at their extreme tips". He was comparing it with the bare armed Northland plant he knew.

In his 1906 *Manual* Cheeseman's concept of *T. pulchella*, like Colenso's, was narrower than Hooker's and was based on northern specimens, with bare column arms, lacking any cilia or fimbria. He said it is found only north of the Waikato river. John Nugent Fitch's engraving of Matilda Smith's drawing for Cheeseman is shown at right ►. I have seen that bare-armed one only in Northland—tall single plants at Kaimaumau. Let's call it *T. pulchella sensu* Cheeseman.

Cheeseman wrote, in the appendix to his 1906 *Manual*, that he had been unable to identify *T. fimbriata* Col. Townson had sent him *Thelymitra* with fimbriate column arms from Westport and Brame had sent him the same from Kumara, and these he described as *T. pachyphylla.* The column was "short, stout, about half as long as the perianth, the wing continued behind the anther but hardly as long as it, 3-lobed; middle lobe short, broad, indistinctly hood-shaped, truncate at the top with an even or denticulate margin; lateral lobes longer than the middle one, erect or pointing forwards, flattened,



the margins divided into numerous simple or branched fimbriæ." He compared it with *T. pulchella sensu* Cheeseman.

Petrie, in 1919, described plants sent by HB Matthews from Glenfield as *T. caesia.* He must have thought it different from the *T. fimbriata* he had earlier collected for Colenso. The column was "stout, broadly winged, much shorter than the perianth, 3-lobed; posterior lobe bifid, shorter than the anther, its divisions truncately obtuse, thickened and slightly incurved along their somewhat wavy brownish-yellow tops; lateral lobes short but equalling the anther, forming broad thin flattened plates, subpectinately fimbriate along the upper margins, the fimbriate processes more or less cut into very short hair-like subdivisions ". He thought it "clearly a fairly close ally of T. pulchella Hk. f." The type sheet for *T. caesia* ("asphodel-like") shows Matthews had tagged it "coelestis" ("like the sky"), and had collected it at Glenfield Reserve & district on 5 December 1918, "Flowers 2–8, lavender striped deep blue". Sheets in Herb. Petrie at Te Papa show *T. caesia* with puffs of fine yellow cilia on the ends of flat column arms.

Hatch, in 1952, appears to have ignored Colenso's *T. fimbriata* altogether. He was sent North Island specimens of *T. hatchii* and South Island specimens of *T. formosa* but misidentified them as Cheeseman's *T. pachyphylla* and Petrie's *T. caesia.* Contrariwise, his "*T. pulchella*" is more like *T. formosa* than *T. pulchella*. He got all these species quite wrong.

Moore tidied up, describing *T. hatchii* as new, rec-

ognising Colenso's *T. formosa* and lumping *T. fimbriata, T. caesia and T pachyphylla* into *T. pulchella.* She described its column in great detail and her description is a broad composite. Let's call that *T. pulchella sensu* Moore.

She also included *T. concinna* Col., but in my view that is the *T. hatchii* colour form with pink cilia so can be disregarded for the purposes of this argument.

Furthermore she did not know about a 5th plant, tagged *T.* "sansfimbria", with a column broadly similar to *T. pulchella sensu* Cheeseman but no stripes on the tepals.

And anyway, was she right to lump these different forms?

The differences among *T. pachyphylla* Cheeseman, *T. caesia* Petrie*, T. fimbriata* Colenso (and now *T.* "sansfimbria") are conventionally explained by their being the same variable amphidiploid whose parents are *T. longifolia* and *T. cyanea.* That might be true but I have always thought there may be another explanation.

If *T. pulchella sensu* Cheeseman (Colenso's 1838 plant from Northland) does differ from the other 4 the explanation must be in the parenthood (differing entities currently regarded as *T.* aff. *longifolia* in different regions).

Thus Northland plants with bare, toothed column arms (*T. pulchella sensu* Cheeseman and *T.* "sansfimbria") might be hybrids between *T. cyanea* and a northern *T.* aff. *longifolia*—the striped *T. pulchella sensu* Cheeseman more like *T. cyanea* and the unstriped *T.* "sansfimbria" more like *T.* aff. *longifolia.*

Petrie's *T. caesia* is from north of Auckland CBD and may be a hybrid between *T. cyanea* and a different form of *T. longifolia.* South Island forms are *T. pachyphylla* from West Coast and *T. fimbriata* from Southland: they are probably identical and may be hybrid(s) between *T. cyanea* and southern form(s) of *T. longifolia.*

We will sort this out once we have identified the different forms of *T. longifolia* that may be the parents, then the different forms of their offspring, the plants currently included in *T. pulchella sensu* Moore.

I think we need first to be sure what each looks like and what their geographical distributions are. Clearly they all show features of each parent, flowers blue to pink, striped or unstriped, but (and this is how, after all, we distinguish one thelymitra species from another) the columns do differ, and the differences may be consistent.

We ought furthermore to record the geographical distribution of each of the five. No doubt there will be some overlap in their distributions too, but there may be regions where only one form grows.

Thelymitra "sansfimbria" (photo Kevin Matthews)

	Thelymitra pulchella sensu Cheeseman	*T.* "sansfimbria"	*T. fimbriata* Colenso	*T. pachyphylla* Cheeseman	*T. caesia* Petrie
Distribution	North of Waikato river	Far North	Otago/Southland	West Coast	Auckland
Colonies	Tall single plants to 80cm		Clump forming in Otago, to 30cm		
Flowers	Indigo, striped	Blue, no stripes	Pink to blue, striped		
Column	less than half as long as the perianth, the wing continued behind the anther but much shorter than it, 3-lobed; middle lobe short and broad, emarginate or truncate; lateral lobes much longer than the middle lobe and almost equalling the anther, erect, lanceolate, acuminate, coarsely toothed.	middle lobe short and broad, emarginate or truncate; lateral lobes much longer than the middle lobe and higher than the anther, erect to forward pointing, coarsely toothed, lacking cilia or fimbriae.	truncate, with small toothed wings shorter than staminodia; staminodia largely fimbriate; fimbriæ spreading, irregular, flat, flexuous, sometimes forked at their extreme tips	short, stout, about half as long as the perianth, the wing continued behind the anther but hardly as long as it, 3-lobed; middle lobe short, broad, indistinctly hood-shaped, truncate at the top with an even or denticulate margin; lateral lobes longer than the middle one, erect or pointing forwards, flattened, the margins divided into numerous simple or branched fimbriæ	stout, broadly winged, much shorter than the perianth, 3-lobed; posterior lobe bifid, shorter than the anther, its divisions truncately obtuse, thickened and slightly incurved along their somewhat wavy brownish-yellow tops; lateral lobes short but equalling the anther, forming broad thin flattened plates, subpectinately fimbriate along the upper margins, the fimbriate processes more or less cut into very short hair-like subdivisions
Column photograph					

1840 Colenso (unpublished)

Thelymitra grandiflora n. sp. perianthis erectiusculo, cuculli laciniis extrinis cuspidatis eroso-denticulatis imberbibus: intermedia dorso nudo emarginata tuberculata, margine incurvato incrassato, spica multiflora

... hood jagged, outside pointed, irregularly toothed and not bearded; top of intermediate naked, notched, warty, the edge incurved, thickened….

1853 *Thelymitra pulchella* Hook.f.

3. Thelymitra *pulchella*, Hook. fil.; caule gracili 3–5-floro, folio anguste lineari, perianthii foliolis late obovatis acutis, labello obcuneato, staminodiis erectis ultra columnam porrectis apice fimbriatis dentatisve.

Hab. Northern and Middle Islands, *Colenso*. Otago, *Lyall*. Nat. name, "Maikaika," *Lyall*.

Tubers small, with long fibres at the base of the stem, on which other tubers are formed. *Stem* slender, 1 foot high. *Leaf* very narrow. *Flowers* glaucous, large, pale purple, very handsome; *sepals* and *petals* obovate, acute. *Lip* broadly obovate, truncate, or wedge-shaped. *Column* shorter than the erect toothed or fimbriate staminodia.—This is a handsome and very distinct form in the structure and length of the staminodia; I have fifteen very good specimens, but it is probable that it will be found to pass into *T. Forsteri*, through the following.

1867 Hooker on *Thelymitra pulchella*

By now Hooker had received a third specimen, collected by David Monro from the Moutere hills. He wrote that it differed from *T. longifolia* in "the longer, erect, toothed appendages of the column".

1889 *Thelymitra fimbriata* Colenso

Plant rather slender, stem 11in. high, erect, flexuous. Leaves: basal 0; cauline 1, 3in. from base, sheathing, linear-acuminate, sub-acute, 6½in. long, ½in. wide at base, flat, sub-coriaceous, dark-coloured (with stem and bracts) when dry. Two large cauline bracts, equidistant, nerved, their tips very acuminate much produced and flexuous. Flowers 5, distant in a loose raceme, their pedicels ½in. long (the length of ovary); floral bract broadly ovate (almost sub-orbicular), 8–9 lines long, 5 lines wide, many-nerved, the top suddenly acuminate, acute. Perianth 1¼in. diameter, violet with darker pencillings, much veined; veins branching. Dorsal sepal broad; petals narrower than lateral sepals; lip longer and very narrow. Column truncate, with small toothed wings shorter than staminodia; staminodia largely fimbriate; fimbriæ spreading, irregular, flat, flexuous, sometimes forked at their extreme tips; anther ovate, pointed.

Hab. Open fern lands, interior; also in similar situations, Fortrose, Invercargill, whence specimen received in a packet: 1888.

Obs. A species having affinity with T. pulchella, Hook. f., but differing in its larger and otherwise-coloured flowers, its long narrow labellum, and remarkably fimbriate staminodia, &c.

1906 *Thelymitra pachyphylla* Cheeseman

Thelymitra.—I have been unable to identify T. formosa, Col. in Trans. N.Z. Inst. xvi. (1884) 338; T. concinna, Col. l.c. xx. (1888) 207; T. nervosa, Col. l.c. 207; and T. fimbriata, Col. l.c. xxii. (1890) 490.

Thelymitra pachyphylla

Stem tall, stout or rather slender, 9–18

in. high or more. Leaf shorter than the stem, usually very thick and fleshy, grooved and channelled, variable in breadth, sometimes as much as ¾ in. across; empty bracts 2 or 3, thick and fleshy, sheathing. Flowers 3–6 or more in a raceme, large and handsome, ¾–1 in. diam., blue-purple. Sepals and petals oblong-ovate or broadly oblong, subacute. Column short, stout, about half as long as the perianth, the wing continued behind the anther but hardly as long as it, 3-lobed; middle lobe short, broad, indistinctly hood-shaped, truncate at the top with an even or denticulate margin; lateral lobes longer than the middle one, erect or pointing forwards, flattened, the margins divided into numerous simple or branched fimbriæ. Anther broad; connective produced into a stout horn-like point which usually overtops the middle lobe of the column-wing.

South Island: Nelson—Vicinity of Westport, Townson! Westland— Kumara, Brame!

This has doubtless been confused with T. pulchella, from which, however, it totally differs in the structure of the column. In T. pulchella the middle lobe of the column-wing is much shorter than the anther, while the lateral lobes are barely as long as it, and are irregularly toothed or jagged, and not at all ciliate or fimbriate. In the present species the middle lobe almost equals the anther, while the lateral lobes are longer than it, and are provided with numerous fimbriæ. T. longifolia differs in the smaller flowers, much longer and distinctly hooded middle lobe of the column-wing, and in the shorter lateral lobes, which terminate in a dense rounded brush of white cilia.

1906 Cheeseman on *Thelymitra pulchella*

Stem tall, slender, often flexuous, 9–18 in. high or even more. Leaf shorter than the stem, long, linear, fleshy, grooved and channelled; empty PAGE 671bracts 2 or 3, sheathing. Flowers 3–8 in a raceme from 2 in. to 6 in. long, large, handsome, blue - purple, ¾–1 in. diam. Sepals, petals, and lip broadly oblong or obovate, obtuse. Column less than half as long as the perianth, the wing continued behind the anther but much shorter than it, 3-lobed; middle lobe short and broad, emarginate or truncate; lateral lobes much longer than the middle lobe and almost equalling the anther, erect, lanceolate, acuminate, coarsely toothed. Anther broad, connective produced into a stout horn-like point.—Handb. N.Z. Fl. 271.

North Island: Olay hills from the North Cape to the Waikato River, not uncommon. November–December.

A well-marked species, easily distinguished by the large blue-purple flowers, broad obtuse sepals and petals, long erect coarsely jagged (not ciliate) lateral lobes of the column-wing, and broad and short middle lobe, which is much lower than the anther. I have seen no South Island specimens, and suspect that Monro's and Lyall's plants, mentioned by Hooker in the Handbook, are nothing more than large states of T. uniflora.

1914 Cheeseman on *Thelymitra pulchella*

Thelymitra pulchella was originally discovered by Mr. Colenso in the North Island, but I am ignorant of the exact locality. It was first published by Sir J. D. Hooker in the "Flora Novæ Zelandiæ"; but Hooker bracketed with Colenso's plant some specimens collected by Lyall in Otago; and in the "Handbook" he also included a plant gathered by Sir D. Monro in the Nelson Provincial District. But although I have examined a great number of *Thelymitræ* from the South Island I have found none with the characters of *T. pulchella*, and am inclined to doubt the occurrence of the species to the south of Cook Strait. In fact, I have not seen undoubted specimens of *T. pulchella* from the south of the Waikato River. North of Auckland it is common on *Leptospermum*-clad hills, often associated with *T. longifolia*, and is particularly abundant between the Bay of Islands and the North Cape. I have not seen it at a greater elevation than 800 ft.

T. pulchella belongs to the section *Macdonaldia*, in which the column-wing extends behind the anther, but is shorter than it, and is not hood-shaped; and the lateral lobes, though often toothed or fimbriate, do not possess the dense tufts of cilia so obvious in the section *Cucullaria* (compare figs. 1 and 9 of the accompanying plate). It is one of the handsomest of the New Zealand species, from the large size of the blue-purple flowers, which are often an inch in diameter or even more.

PLATE 192B. *Thelymitra pulchella*, drawn from specimens collected near Mongonui Harbour. Fig. 7, front view of column; 8, back view of same; 9, side view of same; 10, dehisced anther. (All enlarged.)

1919 *Thelymitra caesia* Petrie

T. pulchellae Hk. f. affinis; differt floribus subcoeruleis, sepalis petalisque acutis, columnae lobo posteriore bifido ac apice subcrenulate incrassato, lobis lateralibus latis valde complanatis brevioribus insuper a marginibus subpectinate fimbriatis.

Stems moderately slender, 65 cm. high or less. Leaves shorter than the stem, variable in length, long-sheathing at the base, linear, fleshy, concave above, shining light green, midrib obscure. Cauline bracts usually two, thin, short, sheathing for most of their length, rather abruptly acuminate; floral thin, lanceolate-acuminate, slightly exceeding the peduncles. Flowers about five, laxly racemose, shortly pedunculate, large (± 2½ cm. across); sepals and petals ovate or ovate-lanceolate, acute (sepals slightly the longer), lavender-coloured but closely streaked with deep blue; lip broader, paler, sharply narrowed above and less acute. Column stout, broadly winged, much shorter than the perianth, 3-lobed; posterior lobe bifid, shorter than the anther, its divisions truncately obtuse, thickened and slightly incurved along their somewhat wavy brownish-yellow tops; lateral lobes short but equalling the anther, forming broad thin flattened plates, subpectinately fimbriate along the upper margins, the fimbriate processes more or less cut into very short hair-like subdivisions; anther broad, connective produced into a short slightly grooved tip.

Hab.—Birkdale-Glenfield Reserve, Waitemata County. Flowers late November and early December.

This species was collected recently by Mr. H. B. Matthews, who has for several years devoted much time and attention to hunting up the native orchids, with quite remarkable enthusiasm, acuteness, and success. To him I am indebted for the specimens examined and for a note of the tint of the leaves and the colour of the perianth. When the species is better known the range in stem-height and in the number of flowers may be greater than the present description discloses. The species is clearly a fairly close ally of T. pulchella Hk. f.

1925 Cheeseman on *Thelymitra pulchella*

Cheeseman stuck to his guns, writing that *T. pulchella* was "Easily distinguished by… long erect coarsely jagged (not ciliate) lateral lobes of the column-wing, and broad and short middle lobe which is much lower than the anther. I have seen no South Island specimens, and suspect that Monro's and Lyall's plants, mentioned by Hooker in the Handbook, are referable to *T. pachyphylla*."

1970 Moore on *Thelymitra pulchella*

T. concinna Col. in T.N.Z.I. 20, 1888, 207.
T. fimbriata Col. in T.N.Z.I. 22, 1890, 490.
T. pachyphylla Cheesem. Man. N.Z.Fl. 1906, 1151.
T. caesia Petrie in T.N.Z.I. 51, 1919, 107.

Plant at fl. 15–60 cm. tall. Stem stout, often > 3 mm. diam. Lf 6–10–20) mm. wide, channelled, thick and heavy. Infl. often > 6-fld. Per. 12–17 mm. long, us. between blue and pink with strong blue stripes, sts white with blue stripes, occ. clear pink overall. Sepels and petals sub-similar, rather broadly ovate, lateral sepals narrowest. Labellum

distinctly more obovate. Column-arms us. higher than anther, flat, reddish, variously elaborated within one population of plants or even within one raceme; commonly the margins are thin, near the base red, toothed or even lobed (anteriorly or posteriorly or both), the upper teeth stretching out into branched fimbriae, also red, which gradually give way to much finer yellow fimbriae extending to the top of the arm; proportions of red to yellow, of teeth to fimbriae, of plain to ornamented margin seem quite unfixed, the simplest arm being short and thick with only a few small tufts of reddish hairs; post-anther lobe also variable, rarely taller than anther, its margin variously thickened or sts incurved or irregularly denticulate, us. dark reddish in its upper part and often edged with yellow, occ. ± tuberculate.

DIST.: N., S., St., Ch.

Clay banks, gumland, pakihi and other boggy places.

FL. (10)–11–12–(1).

Original localities: "Northern and Middle Islands. Colenso. Otago, Lyall". Type: K(?).

T. concinna. Type locality: "Open country near the east bank of the River Mohaka, north of Napier; 1884: Mr. A. Hamilton." Type: Not found. Colenso had only a single specimen.

T. fimbriata. Original localities: "Open fern lands, interior; also in similar situations, Fortrose, Invercargill, whence specimen received in a packet: 1888". Lectotype: WELT 24274 B; packets labelled in Colenso's hand "Thelymitra fimbriata" and "Fortrose".

T. pachyphylla. Original localities: "South Island: Nelson—Vicinity of Westport, Townson! Westland—Kumara, Brame!" Lectotype: AK 3376 (1) Vicinity Westport, 11/1905, W. Townson. Townson's collection is also represented by CANTY 79.6.2 bis, and by 550/1 in Herb. Carse . Cheeseman restricted the name T. pulchella to plants with "long erect coarsely jagged (not ciliate) lateral lobes of the column-wing, and broad and short middle lobe, which is much lower than the anther", and his figure (Ill. N.Z. Fl. 2, 1914, 192B) shows none of the fimbriae mentioned in Hooker's description. T. pachyphylla was characterised by a tall post-anther lobe and fimbriate column-arms.

T. caesia. Type locality: "Birkdale-Glenfield Reserve, Waitemata County . . . Mr H. B. Matthews". Lectotype: WELT 18401 . At CANTY 548/1 in Herb. Carse is part of the original collection ("H.B.M. Glenfield 5–12–18") and this matches Petrie's carefully detailed description well, as do later specimens (CANTY 79.6.9.) collected and determined by Petrie in November 1919.

Hatch (T.R.S.N.Z. 79, 1952, 392–395) does not appear to have understood this species, no form of which is well represented in any of his figures.

Thelymitra pulchella sensu Cheeseman (photo Eric Scanlen)

Thelymitra caesia Albany, photo EA Scanlen

▲ *Thelymitra fimbriata* is common about the coastal Otago hills, a robust, multi-flowered, clump-forming plant, but hardly more than 30cm tall, with pink through mauve to blue flowers, the lateral petals striped, the other tepals less so if at all.

Thelymitra pachyphylla Matauri Bay, photo EA Scanlen

The *Thelymitra pulchella* complex begs a thorough re-examination, but that will probably have to wait until the Thelymitra longifolia complex is itself thoroughly re-examined.

The inbox

"A taxonomic review of *Corybas rivularis* (Orchidaceae)—inferred from molecular and morphological analyses"—a thesis submitted in partial fulfilment of the requirements for the degree of Master of Science in Biological Sciences at the University of Waikato by Abraham John Coffin—can be read at https://researchcommons.waikato.ac.nz/bitstream/handle/10289/10538/thesis.pdf?sequence=4&isAllowed=y

Mike Lusk photographed this at Cape Kidnappers on 30 August. I thought it was a very dark *Corybas* "trotters"— or is it *C. obscurus*?— "The rugose dark dorsal and green disc on the labellum are typical. Flower size seems to be small, but apart from that everything fits including leaf shape and dark markings thereon," Mark Moorhouse emailed. This would be its northernmost (and probably earliest flowering) record.

The New Zealand Native Orchid Journal

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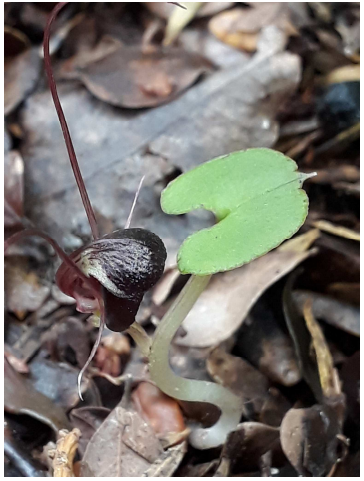
Cheryl Dawson photographed this in the Moncton reserve on 14 October.



Jack Warden photographed this tiny "Corybas micranthus" at Dome Forest Warkworth on 30 September.

Years ago Brian and Judith Tyler showed us a very small *Corybas macranthus* on a bank above the road just before Sixtus Lodge at Apiti. I went back there at Labour weekend. The small flowered plants were scattered among larger ones of normal size. The plants with smaller flowers also had smaller leaves, suggesting the energy available from photosynthesis may determine flower size. Structurally they were little different from the larger flowers—lateral sepals held forward, single apiculus on an otherwise entire labellum edge.

Five views of a Corybas macranthus from the southern Wairarapa, 21 October '18

More from our "What's this then?" department

In 2014 Eric Scanlen comprehensively reviewed the various forms of *Corybas macranthus* in his "*Nematoceras macranthum* manhunt progress" (J131: 13); he included a couple of my photographs of Otago and Southland plants.

Thirty years ago I found a colony of what I took to be an unusual form of *Corybas macranthus* nestled in a sheltered hollow among scrubby manuka fifty metres from the sea at Shag Point north of Dunedin (Fig.1). ▼

Later I found more of it in an open site on a clay bank above the sea a little further south (still at Shag Point). Inland a couple of miles is Trotters Gorge, where typical *C. macranthus* grows (Fig.2). ▼


2 Trotters Gorge

On Stewart Island are typical *C. macranthus* (Fig.3). ▼

In 2016 I found a colony near Oban on Stewart Island similar to the Shag Point plants(Fig.4) though darker. ▼

Pat Enright told me he had found similar plants on the Ernest Isles at the south end of Mason's Bay, Stewart Island (in the days before he carried a camera, sadly) and I recall seeing similar plants in the dunes behind Tautuku beach in the Catlins, also years ago.

There are photographs of this plant on *iNaturalist:* near Oban, Stewart Island by Matt Ward;[1] NW Stewart Island by Cara-Lisa Schloots (possibly this);[2] and Point Elizabeth above Greymouth by John Barkla.[3]

I was back at my second Shag Point site on 11 November 2018 and looked more carefully. These plants have small, round, sessile leaves, tight to the ground, with sessile flowers sitting down on the leaf in the way those of *C. orbiculatus* do. The flowers are dark red to maroon, much like those of typical *C. macranthus*, but with some consistent differences: a less tapared dorsal sepal, striped inner labellum, shorter tepals. The leaves and flowers are never stalked.

5. Shag Point 12 Nov '18.

Of course typical *C. macranthus* often has the flower above the leaf, but there is always a leaf stem and a flower stem. Is this consistently sessile plant a different entity? Or is the seeming difference just a growth effect from harsh southern seaside environments?

That made me wonder, what does *C. macranthus* look like on the subantarctic islands?

Which begs the question: is it there?

In 1853 JD Hooker described *C. macranthus* as a short-stemmed, long petioled plant from North (Colenso) and South (Lyall) Islands.[4]

TF Cheeseman appears to have been the first to suggest a subantarctic distribution for *Corysanthes macrantha*; he wrote, "North and South Islands, Stewart Island, Chatham Islands, Auckland and Campbell Islands".[5] Mind you, he also wrote (in 1906 and 1925) "Both it and *C. triloba* frequently have the peduncle bent backwards, so that the flower lies with the upper sepal undermost and the lip above" suggesting he was not exactly familiar with either. ED Hatch wrote, "abundant throughout New Zealand, tending to be less common in the north. Also in Stewart, Chatham, Auckland and Campbell Islands".[6] Lucy Moore wrote, "N., S., St., Ch., A., C."[7] The entry on the NZ Plant Conservation's website has "North, South, Stewart, Chatham, Auckland and Campbell Islands".[8]

Are they right, or were they repeating received wisdom?

The plant formerly seen as *C. macranthus* on Macquarie island[9] has been identified as *C. dienemus*.[10] A plant said to be *C. macranthus* on Auckland Island[11] has a wide dorsal sepal and appears to me to be *C. acuminatus* (Fig.6). Cheeseman's record of *C. macranthus* from Campbell Island was refuted by CD Meurk in 1975,[12] though of two later collections from

6: Auckland Is.

Campbell Is one has been identified "with certainty" as *C. macranthus,* the other as *C.* aff. *macranthus*.[13]

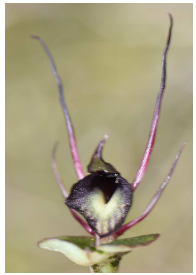
The plant formerly seen as *C. macranthus* on the Chathams[14] was, in Molloy's opinion (January 2002), probably *C.* aff. *trilobus*:[15] and a Te Papa Chathams collection by Travers labelled *Corybas macranthus* is certainly *C. trilobus* s.l.[16] Molloy wrote, "Although I suspect that *Corybas macranthus* has often been confused with *Corybas* aff. *trilobus*, it could still be present in its most likely habitats, the limestone areas along the western margin of Te Whanga lagoon, and the summits of volcanic cones". He later identified Chatham specimens grown on at home in Christchurch "with certainty" as *Corybas macranthus*.[17]

Chatham and Campbell, yes; the other subantarctic islands, perhaps not.

This leaves me nonetheless nonplussed pondering this southern seaside spider: have you seen plants like this? is it *C. macranthus*? or is it different?

References

1. www.inaturalist.org/observations/4727583.
2. www.inaturalist.org/observations/8871498.
3. www.inaturalist.org/observations/8905894.
4. Hooker JD 1853. Flora Novae Zelandiae. Reeve, London. P250.
5. Cheeseman TF 1906. Manual of the New Zealand Flora. Government Printer, Wellington.
6. Hatch ED 1947. The New Zealand forms of Corybas Salisb. Trans. N.Z. Inst. 76: 574.
7. Moore LB, E Edgar 1970. Flora of New Zealand Vol. II. Govt Printer, Wellington.
8. http://www.nzpcn.org.nz/flora_details.aspx?ID=1017.
9. Brown MJ, JF Jenkin, NP Brothers & GR Copson 1978. Corybas macranthus (Hook.f.) Reichb.f (orchidaceae), a new record for Macquarie Island, New Zealand Journal of Botany, 16:3, 405-407.
10. Clements MA, DL Jones 2007. A new species of Nematoceras and characterisation of N. dienemum (Orchidaceae), both from subantarctic Macquarie Island". Telopea. 11 (4): 405–411.
11. https://voyagingsouth.com/new-zealand-islands/auckland-islands/auckland-island/ accessed 16 November 2018.
12. Meurk CD 1975. Contributions to the Flora and Plant Ecology of Campbell Island, New Zealand Journal of Botany, 13:4, 721-742.
13. CHR 624025, 532770.
14. Buchanan J 1874. On the flowering plants and ferns of the Chatham Islands. Trans. N.Z. Inst 7: 333.
15. Molloy B 2002 (January). Orchids of the Chathams. Dept of Conservation.
16. Te Papa Registration Number SP018950.
17. CHR 1-08625, 645222, 541689.



Corybas in the Wairarapa & Wellington, 2018

—photographs by Pat Enright

https://www.inaturalist.org/observations?place_id=any&subview=table&taxon_id=140753&user_id=caqalai&verifiable=any

Corybas cheesemanii
8 June 2018
Western Lake Reserve

Corybas vitreus
2 August 2018
Tararua State Forest Park. Pat observes that the description suggests "An altitudinal range starting at 600m. All my sites would not be any where near that and quite a few would be around 20m to 100m."




Corybas "remutaka"
19 August 2018
Western Lake Reserve



Corybas "trotters"
25August 2018
Rewanui Forest Park

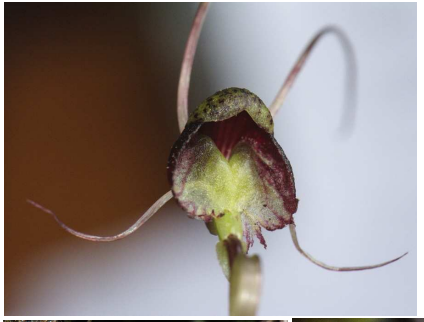


Corybas hypogaeus
25 August 2018
Rewanui Forest Park

Corybas walliae—or is it a hypochromic *C.* "remutaka"?
30 August 2018
Western Lake Reserve



Corybas vitreus X "Trotters" putative hybrid



Corybas dienemus
22 September 2018
Northern Remutaka




Corybas iridescens
15 September 2018
Sulphur Wells

Corybas hatchii
23 September 2018
Remutaka Pass.

Corybas "whiskers"
24 September 2018
Pakuratahi, Upper Hutt



Corybas ?
30 September 2018
Tinui



Corybas ?hybrid
30 September 2018
Tinui valley.

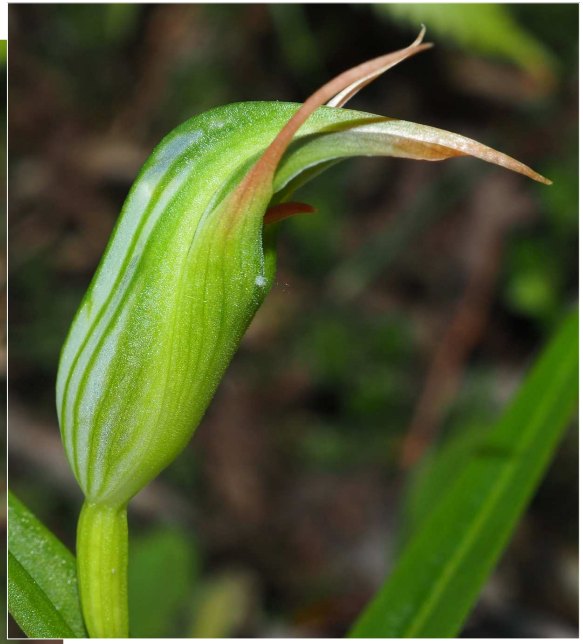



Corybas hypogaeus
29 September 2018
Te Wharau
Submitted by
Ian St George

◄ Pat Enright submitted these to *iNaturalist* where it received various identifications.
—To me it looks like a hybrid between one of the C. trilobus complex and perhaps C. hatchii—Ed.

The whiskery labellar disc of *Corybas hypogaeus* ►

What's this then?



Mike Lusk sent these photographs on 18 October, saying "This was in the foothills at a scrub/grass transition zone. It's not quite *Pterostylis cardiostigama*. There were more typical *P. cardiostigma* and some *P. montana* in the general area". *In her original description Dorothy Cooper said P. cardiostigma's dorsal sepal was "vertical in lower half, upper half steeply inclined or very occasionally more horizontal" which in my view deals with the ones with a right angle bend.... but this, with that slight twist in the labellum, looks more like a hybrid between "self-pollinating" P. cardiostigma and P. aff. montana—Ed.*

Pam Shearer found *Corybas papa* by Matapuna road, Horopito

The Hatch Medal 2018

David McConachie presented the 2018 medal with this panegyric…

This is to certify that Graeme Jane and Gael Donaghy are being recognised today for the contribution they have made to the understanding of the orchid taxa in New Zealand. They discovered *Pterostylis alveata* for the first time in New Zealand and have drawn attention to a range of undescribed taxa. Also, they have been stalwarts of the Group for many years, regularly attending field days and contributing writing and photography of wild orchids to the Journal. Graeme was the major writer of the text in the Group's highly successful *Pocket guide*.

They are involved in continuing study of the New Zealand orchids and Gael is currently using the late Bruce Irwin's dissecting microscope in her research.

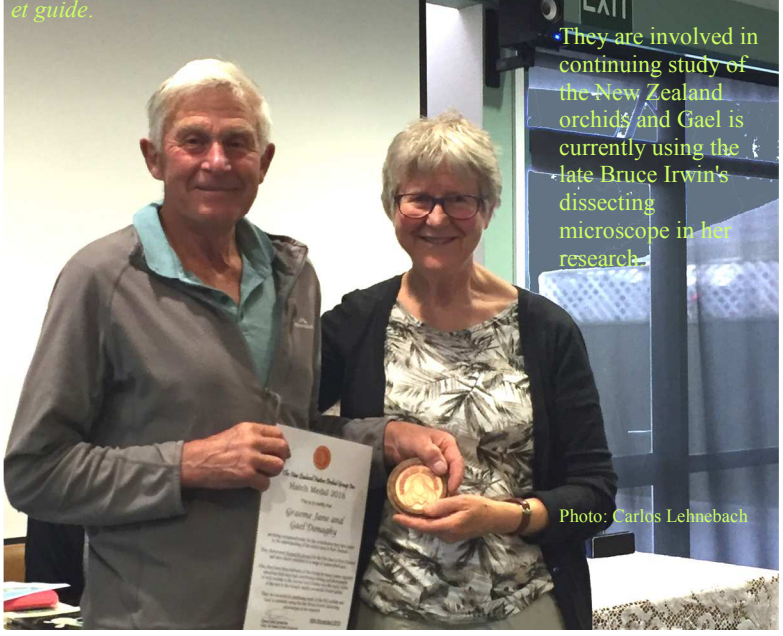


Photo: Carlos Lehnebach

Two from Roger Thwaites: a *Cyrtostylis* at Whites Bay in August and an "adolescent" *Pterostylis alobula* that has flowered.

Comments re *Caladenia minor* etc. *aka* The Never ending Story Ends Here

By Mark Moorhouse

I have to say congratulations to all parties who have published material and research regarding *Caladenia minor*. There have been some convincing arguments presented and some great research. Intentionally, I have let the topic well alone because of lack of research and uncertainty as to what is right and wrong. However the opportunity arose today to view an original copy of Hooker's 2 volumes on Botany observed during the 1840s trip of the Erebus & Terror which includes not only the oft referred to text of NZ Flora including orchids, but some 200 plus, beautiful hand coloured plates by Fitch. The binding had failed but the pages were in excellent condition with tissue separating each. There are just 2 plates of orchids. *Nematoceras [Corybas] macranthus* and *oblongus* on one, *Adenochilus gracilis* and *Caladenia minor* on the other.

The illustration of the last was published on page 17 of the Feb 2018 NZNOG *Journal*. What immediately struck me was the differences between those I copied from the original book and those published in the *Journal* which alerted me to something almost unimaginable in today's printing world. In each individual copy of the book, every one of the 200 plus plates had been hand coloured, an astounding achievement even just for one copy. I wonder how many copies were made, surely a very limited number. A quick look on the internet revealed a copy, [granted the expedition's patron's copy so with considerable provenance] recently sold at Sotheby's for the sum of £17,500. The estimate was

£4-6000. It made me feel rather privileged to have access to a copy at all, and answered another question. That was: Why were copies of these volumes missing from the arsenal of botany textbooks in the Herbarium Dept at Te Papa? Perhaps Nelson's Public Library should offer them to Te Papa, as they are rarely if ever referred to here.

So to the differences. Fitch's lithographed black outlines are printed and identical. Detail on the flowers such as barring, labellum midlobe colouring, and overall petal hue clearly vary from book to book. What immediately struck me was that my copy had a general flower colour that was barely pinkish, in fact had pale orange tones. NO these illustrations were not faded, as deep purples on the same sheet attest. Bells began ringing… orange tones and even pale, almost white petals can be found in specimens of *C. alata*.

I scratched out some pix of this year's *C bartlettii*. Very deep pink, red gores on ovary and blunt petals. Bother… no gores on Fitch's image… Hooker's description says petals with blunt tips. Can *C alata* have these? I couldn't find anything to back this up, quite the opposite. Descriptions and photos all indicate acute tips to petals, so not that.

Hooker states flowers pink…Hmm, options seem to be running out. Besides NONE of the aforementioned spp have enough calli on

Walter Hood Fitch's lithographs of *Caladenia minor* from Hooker's *Flora NZ.*

the margins of the mid-lobe. *C chlorostyla* does, BUT, it's not pink and the calli are falcate. Fitch's aren't. What about *C atrochilus*? This is perhaps the closest named species match. It's pale pink and can be whitish. Mid-lobe can be yellow or whitish. It has at least 4 marginal calli to the mid-lobe, the petals are sometimes sub-acute. The column is said to be erect or incurved, like Fitch's sketch. Laminal calli yellow topped, another tick! Then comes the inevitable cross… the column. Fitch has it plain, without barring or colour. The only NZ sp that is plain and has no barring on the column is *C. nothofageti*. Not that! For certain! *Cc atrochila* and *variegata* can be plain, but plain dark red.

Using an argument already presented in earlier articles… considering Fitch purportedly had a pickled specimen to work with and dissect, did he leave the column plain because the colour had been leached, and the busy Hooker had omitted to give him any description of that part of the flower? A detail like barring of column internals could easily have been overlooked in Hooker's memo to Fitch. Notably Fitch sketched it almost in profile. Sorted!

Another aspect overlooked by previous writers is the aspect of chance. Clearly the Type specimen chosen as *C. minor* was much scarcer than the many others of different kin on the same specimen sheet. Why do we persist in trying to match it to an already named species when clearly, wherever we investigate thoroughly we find reasons to reject them. Chance says that the collectors could have stumbled upon a very scarce taxon. We did in the Baton valley, Nelson… twice! And one of those lucky finds matches the *C. minor* sketch by Fitch and Hooker's description as perfectly as *C atrochilus* does. Dubbed 'Baton Pink' and 'pink chlorostyla', it appeared in the 1st edition of the *Pocket Guide* as *C. minor* and justifiably so. Also in *Journal* 115 cover and p. 22.

My take is leave *C minor* alone, by chance, it's rare, and endangered and perfectly stand alone as a species, stop trying to make it something else it isn't. It can be satisfactorily circumscribed against all named pink spp. [See box] Lump *C* 'speckles' with it if you must . And certainly accept *C* 'Baton Pink' as an s.s. specimen too. Photos show that plant to be entirely hairy. Fitch drew very accurately as attested to by his other efforts at NZ plants. Note well the hairs, even on the column back. It would be tantamount to lunacy to suggest his outline sketches of *C minor* are stylized and inaccurate in any way. Colours?.. yes perhaps I have some '*minor*' reservations about them.

What is *C. minor*?

Eliminated:	**Why**
All *Caladenia chlorostyla* forms:	Not pink, mid-lobe calli falcate, many have acute, even apiculate petals
Caladenia bartlettii.	Insufficient midlobe calli, bright pink & anthercap not as depicted by Fitch
Caladenia alata	Insufficient midlobe calli, petals acute
Caladenia variegata	No/too few stipitate calli on midlobe margins, acute petals
Caladenia nothofageti	not pink, lacks coloured barring, mid-lobe calli falcate.
Caladenia atrochila	an Australian sp. A possibility if it really is synonymous with *C* 'speckles' Column barred

Colour may be negotiable but physical differences are not. This eliminates all but the last option leaving *C. minor* rare, probably endangered and a stand-alone species, naturally sparse with limited distribution.

The Column: Eric Scanlen

Pterostylis speciosa Col.

William Colenso described the elegant *Pterostylis speciosa* in 1890 from specimens brought to him by Henry Hill in 1889, from near Tongariro [1].

Thomas Cheeseman, in 1925, lumped five of Colenso's *Pterostylis* species, including *Pt. speciosa,* into *Pt. banksii* [2 p. 350] despite their descriptions being quite different. Thus *Pt. speciosa* was lost to us for some 93 years. Do please note how lumping species, willy-nilly, can effectively lose the rare ones.

On 13 Dec. 1996, Bruce Irwin wanted photographs from a colony of *Pterostylis* that he had seen in a bushy place north of Horopito, to which he led me, camera gear in hand, according to my diary and photo records. Then and there, about 15 *Pterostylis* plants were in bud. So we marked the spot with a plastic bag in a branch above. Bruce called them *Pt. montana,* but I had my doubts, due to them being too tall for Dan Hatch's species. In addition, Bruce's so called *Pt.* aff. *montana,* with rose-red [3] stems and leaf midribs, plus non-twisted labella, were open at that time, as in **Figs 1, 2** & **3**. Note the close resemblance of Fig. 3 with the Type Specimen on the right in **Fig. 4**. I now find that these Horopito specimens comply closely also with Colenso's description of *Pt. speciosa*; except for his, "*lateral petals loose from dorsal sepal*" [1]. Clearly, Henry Hill's specimens were trident form, (see J149:**7**) which shows up occasionally in a number of *Pterostylis* species where the lateral petals come unzipped from the dorsal sepal. Henry may have especially selected those specimens because of this unusual phenomenon. Trident form taxa rarely prosper, so let us call the non-trident form *Pt. speciosa* s.s.

On 3 Jan. 1997, Bruce and I returned to the Horopito spot, where flowers on the green stemmed taxon were open on several of the 15. They were similar to the 13 Dec. set, except for being green stemmed and with black labella, right-twisted. I did get photos, **Figs 5** & **6**, but only from the side, where its twisted labellum shows poorly even in 3-D. I really don't know why I didn't photograph a flower from the front. Bruce drew both taxa accurately, as always, from my photos and from a specimen, which he must have taken home. See his drawings [4] on pps

Fig. 1, *Pterostylis speciosa* (Col) from Horopito, 13 Dec. 1996, not including the aberrant trident form, lateral petals, in Colenso's specimens. Note the "*upper portions of segments, brilliant red*" also "*lateral sepal connate erect, largely spreading above*" and "*tongue* [labellum] *linear-lanceolate, 2 lines wide* [4mm] *veined, reddish*".

Fig. 2, *Pt. speciosa* (Col) Horopito 13. Dec. 1996, showing stem and leaf mid-ribs, "*of a reddish hue*" and "*leaves cauline 4,*[not including floral bract] *nearly equidistant…sessile, clasping…light green*"
Fig. 3, *Pt. speciosa* (Col) Horopito 13. Dec. 1996, whole plant, showing similar stance, leaves and floral bract to the Type Specimen in Fig. 4.
Fig. 4, the type specimen of *Pterostylis speciosa* at Kew. Note that lateral sepals have withered limply from the "*connate erect*" description of Colenso's, and are clear of the dorsal sepal in these aberrant, trident form specimens, brought by Henry Hill. Colenso could not have seen normal specimens.
Fig. 5, *Pt.* aff. *montana* Horopito, 3 Jan 1997, had rose-red sepal tails and a stance just like *Pt. speciosa* of 13 Dec. 1996 but it flowered later and had a right twisted black labellum plus green stem and leaf mid-ribs.
Fig. 6, *Pt.* aff. *montana* Horopito, 3 Jan. 1997, differs from *Pt. speciosa,* due to green stem and leaf midribs, curved lateral sepal tails and black, right twisted labellum. The labellum twist is clearer in Bruce Irwin's drawings, [4] pps 531 & 532.

528 to 532, including the right twisted labellum plus sketches showing the extent of the reddish coloration on the 13 Dec. taxon, but here, he named both of them, *Pt.* aff. *montana.* Neither Bruce nor I it seems, were *au fait* at the time with Colenso's description of *Pt. speciosa,* more's the pity.

Colour Field Guide 3 (CFG3) features the rose-red stemmed 13 Dec. taxon as No. 130Biii and *Pocket Guide* 2, has it on p102, both as *Pt.* aff. *montana* "Horopito". This despite its labellum being "*linear-lanceolate, 2 lines wide* [4mm]*, veined, reddish, minutely and thickly papillose; tip obtuse, thickish and slightly knobbed*", as Colenso described *Pt. speciosa.* He also had "*stem and leaves of a reddish hue*". (Quotes from Colenso's description all in italics). The 13 Dec. Horopito specimens had stem and leaf midribs all rose-red [3]. Colenso earlier had "*Leaves... on lower stem; cauline 4, nearly equidistant, much longer than flower, 5in.–8in. long 3/4in. broad at middle… light green.*" That also agrees although he made no mention of the leaf-like floral bract, for some reason. I do believe that this 13 Dec. taxon, should have been labelled *Pt. speciosa,* much as Colenso didn't give us a flowering time. However, that was the stricture of his time, when descriptions were mandated from preserved specimens, where colouring, flowering time, pollinator, etc. then sadly became irrelevant, so were often not even mentioned.

Fig. 7, *Pt.* aff. *speciosa,* Makomiko swamp, 4 Jan. 2001, is similar to the Horopito *Pt. speciosa* with its leaf layout and rose-red tepal tails but differs with its green stem and leaf mid-ribs It may also have a shorter stem.

Fig. 8, *Pt.* aff. *speciosa,* Makomiko swamp, 4 Jan, 2001, is similar to the Horopito *Pt. speciosa* with its rose-red tepal tails, and reddish non-twisted labellum but differs with its erect stance and curved lateral sepal tails.

Now, after perusing Colenso's description [1] I'm happy to name the rose-red stemmed plants, *Pterostylis speciosa* (Col.) because they followed his description fairly closely, except for that, "*lateral petals loose from dorsal sepal*" on his trident-form specimens.

But wait, there is more. A variant of *Pt. speciosa,* **Figs 7** & **8,** showed up four years later, at a beech forest edge of the Makomiko swamp, on 4 Jan. 2001. This was when DoC's Nick Singers had our field party dropped in by helicopter at the base of Mt. Hauhangatahi, to survey the area for *Pt. micromega* and any other rare orchid flora. See J80:15-19, where I reported *Pt. graminea* (unaware then of *Pt. speciosa*) from a small colony with only one in flower. The flower was similar to, but bigger than, *Pt. graminea* which has those long leaves, unlike *Pt. speciosa*. My orchid photo slide file had it changed to *Pt.* aff. *montana* "Makomiko" and it is only now that I make the connection to *Pt. speciosa*. The curled tails to the lateral sepals, contrary to Colenso's description, and the green stem on this Makomiko *Pt.* aff. *speciosa,* make it somewhat different in detail from *Pt. speciosa* s.s. But this is the nature of NZ *Pterostylis,* plagued by those non-choosy fungus gnat pollinators [5]. The four shortish leaves help to align it somewhat with Colenso's orchid.

References

1. St George I.M. Type Locality, *Pterostylis subsimilis* and *P. speciosa*, NZNOG Journal 115 p. 4.
2. Cheeseman T.F. Manual of the New Zealand Flora, 1925 2nd edition.
3. Stanley Gibbons Stamp Colour Key.
4. Tyler B. helped by St George I.M, Bruce Irwin's drawings of NZ orchids, 2007.
5. Moorhouse, M, *Pterostylis* natural hybrids. Is there evidence? NZNOG Journal, 149:13.