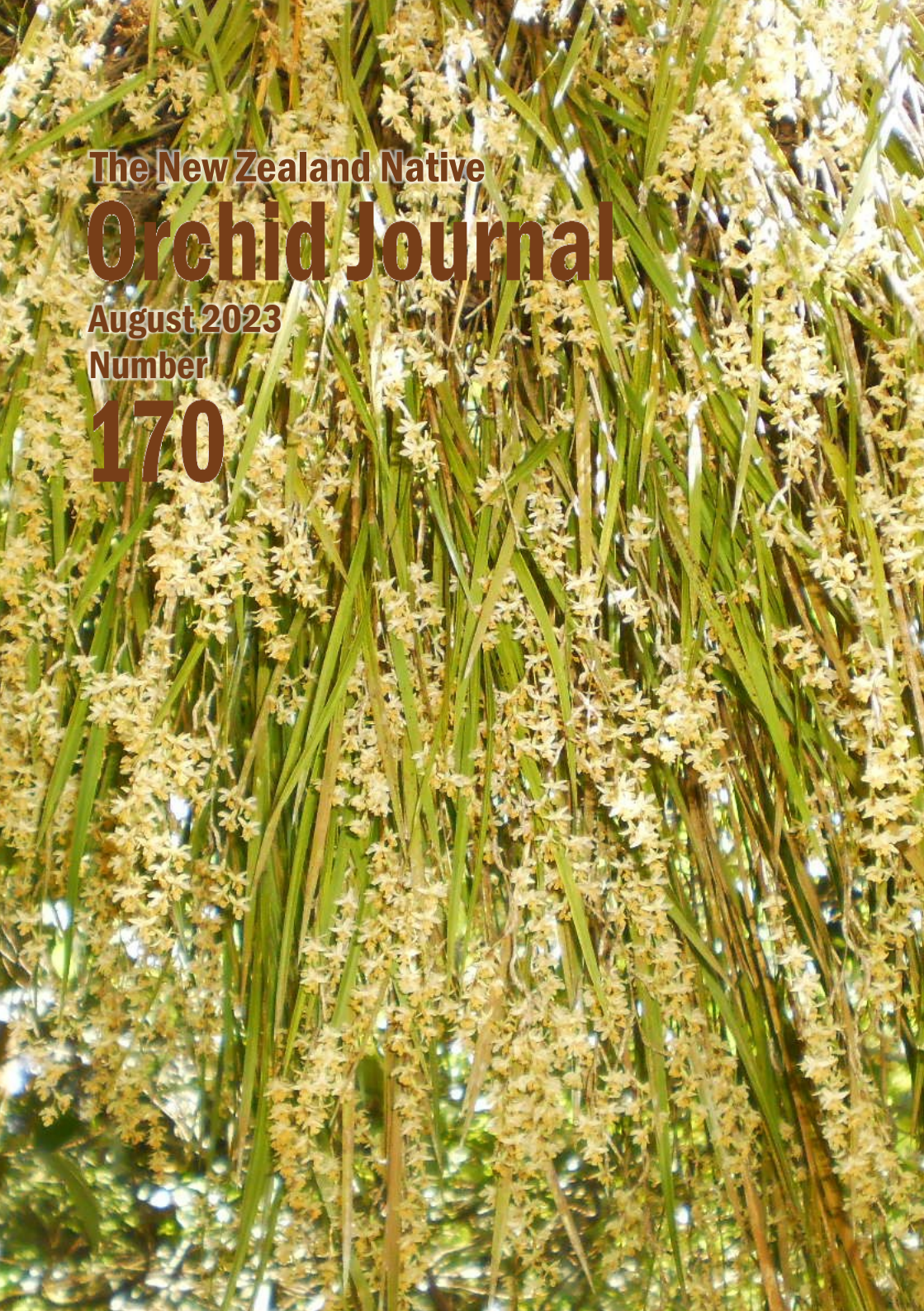

The New Zealand Native

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From the Chair: Gael Donaghy

Kia ora tatou

I would like to celebrate the work of some members of our group, who contribute to the smooth running, and to the achievement of the NZNOG. These are the people who spend many hours in working to keep NZNOG members (and other people in the case of the website) informed and involved.

How many hours our editors (Ian and Cara-Lisa) spend searching for material for the journal, putting it together in an attractive way, and bringing the work of orchid researchers, past and present, to our notice? How many hours Bill spends helping put together our new website? How many hairs end up on the floor as Alasdair drafts our new constitution? The financial reporting to the Charities Commission that Pam has to do? A very big THANK YOU to all these people who have selflessly dedicated their time to NZNOG.

This has come from wondering what keeps our group going. I think it is the *Journal*, around which everything turns. This journal will be the last one which Ian is responsible for. He has been the fulcrum around which all NZ orchid knowledge has spun – his wealth of knowledge, meticulous research, generosity of time and spirit, and especially mentoring of others, have meant NZNOJ has progressed and grown from the very first *Newsletter* in 1982 to this *Journal* (J170). His careful succession planning has meant we now see Cara-Lisa continuing the work. In addition, Ian was Convenor (what is now termed the Chairperson) for over 30 years. What a legacy Ian has left our group! I am very happy that the orchid named in his honour, *Corybas sanctigeorgianus*, is a thriving taxon, especially in the Bay of Plenty! So to Ian, an enormous THANK YOU for your work over such a long period of time – you have set such a sound foundation for NZNOG for the years to come.

And now it is time to offer you the opportunity to contribute to NZNOG. Our committee has agreed it would be good to have a forum to be able to discuss all things orchidaceous, and a Facebook group seems to be an easy way to facilitate this. Ideally our NZNOG Facebook page would be a private page that is visible to the general public who are searching around the topic, but posts could only be made by members, who are approved by the page administrator.

I'm not sure how to ask for someone or a group to set up and administrate such a page without sounding like a character in a dystopian novel decrying the lack of young people. However it needs to be said: despite being in the first Computer Science class at the University of Otago in 1973, I do not have the social media savvy to run a Facebook Group.

So if you fit the following job description, please consider carefully whether you could further the aims of our group by volunteering to be NZNOG Facebook Master.

- Aged between 15 and 80 AND
- Own or have exclusive access to a computer that is connected to the internet
- Are a Facebook user or have access to a Facebook user who can help you
- Have a couple of hours each week to moderate posts
- Want to contribute to the work of The Little Red Hen and so reap the reward, which is the freshly baked loaf of bread ie a lively and informative discussion around native orchids.

I would welcome any or all expressions of interest for this important role.

Article

Autumn foray to Paeroa and Te Aroha

By Alasdair Nicholl

On Saturday 27 May I met up with Trevor Lupton and Brett Payne at Te Aroha with the mission to look for *Corybas cheesemanii.*

Armed with some possible locations gleaned from *iNaturalist* we headed first to the tracks in the Te Aroha Domain but after 30mins we gave that away having only seen a couple of *Acianthus sinclairii.*

So it was then decided to head for the Paeroa Water Reserve where there was a greater possibility of finding something.

We headed up the track to the usual location for *Corybas* and it was not long before we spotted some and not more than 5 metres away was a small colony of *Corybas* "pygmy".

There was about 12 plants in the colony contained in an area of about 1 sq metre. The leaves were 10mm in width and flowers about 10mm high sitting on top of the leaves.

Next stop was the Waiorongomai Valley about 5 kms south of Te Aroha where we wandered up the lower level track and returned via the middle track.

We soon were spotting large colonies of *Pterostylis trullifolia* and *alobula* and then we came across a lone *Pterostylis banksii.*

We also saw *Acianthus sinclairii* and *Drymoanthus adversus*.

Photos
Alasdair Nicholl

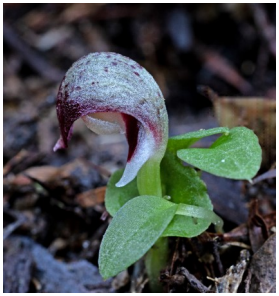
Photo Brett Paynes

The inbox

Another dry season

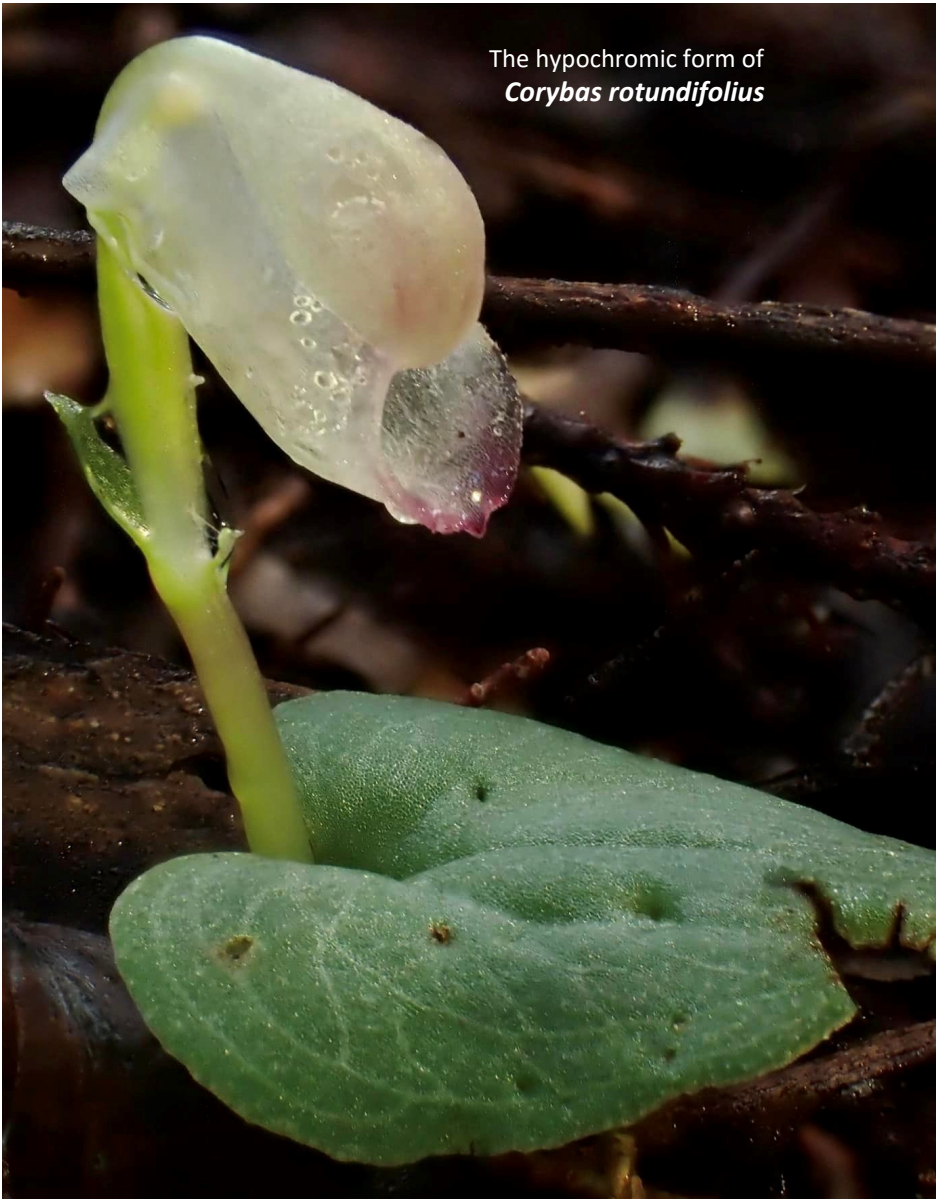
I had hoped to see a few orchids in southern France and Spain in April and May but they have had five very dry years and the orchids were elusive to say the least. Of those in flower we did spot a few bee orchids *(Ophrys apifera),* pyramidal orchids *(Anacamptis pyramidalis)* in grassland and a helleborine *(Cephalanthera longifolia)* under scrub in Provence—*Ed.*

Corybas cheesemanii growing on a bank in low forest and photographed by Rebecca Bowater at Brooklyn Reserve Motueka on 12 June 2023.



A photo essay from the Bay of Islands

The following orchids were photographed by Gaylene Harrison at the Bay of Islands on 24 June and posted to the NZ Native Orchids Facebook site, Clearly it rained, but what a delightful collection!




Corybas cheesemanii


Pterostylis trullifolia

Corybas* aff. *trilobus not fully open, but an interesting colour pattern – and very early. Probably the northern form of *Corybas* "pygmy".

Mike Lusk wrote, "Ian has encouraged me to send this comment hoping to promote discussion in the *Journal*….

"There are notable differences between Ian's small late-flowing *Microtis*, J169 p19 and the much more robust and 'typical' plant with which we are all familiar, but to my eye the labellum would pass for that of *M. unifolia* which is variable in its own right. The shape of the typical *M. unifolia* flower's labellum is rectangular but of variable length, the edges may be very crinkled or much less so, there is often a waist, and even sometimes a notch at the lower margin. We see such a range of features in Homo sapiens—look for example at those which distinguish an Inuit from a Bush-man. I'm being a lumper of course and I fully support sorting the NZ *Microtis* species but I feel that the labellum of Ian's plant is closer to *M. unifolia* than to *M. parviflora*."

Actually, I had in the past called it Microtis unifolia "B" but this year changed my mind—Ed.

Prasophyllum colensoi from the Coronet Loop Track in Central Otago, taken in December 2022, photo Cara-Lisa Schloots.

Cara-Lisa Schloots:

Waireia stenopetala in March 2016, miraculously spotted while running the Routeburn Track. ↘

Townsonia deflexa on the Waitonga Falls Track near Ohakune. I found this plant in December 2015 somewhat off the track in a dense bit of beech forest, but (unsurprisingly) did not manage to find it again when I visited what I think was the right spot in 2023. 🡻

Adenochilus gracilis from near Otehake Hut in the Otehake Valley near Arthurs Pass on 23 December 2019; this is a very remote part of the country that sees few visitors— Cara-Lisa Schloots.

Aporostylis bifolia from the upper Dart Valley (above Dart hut), on 31 December 2015. If you look closer you might spot an invertebrate trapped under the column. Some tourists asked me what I was looking at so I pointed it out to them and they were amazed and excited to see the tiny flowers.

Editorial 1

… and it's goodbye from him!

This is my swan song, my 150th journal and I have thoroughly enjoyed editing them. I wish our new editor, Cara-Lisa Schloots success and great satisfaction from the task. Please assist her in every way you can. I hope she will accept some of my future writing too. I leave you with some questions that still bother me (I have many more)...

- If *Thelymitra cyanea* is a hybrid between *T. longifolia* and *T. pulchella*, how did it get to Australia?
- Are there real differences between some of our NZ endemics and their Australian counterparts? *Thelymitra formosa* and *T. circumsepta? Caladenia atradenia* and *C. iridescens? Caladenia lyallii* and *C. alpina? Caladenia minor, C. pusilla* and *C. pygmaea?* etc etc (etc).
- Is *Caladenia nothofageti* just an alba form of *C. chlorostyla*?
- Is *Caladenia* "redstem" just a colour variant of *C. chlorostyla*?
- Is there really a difference between *Pterostylis montana sens*u Hatch and *P. montana sensu* Moore?
- Is there any difference between *Earina mucronata* and *E. aestivalis*?
- Who will explain the different forms of *Prasophyllum colensoi s.l.? Thelymitra longifolia s.l.? Pterostylis graminea s.l.? Pterostylis montana s.l.? Thelymitra pauciflora s.l.? Corybas macranthus s.l.? Corybas oblongus? Thelymitra pulchella?* etc etc.
- Is *Orthoceras* a monotypic genus?
- Are *Pterostylis trifolia, P. confertifolia* and *P. venosa* really all just *P. venosa*?
- Is DNA the last word as a species differentiator?
- Is there a difference between *Cyrtostylis oblonga* and *C. reniformis*?
- Why has Australasian orchid taxonomy been in an uproar since the taxonomic reforms of Clements, Jones and Molloy?

Editorial 2

… *Thelymitra hatchii* column

Don Pittham & Beryce Vincenzi found this curious *T. hatchii* at Arthur's Pass: its portrait appeared in J169 p22. ↓

You see the unusual structure arising from the front of the column. It's a staminodal remnant and is so common in one of the parents of the amphidiploid hybrid *T. hatchii* (ie, *T. formosa*) that when the latter was found in Australia it was described as a new species, *T. circumsepta.*

As it happens, West Coast photographer Ulrich Walthert in his 1986 calendar of native flower portraits showed a very similar *T. hatchii.* ↓

Article

Is there another form of *Chiloglottis cornuta* in the south?

Ian St George

The publication on 18 March 2023 on *iNaturalist* of a photograph (**Fig.1**) of *Chiloglottis cornuta* from Campbell Island reminded me of that erudite orchidologist Eric Scanlen's suggestion (*NOJ* 2018; 150: 21, 22) that a plant (**Figs 2, 3**) found by Bruce Irwin (1967) and later by Kathy Warburton (*NOJ* 2015; 138: 11, 12) on Dunedin's Mt Cargill might match the type, collected by David Lyall on Campbell Island and might differ from the common form. The main differentiators were the presence of longitudinal ridgelike (as opposed to globular) calli on the labellum and the presence of a hornlike protruberance arising from the base of the labellum.

Fig.1. showing 2 basal calli, 2 lateral calli fused into lateral ridges on each side and 2 central fused into a central ridge; the green labellar appendage can be seen immediately behind the fallen pollinia at the base of the labellum. Posted by "sea-kangaroo" on 18 March 2023, photographed on Campbell Island 2 December 2022, along with a second plant with apparently normal globular calli.

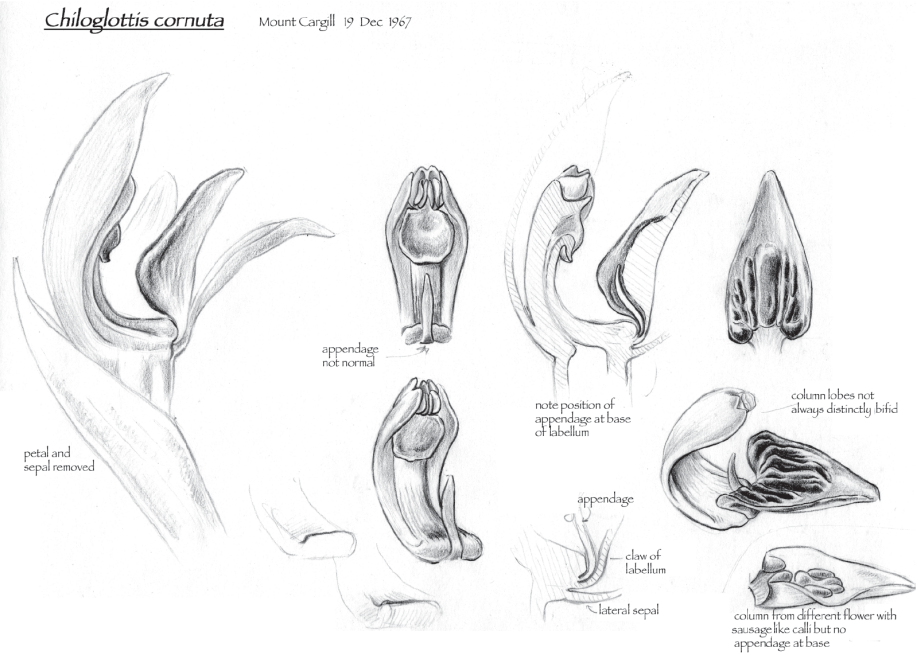


Fig.2. Bruce Irwin's sketches of the plant from Mt Cargill in 1967. The labellar appendage arises from the base of the column.

Fig.3. Detail of Kathy Warburton's 2015 Mt Cargill plant showing similar features.

The labellum of the common form of *C. cornuta* typically has 2 basal, 2 central and 1-2 lateral calli on each side. There may be extra calli, but they are discrete and globular. Patterns of labellar calli are regarded as important separators of other *Chiloglottis* species.

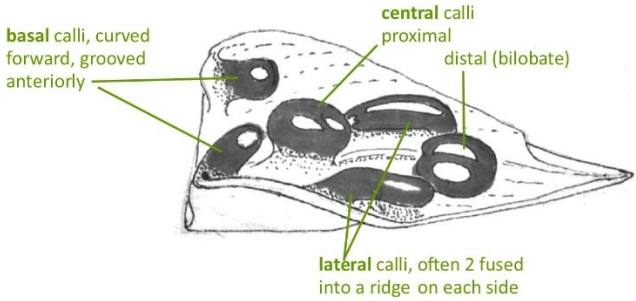


Fig.4. The typical pattern of labellar calli on the common NZ form.

Others have noticed these variations

On the type sheet, Hooker himself sketched the labella of the Campbell Island and the common forms and his sketch (**Fig.5**) is on the sheet containing the Lyall holotype.

◄Fig.5. JD Hooker's sketch of *Chiloglottis cornuta.* The lower centre image shows the labellum of a typical common plant with 2 basal, 2 central (proximal and distal) and 2 lateral globular calli. The image at lower right shows Lyall's type from Campbell Island, with 2 basal calli and ridge-like central and lateral calli on the disc of the labellum. The protruberance is shown in that image and the one above it.

As Scanlen pointed out, "Hooker's Latin description of *C. cornuta,* in *Flora Antarctica*, [1] p16, emphasises "intermediate (ie, between the other two) basal gland (appendage of labellum) elongate, subcurved". Further on Hooker noted of the labellum, "disco 6-glanduloso; glandulae v. tubercula valde prominentes, 4 laterales subquadratae, compressae, squamaeformes, duae prope basin, aliaeque altius sitae; interme-

diarum basali (v. appendicula) supra discum elata, porrecta, cornu referens, et recurve, antice canaliculate; quinta trilobata," which Google translates somewhat enigmatically as "disc 6-glandular; glands v. tubercles very prominent, the 4 lateral ones subquadrate, compressed, scaly, two near the base, the others located deeper; basal intermediates (v. appendicula) raised above the disc, elongated, referring to the horn, and recurved, anteriorly canaliculate; fifth trilobate."

There is another Hooker sketch (**Fig.6**) of a labellum added later to the type sheet, this time of Colenso's specimen 6574 sent from Hawke's Bay in 1867.

Fig.6. Hooker's sketch of the labellum of Colenso's plant: 2 "basal intermediates", 4 "lateral" 2 central calli.

In his 1864 *Handbook* Hooker wrote, "Lip trowel-shaped, shortly clawed, acuminate, with a horn-like projection at the base of the disk, one broader protruberance on each side of it, and 3 broad, flat tumid purple glands on the surface". He cited plants from Campbell and Auckland Islands.

But only 3 glands? It seems that in those plants with the hornlike labellar appendage, the proximal central gland is absent, replaced by the horn and indeed that is what his sketch of the type specimen shows: the back three (two basal and the protruberance) and the disc three (one central and two lateral).

Fig.7. (Detail from Fig.5). The hornlike labellar protruberance appears to replace the proximal central callus. The distal central callus becomes trilobate (normally bilobate).

Also pinned to the type sheet is a note from Thomas Kirk, dated "8/67" stating, *"Chiloglottis cornuta Hook.f. but the 'tumid purple glands' on the surface of the lip – often <u>not always</u> broken up into a number of smaller ones & the protruberance at the base wanting."* He was suggesting that the difference in the arrangement of the labellar calli is within-species variation and the appendage at the base of the labellum may or may not be present.

Australian flowers

Chiloglottis cornuta is currently regarded as present in Tasmania, South Australia, New South Wales and Victoria, where labellar calli are similar to the common NZ form – though the triangular labellum tip beyond the calli sometimes appears dark and rough in photographs.

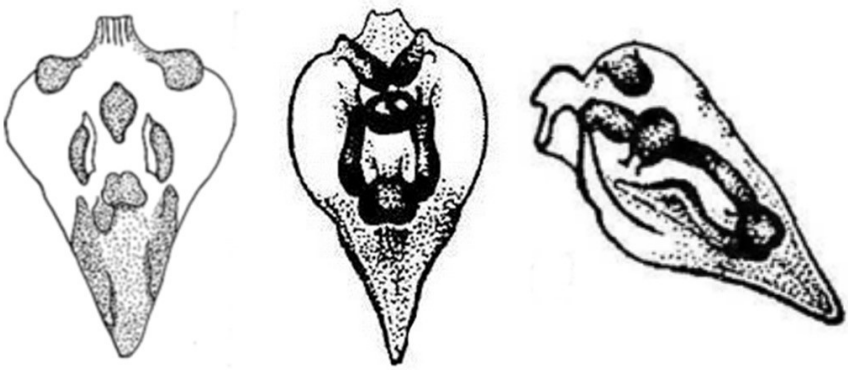


Fig.7. The labella of Australian *Chiloglottis cornuta* (https://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Chiloglottis~cornuta and https://vicflora.rbg.vic.gov.au/flora/taxon/d97fc1ad-47e3-4945-9e79-0cf6fab9c8a4) show fusion or elongation of the lateral calli into ridges.

What do we have, then?

Plants have been observed on Dunedin's Mt Cargill and on Campbell Island that have longitudinal ridges instead of discrete "tumid" labellar calli and have a basal labellum protruberance replacing the proximal central callus (or arising from the base of the column). Hooker described *Chiloglottis cornuta* from Lyall's Campbell Island collection of such a plant. Kirk thought these were within-species variations, including the common form. Scanlen protested that the true *Chiloglottis cornuta* is the Campbell Island / Mt Cargill form and that we have wrongly applied the name to the common form.

I wonder if the labellar ridges simply represent fusion of the normal calli, a partial reversion towards a less differentiated, more petaloid labellum and if the basal protruberance is a staminodal remnant; ie, these are abnormal regressive forms.

Or if they are, as Kirk suggested, just normal variations – though the presence or absence of such a prominent feature as the appendage / protruberance seems a bit much to accept.

Scanlen's position was a perceptive and well reasoned one and if further study – molecular biology – proves him right, our common form would need a new name.

The Type Locality

Caladenia variegata on a high hill near Norsewood

William Colenso described four new orchids in a paper published in 1884 (*Trans NZ Inst.* 17: 284), one of them *Caladenia variegata.* The two NZ caladenias known till then were *Cc. lyallii* and *minor*. The type (his only) specimen is at Te Papa.

Genus 11. **Caladenia**, Br.

1. *Caladenia variegata*, sp. nov.

Plant erect, 6–12 inches high, glandular-pubescent; pubescence pink-tipped; scape red, sub-rigid not succulent, slender above leaf, stoutish below, arising from a thickened node, having three clasping membranous acute sheaths, one at base enclosing scape and leaf, one at middle 6–8 inches long, and one close under ovarium; root rather long, stoutish, ending in a long white tuber as big as a pea. Leaf single, ½–1 inch from base, 6–8 inches long, 1–2 lines wide, linear-acuminate, thickish, glabrous, channelled, green on upper and purplish-red on under surface, slightly ciliate at edges, and very sparsely pubescent underneath on the lower portion with long weak glandular hairs. Flower single on top of scape, (one specimen only, out of nearly forty obtained, bore two flowers, both springing from within the upper sheath and pedicelled,) perianth spreading, more than ½ inch diameter; dorsal sepal green, arched, sub-oblong-obovate, obtuse and apiculate at apex, produced, glabrous above; lateral sepals pinkish, oblong, apiculate, larger than petals, 3-nerved; petals pink, oblong-lanceolate, apiculate, falcate; lip sessile; disk with two longitudinal rows of bright-yellow stipitate glands having large globular heads, extending from inner part of middle lobe down into the throat, with smaller glands scattered on each side, and one or two at the margin of extreme base of the middle lobe; the two lateral lobes are transversely banded with light-purple, margins white, rounded at tips; middle lobe deltoid, deeply crenulate, recurved, bright yellow; column winged throughout, green, pubescent at top, transversely banded below with light purple, similar to lateral lobes; anther acute, tip subulate, margin finely fimbriate. Ovary 8–9 lines long, linear-obovate, sulcate, densely glandular-pubescent.

Hab. Plentifully, but only in one spot, among mosses on fallen and rotten *Fagus* trees, and on the ground alongside, in rotten vegetable soil, shady woods, top of a high hill near Norsewood, County of Waipawa; December, 1883: *W.C.*

Obs. A species closely allied to the two known New Zealand species, *C. minor* and *lyallii*; and also to several Tasmanian and Australian species—*C. carnea*, *alata*, and *angustata*; but while serving naturally to unite them differing from them in all important characters. *C. minor*, which is so common at the north (Bay of Islands), on clayey open hills among fern (*Pteris esculenta*) and *Leptospermum* scrub, I have never met with in these southern parts.

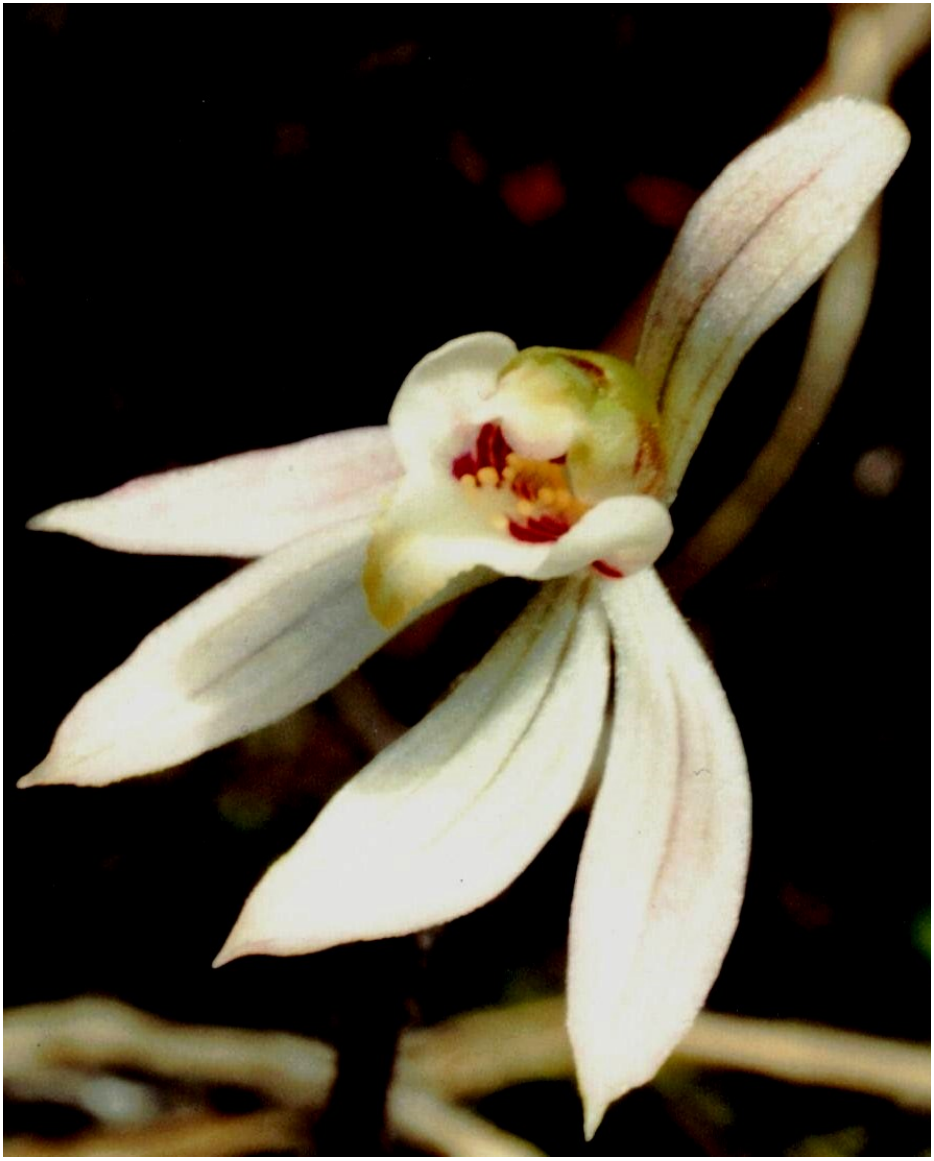
From near the type locality: Ruahine at Apiti track, Norsewood.

Two *Caladenia variegata* (?) from Shag Point, Otago.

Cheeseman (1906) lumped Colenso's *C. variegata* back into *C. minor,* and in 1925 elevated his own var. *exigua* to species rank (it was later seen to be *C. alata*). Hatch (1949) placed them into *C. carnea* and, astutely, gave varietal rank to *exigua, minor* (including *variegata*) and *bartlettii* (new). In 1963 he also recognised our *C. atradenia* as *C. carnea* var. *minor* forma *calliniger.* Moore (1970) lumped the lot into *C. carnea,* noting, "both the size of the midlobe of the labellum relative to the side lobes and the details of its marginal processes show a wide range; there is a gradation from definitely stipitate calli through wholly membr. marginal teeth to mere undulations and almost entire margins."

She was wrong and she was right. The pattern of midlobe marginal calli is important for some, but not all, species. There are other important differences among the seven (I exclude *C. lyallii*) little New Zealand caladenias: *Cc. alata, atradenia, bartlettii, chlorostyla, minor, nothofageti, variegata*—not to mention "redstem", "Bacon Creek" and the less separate others.

… and this? somewhere between *C. chlorostyla* and *C. variegata?*



… and this? A white flower with only a hint of pink, two clear rows of calli, an almost bare midlobe, but a green column and the general shape of *Caladenia variegata*….

Caladenia minor,
Te Paki, 2000, *Ed.*