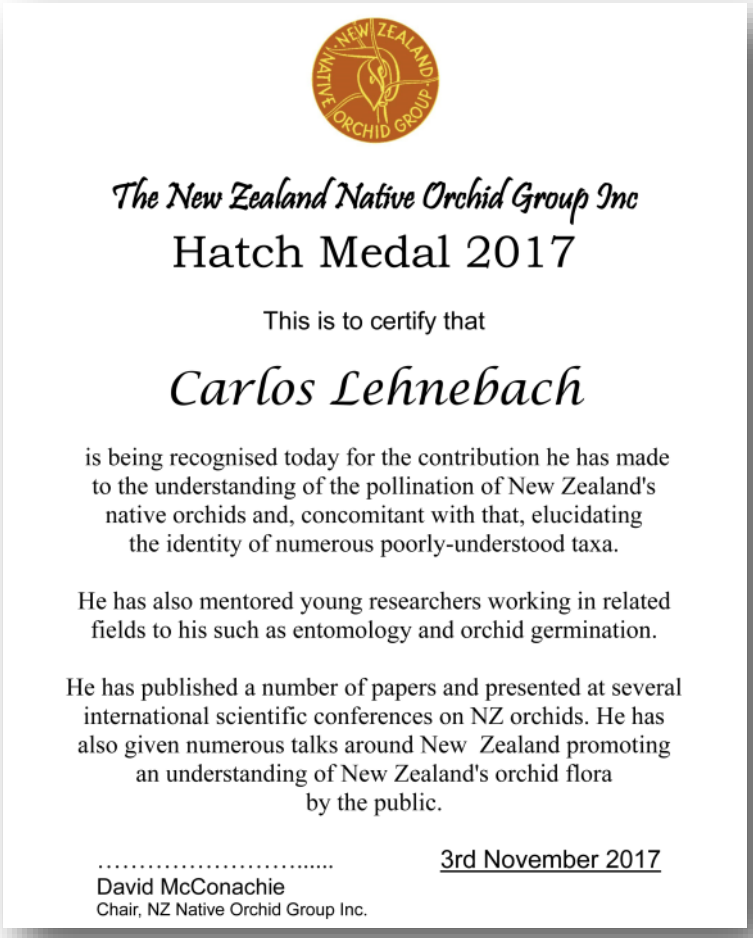
The New Zealand Native Orchid Journal

February 2018 No. 147

Contents

No. 147 February 2018 ISSN 1177-4401



The New Zealand Native Orchid Group Inc

Hatch Medal 2017

This is to certify that

Carlos Lehnebach

is being recognised today for the contribution he has made to the understanding of the pollination of New Zealand's native orchids and, concomitant with that, elucidating the identity of numerous poorly-understood taxa.

He has also mentored young researchers working in related fields to his such as entomology and orchid germination.

He has published a number of papers and presented at several international scientific conferences on NZ orchids. He has also given numerous talks around New Zealand promoting an understanding of New Zealand's orchid flora by the public.

3rd November 2017

.....
David McConachie
Chair, NZ Native Orchid Group Inc.

PICTON field days 3–6 November 2017

by Pam Shearer

From impressively large greenhoods to tiny pink mauve fingers and everything in between, the Marlborough tracks chosen for the Picton field days 2017 certainly put on a show – in the unostentatious way only native orchids are capable of. Not since I first laid eyes on Taupo's Iwitahi a few years ago have I seen such a wonderland – the tally came to over 30 species – mostly flowering – it was astonishing. Spectacular views over the Sounds, great company, brilliant weather (if a little windy) – easy tracks – pretty much sums up the field days.

I must admit I was bit trepidatious about the accommodation – but I needn't have been – our host Mark Moorhouse organised a lovely villa and great cabins.

On Friday night the AGM 2017 was held in the villa, and Mark Moorhouse was presented with the Hatch Medal 2016 for his numerous scholarly papers for the *Native Orchid Journal* and his immense contribution to New Zealand orchidology. (The 2016 AGM had been cancelled because of the Kaikoura earthquakes.) Carlos Lehnebach was then presented with the Hatch Medal 2017 for his extensive research into native orchids, publishing a number of scientific papers and giving numerous talks around New Zealand promoting an understanding of New Zealand's orchid flora.

On Saturday most of us walked two tracks – the hardest decision of the day was choosing which tracks to walk or which orchids to photograph! There was certainly no shortage of either. Afterwards, we met up at the Picton Hotel for a well deserved dinner.

We walked a shorter track on Sunday morning, before a very welcome lunch stop for a delicious bbq hosted by Roger Thwaites above a private beach. What a treat. Next stop, a track opposite breathtaking views over the Sounds, with yet more orchids flowering amongst other flora such as a dear little native geranium. Unfortunately some of us were booked to leave on Sunday and missed Monday's excursion which Mark advised turned up further species including the first recorded sighting of *Pterostylis irwinii* in the Marlborough area.

Both Carlos Lehnebach and Murray Dawson gave extremely interesting and informative presentations of the orchid work they've been involved with over the past year.

What a cracker of a weekend – not only for the reasons already mentioned, but also because I gained a lot more knowledge and understanding of native orchids thanks to all the members of the group who freely shared their wealth of experience and expertise.

Acianthus sinclairii, flowering/seed,
Adenochilus gracilis, flowering,
Caladenia atradenia, flowering/bud,
Caladenia bartlettii, flowering/nearly finished,
Caladenia chlorostyla, flowering/bud,
Caladenia "green stem," flowering/seed,
Caladenia lyallii, flowering,
Caladenia nothofageti, flowering,
Caladenia "red stem", flowering/bud/some finished
Caladenia sp.—pink, poss *C.* aff. *bartlettii* bud,
Calaenia variegata, flowering,
Chiloglottis cornuta, flowering,
Corybas macranthus, flowering,
Corybas oblongus, flowering/bud,
Corybas vitreus, flowering,
Corybas "whiskers," flowering,
Cyrtostylis oblonga, flowering/bud/some finished
Cyrtostylis rotundifolia, flowering,
Microtis unifolia, flowering/seed/bud,

Orthoceras sp., *O. novae-zeelandiae* or *O. strictum* bud
Prasophyllum colensoi, flowering,
Pterostylis alobula, or less likely *P. trullifolia*, leaf/seed
Pterostylis areolata, flowering,
Pterostylis australis, flowering/seed,
Pterostylis banksii, flowering/bud/seed,
Pterostylis banksii, local form flowering/nearly finished
Pterostylis banksii X *Pt areolata*, flowering
Pterostylis cardiostigma, bud,
Pterostylis foliata, flowering,
Pterostylis graminea, flowering/seed,
Pterostylis irsoniana, flowering,
Pterostylis irwinii, flowering,
Pterostylis montana, flowering,
Pterostylis oliveri, flowering,
Pterostylis porrecta, local form flowering/nearly finished
Thelymitra colensoi, bud,
Thelymitra ixioides, flowering,
Thelymitra longifolia, flowering/bud/seed,
Thelymitra nervosa, flowering,
Thelymitra nervosa—no spots, flowering,
Thelymitra pauciflora, bud/flowering/seed,
Thelymitra purpureofusca, bud ,
Thelymitra longifolia, bud/flowering,
Thelymitra sp., bud/leaf/seed.

Mark Moorhouse and Carlos Lehnebach with Hatch Medals and citations.

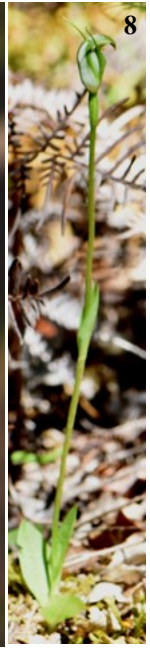
▲ *Caladenia pusilla* in Langwarrin flora and fauna reserve, Victoria.

▲ *Caladenia pusilla*, Lake Mundi, Victoria.

From Picton—scattered along the trackside on the first day, half a dozen single plants of a *Caladenia* about 8mm across the petals, hairy, the dorsal sepal arched forward, the tepal ends dark pink fading to white centrally, as in *C. bartlettii*. The labellar midlobe marginal calli are variable. This is the plant I have been calling *Caladenia pusilla* because of its strong resemblance to Victorian plants of that name (at right). But is it *C. minor*? see Graeme Jane on page 16—*Ed.*

Some orchids at the Picton field days

1, 2 *Caladenia chlorostyla* variations, 3 *C. atradenia,* **4** *C. variegata.*



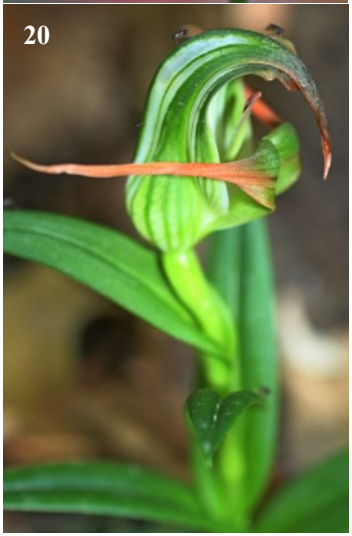
More from Picton…

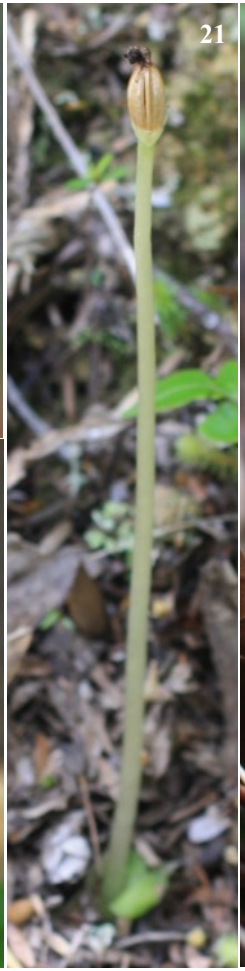
5, 6 *T. nervosa* and *T. ixioides,*
7 *Pterostylis banksii,*
8, 9 *P. foliata,*
10 *P. irsoniana,*
11 *Corybas macranthus,*
12 *Thelymitra longifolia s.l.* “blue halo”.

… and Picton shots from Mark Moorehouse… **13** Serious botanical interchange at the Thwaites's Kaireperepe BBQ,

Mark Moorehouse…

14 *Caladenia chlorostyla* s.s. at Momorangi,
15, 16 *Thelymitra nervosa* at Whites Bay,
17 *Pterostylis irwinii* at Wakamarina (its first record from Marlborough),
18 *Pterostylis areolata* at Wakamarina,
19 Putative cross *Pterostylis banksii* X *areolate,*
20 *Caladenia atradenia* Jack's track Whites Bay,
21 *Corybas cheesmanii* in seed Jacks Track.
22 *see over….*

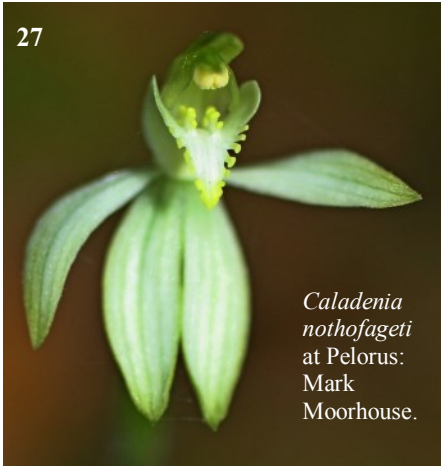




22 Pallid acicular leaved *P. banksii* agg. with green labellum. Wakamarina Track.
"I now have 11 sites where this pallid form has shown up. Always narrow channelled leaves with erect stance. It's becoming difficult to explain it away using the old poor soil chestnut as there are numerous normal *P. banksii* or other *Pt.*spp. often present just metres away. These pallid ones often trend to green labellums but that's not 100% consistent, some are pink. If it were a separate taxon then there seems reasonable evidence to show it crosses with *P. banksii, australis* and *oliveri* at times when both are present".

Picton shots by Murray Dawson: *Caladenia* aff. *chlorostyla* "redstem" and *Pterostylis banksii*.

Alasdair Nicol's Picton photographs:
25 *Caladenia pusilla,* ▲
26 Native bee on *Thelymitra nervosa.* ►



Caladenia nothofageti at Pelorus: Mark Moorhouse.

An orchid/fern fungal association?

Mark Moorhouse sent copy of an email exchange between Philip Simpson and himself about the new find of *Pterostylis oliveri* in Marlborough, with parsley fern (*Botrichychium* sp.) nearby.

Simpson: "I wonder if the fungi associated with the *P. oliveri* is also on the *Botrychium*."

Moorhouse: "At our AGM weekend we visited the Wakamarina track up from Canvastown and saw *Pterostylis areolata*…. those *P. areolata* had a plant of *P. oliveri* and a *Botrychium* growing in the same square metre of habitat."

Dr Simpson sent the following from the Korea National University of Education in support.

Jun-Ki Lee & others 2002. Multiple Symbiotic Associations Found in the Roots of *Botrychium ternatum*. *Mycobiology* 30(3): 146-153.

Two types of mycorrhizae, orchid (OM) and arbuscular mycorrhizae (AM), were observed in the cortical cells of *Botrychium ternatum* roots. The vesicles or arbuscules of AM fungi were examined and the fresh or digestive pelotons by other species of basidiomycetes were also observed in the roots under light microscope. These symbioses were, as the genomic DNAs extracted from roots of *B. ternatum* reacted with the specific primers, confirmed with PCR technique, being added to more strong evidences. These discoveries were rarely happened in the roots, especially a fern in nature. OM was observed in the roots of *B. ternatum* collected from the nationwide areas, whereas AM was only in the roots of *B. ternatum* collected from Chung-Buk areas. It is speculated that OM are associated with the nitrogen cycle in Islands and the growth of *B. ternatum* in the inland of Central Korea is related to both the phosphate and nitrogen cycle in the nature. The results suggest that *B. ternatum* is a typical species with two types of mycorrhizae under various growing conditions.

Parsley fern, *Botrychium australe:* photo Mike Lusk, Naturewatch.

The pollinator of *Pterostylis irsoniana*? Mike Lusk took these photographs of a fungus gnat (Mycetophilidae) on the Mt Rolleston track, Picton, during the NZNOG field days.

More from Mark Moorhouse

28, 29 *Microtis* aff *parviflora* Knuckle Hill Track, Ka-hurangi NP, NW Nelson showing pyramidal flower head and spaced, pedicellate florets when they mature and open.
30. One of the purple stemmed *Thelymitra longifolia* agg Wakamarina track
31. *Caladenia* 'aff *chlorostyla*' This is the putative and very common *Caladenia chlorostyla* x "Red Stem" which also bears the misnomer *C. minor*, as it lacks the red stem.

Original paper

Getting the facts right—not *Caladenia minor* again!

by Graeme Jane

Introduction

At the recent AGM in Picton I was confronted with several specimens of a *Caladenia** which Gael had seen about 1997 at the Pupu WW and I had dismissed as just poor resolution of the colour photo. The flower is pale cerise not the usual peachy pink of most of what I call "pinkies". The colour is more akin to that of *C. alata* than *C. bartletii* or *C. variegata*. This again got me wondering: **What is** *C. minor*?

Caladenia minor has been the subject of numerous and long discussions in the pages of the *NZ Native Orchid Journal* (Scanlen 1999, 2001, 2005; Jane 2006) and yet the status of the name remains unresolved. There seems to be no agreement on what it looks like.

Situation

Perhaps we need to get back to basics. Hooker described *Caladenia minor* in 1853,

> *Caladenia minor Hook fil.; Patentim gladuloso-pilosa, radice basique caulis tunicata, folio anguste lineare glabrato, scapo medio bracteate, flore rose basi bracato, sepalis linearibus obtusus petalis angustioribus, labello latiore quam longo profunde trilobo lobis lateralibus membraneeis intermedio late subalato margine glanduloso disci glandulis 2 seriatis stipitatis anthera ad apicem acuminate sessili [Tab LVI B]*

which approximates to "Plant radical, stem glandular-pilose, leaf narrow, linear, glabrous, scape with median bract, flower pink (rose) with a basal bract, sepals linear obtuse, petals narrower, labellum wider than long deeply trilobed, laterally with deep lobes, disc calli in 2 rows, anther sessile with an acute tip". He added,

> *HAB. Northern Island. Dry clay hills, abundant, Edgerley, etc.*
>
> *The smallest New Zealand species, 4-6 inches high, very slender, one flowered, covered with spreading patent glandular hairs. Leaf solitary, very slender linear. Flower nearly erect 1/3 inch* (8.5 mm) *broad, pink.—Plate LVI B Fig. 1, flower; 2. flower with sepals and petals removed; 3. lip; 4, column; 5 anther: —all magnified.*

Then followed a rather tumultuous time taxonomically. Jones et al (1998) set the scene,

> *The taxonomy of Caladenia R. Br. ... is in a confused state. The small-flowered members of this genus in the eastern parts of its distribution are currently being studied by the senior author and the... taxa will be the subject of a revisionary treatment.*

They went on to deal with 4 taxa—*C. bartlettii, C. chlorostyla, C. nothofageti* and *C. atradenia*. But in achieving this they also had to sort out several other taxa including *C. minor, C. alata, C. carnea* and *C. catenata*

They needed to determine if any of the taxa they were dealing with were in fact *C. minor* and the bounds of those taxa. They also examined *C. carnea* and *C. catenata* and their types and type descriptions because the New Zealand plants had been previously referred to those taxa

* *See photographs page 4—Ed.*

(also not typified then). They went on to say,

> *In the meantime three new species are described in this paper and a new combination is made for another.*
>
> *These changes will help to facilitate the production of the Catalogue of New Zealand Orchidaceae by the present authors which is in the final stages of preparation.*

A full list of *Caladenia* for Australia and NZ was published in 2001 (*Orchadian* 13: 388-418) and the NZ species transferred to *Petalochilus*. In this paper they included *P. saccatus, P. calyciformis* and *P. minor* as well as the other recognised species mentioned above. It was a rushed job because Szlachetko (2003) was attempting to ursurp pending changes the Australians were working towards. Jones et al (2001) stated of Szlachetko,

> *Not only were nomenclatural changes made which are illegitimate but new combinations were created for some taxa which have generally been placed in synonymy.*

The key step was the determination of the type by Clements (1984). Hooker attributes the type collection to Edgerley. The herbarium at Kew contains 22 specimens of *Caladenia* from Edgerley. There are various species located on 6 sheets, plenty of material, but dried and pressed. The type sheet contains 4 specimens, one of which was selected as the type specimen for *C. minor*.

The colour is absent or poorly presented. The tip of the labellum in *C. alata* is often strongly recurved and perhaps not readily visible in pressed material, tepal shape may also be distorted, so perhaps Hooker relied on the specimen in spirit, and drawn by Fitch ►, for his type description.

Questions

That still leaves open the Question: is *C. minor* actually the same as *C. alata* **or** is the one specimen on the type sheet different? And if so why was the name *C. minor* retained by Jones et al (2001) and what is it?

The key points of Hookers type description are,

1. the flower is pink
2. petals and sepals obtuse
3. midlobe of labellum has deep lobes
4. anther tip is acute
5. Fitch's sketch shows the lamellar pink part of the labellum as barred and calli are yellow tipped.

C. alata is often pink, sometimes cerise, sometimes white. The lamellar calli and tip of the midlobe are orange not yellow or pink as in our other caladenias. The petals are acute and the midlobe scarcely indented with a pair of basal calli.


Caladenia alata

So how could Hooker confuse the two taxa? Firstly, Hooker did not see *C. minor* in the wild, but rather received the plants from Edgerley along with material in spirit and no doubt a letter.

Also, Hooker apparently had not seen specimens of *C. alata*, as in his use of *C. alata* for the *Flora Tasmaniae* (1865) he referred to Archer's account of *C. alata* R Br.1810 (William Archer FLS, of Tasmania who provided orchid drawings for Hookers *Flora Tasmaniae*). Brown was already dead and worked largely on the Australian flora. Hence in 1836 Hooker may have been aware that *C. alata* was in Tasmania, from Archer's visit, but not that it was also in NZ.

Clements (1984) examined the Edgerley material. Other specimens on the type sheet are now (with hindsight) clearly *C. alata* R Br not *C. minor* because the tepals are acute and the midlobe of the labellum is scarcely incised, some specimens elsewhere are other taxa or indeterminate. If no material on the sheets had fitted Hooker's type description a new Lectotype could have been selected or the name abandoned. The fate of the spirit material is unknown, lost or destroyed in the drawing.

So in nominating one of the specimens on the type sheets as the type of *C. minor* an important step was made. The remaining specimens could be regarded as just other examples of the type or as distinct.

Sometimes two type specimens for different taxa can reside on the same sheet. In this case it seems two taxa are present.

In NZ, *C. alata* was recognised and described separately as *C. carnea* var *exigua* by Cheeseman in 1906. He later raised it to species, at the insistence of HB Matthews (Cheeseman, 1913). So even until that time no connection with the Australian *C. alata* had been made and *C. alata* and *C. minor* were regarded as the same.

Hatch 1963 noted the principle then existing,

> *The principle followed in dealing with this species ... allows that varietal rank is only warranted where there is distinct true -breeding morphological variation, and that jordanons composed solely of colour-forms, even where breeding true, must be included under the name of the form from which they have supposedly derived.*

That brings us to Jones et al (1999) and a confused state of the taxonomy. So why is *C. minor* not the same as *C. chlorostyla* or *C. nothofageti?* Firstly they are not pink. Hooker does not include any other colour in his description of *C. minor*. Secondly, Jones et al (1999) distinguish *C. chlorostyla* from *C. carnea* and *C. nothofageti* from *C. catenata* on colour and tepal shape (amongst other things) and not from *C. minor*. In *C. carnea* R. Br the tepals are stated as acute and *C. catenata* Smith's 1806 detailed description and figure says tepals are acute, the column and midlobe lack the red bars. From Fitch's sketch, *C. minor* has a barred midlobe (and column?) and obtuse tepals. They also recognised *C. bartlettii* (pink, but with an irregularly sinuate midlobe), and *C. atradenia* (with a dark midlobe and calli), both formerly varieties of *C. minor*.

That brings me back to my mystery *Caladenia* from the Mt Robertson track. It has obtuse tepals, the column and labellum are barred red, the midlobe is marginally lobed (short calli) and the flower is pale pink. It fits Hooker's *C. minor* well, both text and sketch. But it seems rare

(might be recorded more now it is recognised). It could be confused with *C. alata* as it has the same base colouration, cerise rather than peach or magenta, of our other pink caladenias. The only other similar plant is *C.* "red stem" which has almost white flowers and acute tepals. Is it the source of *C.* "red stem" and intermediates with *C. chlorostyla*? Or is the Mt Robertson *Caladenia* just an anomalous form of *C.* "red stem", since it seems to be quite rare?

References

Brown R 1810: *Prodromus. Florae Novae Hollandiae et Insulae Van-Diemen* 2. p 180.

Cheeseman T E 1913: Trans. & Proc. N. Z. Inst. 45: 96.

Clements MA 1985: Notes on the contents of John Lindley's Orchid herbarium - 4. *Caladenia*. *The Orchadian* March 1985, p. 64.

Hooker JD 1853: *Botany of the Antarctic Voyage on Erebus & Terror* (5 parts); II. Flora of Novae Zelandiae 247, 472.

Hooker JD 1865: *Botany of the Antarctic Voyage on Erebus & Terror*; III. Flora Tasmaniae.

Jane G 2006: Plant Names. NZ Native Orchid Journal 98: 19-22.

Jones DL; Clements, MA; Sharma IK & Mackenzie AM 2001: A New Classification of *Caladenia* R.Br. (Orchidaceae). *Orchadian* 13:388-418.

Jones DL; Molloy BJP & Clements MA 1998: Three New Species and a New Combination in *Caladenia* R. Br. (Orchidaceae) from New Zealand *Orchadian* 12:223.

Moore LB & Edgar E 1970: Flora of New Zealand Volume II. Gov. Printer Wellington p110.

Scanlen EA 1999: The Column: The *Caladenia minor imbroglio* NZ Native Orchid Journal 72: 22-29.

Scanlen EA 2001: The Column: Further *Caladenia minor imbroglio* NZ Native Orchid Journal 78: 31-35.

Scanlen EA 2005: The Column 1. *Caladenia alata*: a chequered past. *NZ Native Orchid Journal* 97: 33-36.

Smith 1805: *Exotic Bot.* 2: 89.

Szlachetko DL 2003: Nomenclatural adjustments in Caladeniinae (Orchidaceae, Thelymitroideae). *Annales Botanicci Fennici* 40: 143–145.

Research news

Carlos Lehnebach emailed before Christmas, "Our article on symbiotic seed germination of *Spiranthes novae-zelandiae* and its phylogenetic affinities was accepted for publication in the *NZ Journal of Botany* last week. It is likely to be published early next year. The article is one of the outcome of my MSc student Jonathan Frericks at Victoria University of Wellington and describes a protocol used to germinate this orchid seeds using its own mycorrhizal partner.

"Te Papa's NZ native orchid collection is soon to be fully digitised with high resolution images available on line for all nonthreatened species. Nathaniel Walker-Hale, who was awarded a Summer Research Scholarship from Te Papa–Victoria University of Wellington, is busy this summer imaging over 3000 orchid specimens that we have in the WELT Herbarium at Te Papa. So far *Acianthus, Aporostylis* and *Bulbophyllum* are on line at https://collections.tepapa.govt.nz/ If misidentifications are spotted please contact Carlos Lehnebach (CarlosL@tepapa.govt.nz).

"A new study into the diversity of mycorrhiza species used by terrestrial and epiphytic orchids growing side by side is under way. Funding from the Australian Orchid Foundation to Carlos Lehnebach and Lara Shepherd will allow them to detect and identify the fungi associated with the roots of native orchids using DNA barcoding methods. The study will shed some light into the specificity of the plant-mycorrhiza interaction of NZ orchids and local orchid diversity hot-spots. More details about the project at http://www.australianorchidfoundation.org.au/321-2017/."

The type locality Ian St George

Pterostylis cardiostigma D. Cooper from Day's Bay

The first report of a big new greenhood came with the publication in 1983 of Johns & Molloy's *Native orchids of New Zealand* [1], with a photograph labelled "*Pterostylis sp.* ('Days Bay')" but in the same year the formal description by Dorothy Cooper appeared in the *NZ Journal of Botany* [2]. She had first found it in 1978 and noted its distinct red markings, heart shaped stigma and upright habit. She had seen it in the Eastbourne hills and Tararua Forest Park, but that was the extent of its known range.

She wrote, "Dorsal sepal to 7cm long, vertical in lower half, upper half steeply inclined, or very occasionally more horizontal" (my underline), so she recognised such normal variations from the outset.

▲ Originally found only near Wellington, *P. cardiostigma* is now known much more widely.

References

1. Johns J, Molloy BPJ 1983. *Native orchids of New Zealand.* Reed, Wellington.
2. Cooper D 1983. *Pterostylis cardiostigma—a new species of Orchidaceae from Wellington, New Zealand,* New Zealand Journal of Botany, 21: 97-100.

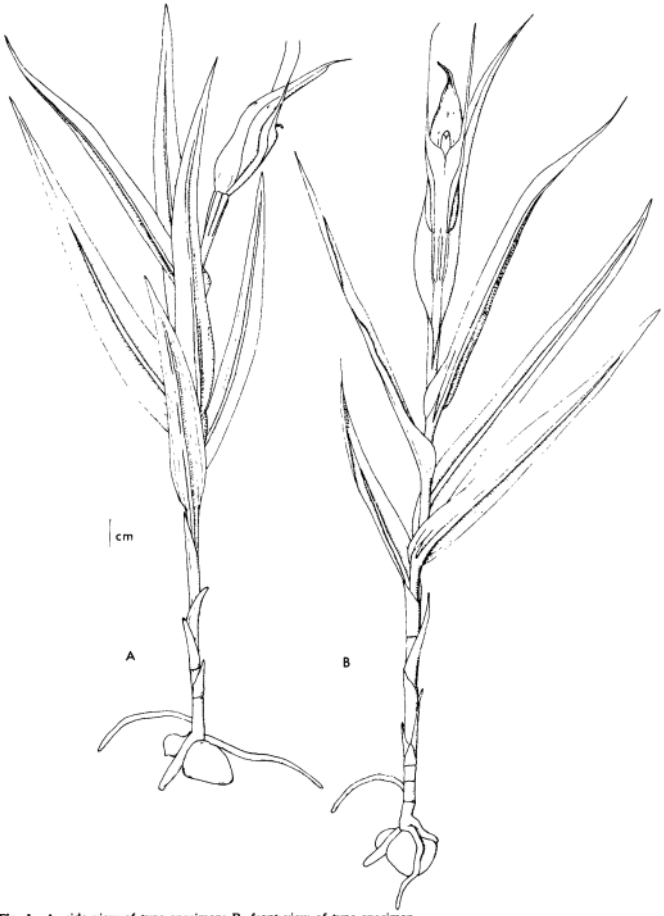


Fig. 1 A, side view of type specimen; B, front view of type specimen.

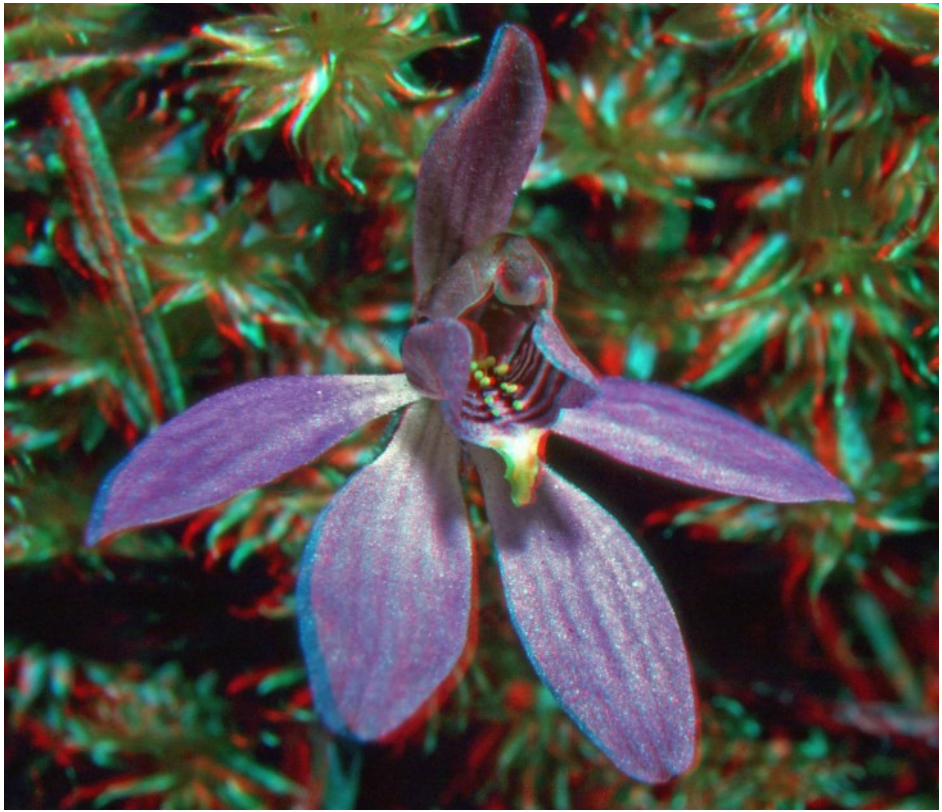
Fig. 2 A, side view of column and labellum; B, front view of column; C, column wing; D, side view of upper part of flower; E, lower lobe of column wing; F, petal; G, anther cap, pollinia, and rostellum; H, side view of tip of labellum; I, front view of tip of labellum; J, labellum appendage; K, dorsal view of labellum; L, ventral view of labellum; M, young plant with flower bud N, seedling; O, front view of laterial sepals; P, flower before opening.

Pterostylis cardiostigma at its type locality, Day's Bay, 14 November 2017

Orchids in 3D

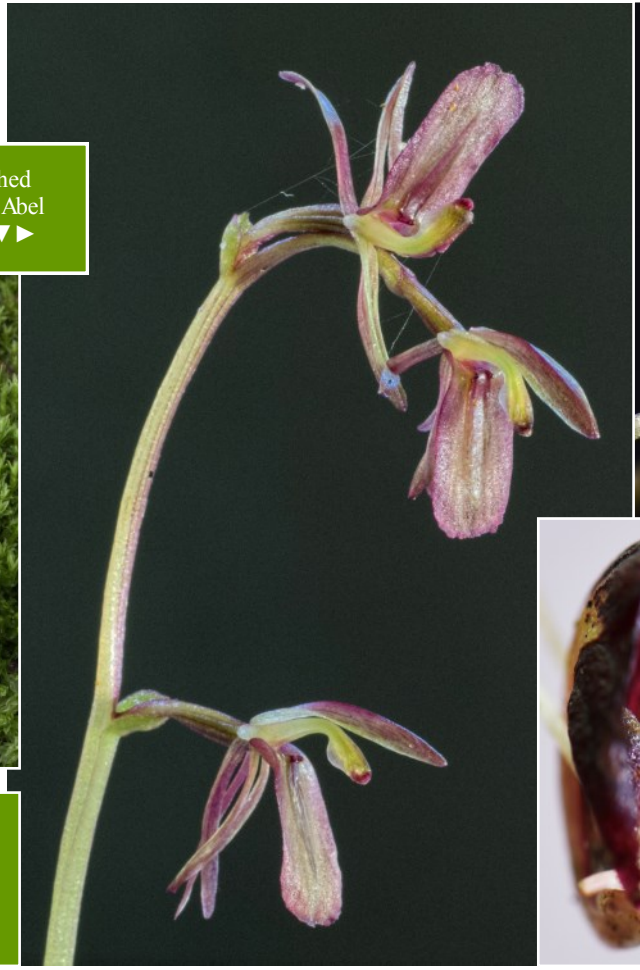
Eric Scanlen

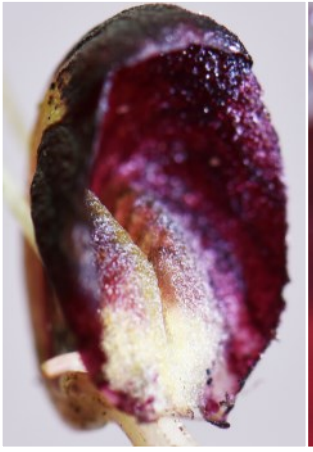
Caladenia bartlettii Look at it with your 3D glasses!

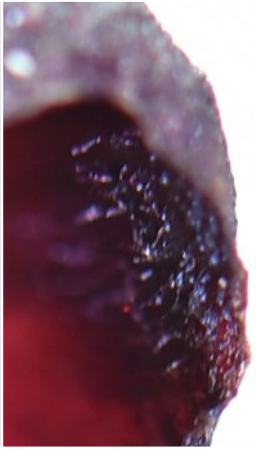


Notes

Rebecca Bowater photographed *Cyrtostylis oblonga* on the Abel Tasman track on 28 September.▼►







The inner labellum of *Corybas* "Trotters" in the Wairarapa has a velvet texture, almost hairy up under the dorsal sepal. ►►



▲ Cheryl Dawson photographed *Corybas walliae* and *C. hatchii* on the Apiti Track, southern Ruahine on 29 September.

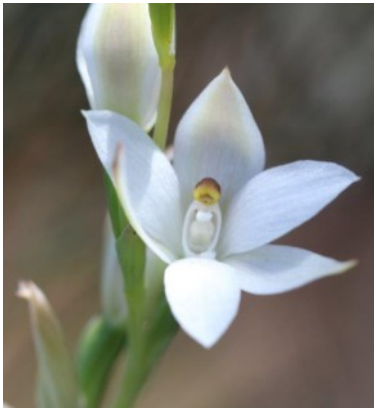

◄ Mike Lusk photographed *Corybas hypogaeus* in early October—absent the last two seasons, but "plentiful in a small area under a mix of red and black beech this year". *Always under beech, the leaf wider than long, the midlobe of the leaf large: contrast with the leaves of C. "Trotters" below—Ed.*

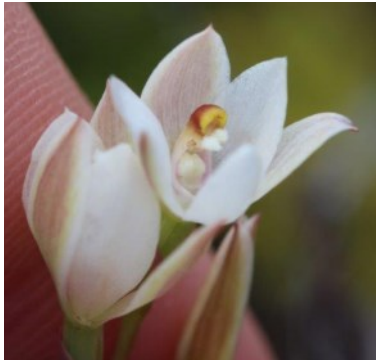
Cara-Lisa Schloots (caralisa95@gmail.com) would be grateful for any information on orchids in the Waianakaruas, specifically in the designated Orchid Reserve.

On the Putangirua Pinnacles track on 9 November *Corybas* "Trotters" was abundant and healthy, large leaves and long stems occasionally bearing fruit. Across the track was a colony of large leaved *C. macranthus* at a similar stage. Among them were intermediate shaped leaves and it was here some years ago I saw flowers of a probable interspecific hybrid with features of both—*Ed.*

From the AUSTRALASIAN NATIVE ORCHID SOCIETY (VICTORIAN GROUP) INC. BULLETIN DECEMBER 2017 Volume 50 Issue 6:
Ivan Margitta photographed this pot of *Pterostylis irsoniana* X *banksii* benched by Helen Richards. ►

Jack Warden emailed, "I managed to get home to Great Barrier over the weekend. It has been a bad season for getting sun orchids so far but got a couple in flower …." ▼▼





They looked a bit unusual for *T. longifolia* so I posted them on yahoogroups and Bill Campbell thought the column very like that of *T.* "roughleaf"; Kevin Matthews responded, " Yes Bill, it looks a lot like the post-anther lobe of *T.* "roughleaf" but both within the variation of the many forms of *T. longifolia.* The reddish backed flower from Great Barrier is showing insect damage, however both flowers have the tell-tale *T. longifolia* cotton wool cilia." He attached a photograph of "Gumfields *T.* aff. *longifolia*".▼

Mike lusk photographed *Pterostylis patens* with its dorsal sepal obstructing the labellum from resetting.

Thelymitra nervosa variations, Days Bay, Wellington, 14 Novemver 2017—*Ed.*

◀ Graham Randle took these shots of *Pterostylis patens* at the Napier-Taupo roadside in late November: this species must have a gene for curling the flower parts, but here the curling is considerably exaggerated and even the leaves are no longer straight. Graham says spray damage is very unlikely at this site so the appearance must result from a natural mutation in a form that is multiplying locally.

◀ Roger Thwaites's *Thelymitra longifolia* from Marlborough, near its type locality.

▶ Pat Enright's first *Dendrobium* of the season: near Featherston on 30 November.