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Contents

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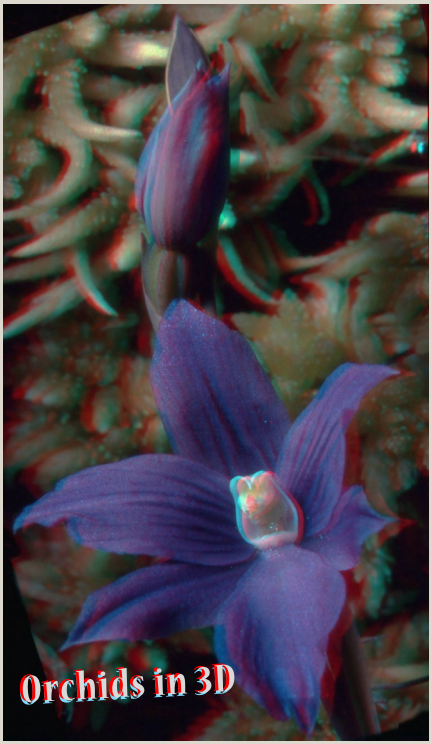
Cover: *Thelymitra cyanea*, Rakiura—Jaz Morris

Orchids in 3D: *Thelymitra cyanea,* Karioi—Eric Scanlen



New Zealand Native Orchid Group

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From the Chair: Gael Donaghy

Kia ora tatou

I thought this job would get easier with time – now with five AGMs behind me, I realise that each year is not just a repeat of the year before. What does stay the same is the people and the orchids, and the passion one has for the other! What must change is we must learn from each experience we have – one learning this year is that it is desirable to run the tagalong in tandem with the AGM. Another is getting the new constitution written. At the AGM all 18 people agreed that this was ideal as it meant people could attend all events with just one major lot of travelling.

In 2024 we are proposing that we have the AGM and field days over a weekend, based around the Hutt, then run the tagalong up the eastern side of the Tararua, Ruahine and Kaweka Ranges. It looks as though the last weekend in Nov ember (30 November - 1 December) would be good for the AGM with the tagalong the following Monday – Sunday. Again people are welcome to attend as little or as much as they can. We will have good local input with Ian St George, Mike Lusk and Cheryl Dawson already with their hands up to help.

Indy photographing Pterostylis banksii growing on a tree trunk a few metres off the ground.

Opinion

Mark Moorhouse

While it is always sad to see such a dedicated orchidophile hang up his pen, leadership, and reducing the voicing of opinion as editor, life must move on at sometime for all of us, and witnessing such staunch dedication that our friend, Ian, no, more respectfully, Dr Ian St George has shown. He has been an inspiration to virtually every one of us minions, the unruly rabble of NZNOG membership who have both argued with and looked up to him and his opinions as that of mentor, leader, poser of questions, provoker of thought, key researcher and great companion on the many ventures we have had together in that most auspicious of causes, the bettering of knowledge about our native orchids. I can say no more than "thank you Ian" from every one of us, the mob of readers.

Ian has taken the quality of illustration from the time when we had to be satisfied with rough black and white sketches through the cut and paste in our own stage, till now. The progress is almost mind boggling and all of that is thanks to Ian's push for a better Journal. Now the photos are of enough quality to be of real use to us all. I am personally happy to see some pages of large format photos with minimal text amongst items published. Published macro-photography also brings us new light. Those pictures share some little gem, some little detail, that many of us could never have otherwise enjoyed, or could have simply missed, even if we were there at the time. The digital copy allows us that zoom in view of some critical detail.

Caladenia nothofageti, Upper Motupiko

Regarding being 'poser of questions': It is so moving to see that Ian has left us in no doubt [J 170 page 14] that there are many questions he [and we] had hoped to see resolved during his stretch as editor which still remain unanswered satisfactorily. Isn't that the inspiration we all need to soldier on with our observations and reports within the pages of this journal. We all have work to do as members. Contributing photos, comments, reporting the unusual, sharing pictures of finds. It is only our combined efforts that will eventually contribute to solving the raft of still unanswered questions that Ian has cited on the above mentioned Journal page. Let's do our best to honour Ian by taking up the cudgels and keeping our new editor Cara-Lisa busy reviewing the material we offer.

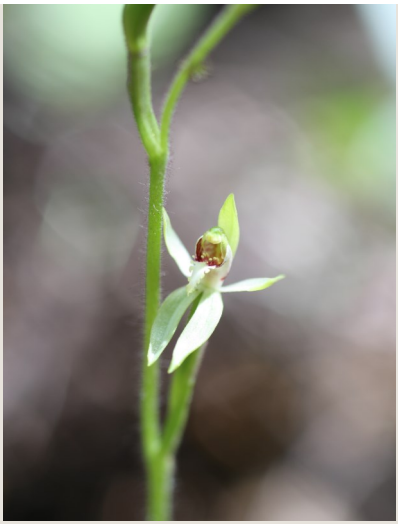
I will start some comment on his question

Is *Caladenia nothofageti* just an alba form of *C. chlorostyla?*

That very question was quite strongly debated when Dr Brian Molloy first published *C. nothofageti* as a separate species Many old-school group members staunchly opposed it, either publicly and vocally or privately in more or less clandestine communications between disbelievers. Was it really a new and valid species? That did inspire members of our group to make some closer observations. Just what was really needed to establish a general acceptance. Without naming names, I can still recall hearing certain members mumbling 'white *Caladenia chlorostyla' when C nothofageti* specimens were seen by exploring teams on a group expedition. I admit to being in synch with such a concept in the day and it took a good few years and sensible persuasion from believers to think otherwise.

This raised, in my mind, a question no one else has voiced to date to my knowledge. If *C. nothofageti* was really a separate species, were there any natural crosses reported that showed evidence

C. nothofageti, Mill Road, front section



C. chlorostyla green, Brown River Reserve, Rai Valley

of hybridism? That is, hybridism with any of the other small *Caladenia* species that flowered at the same time. In particular, *C. chlorostyla* and *C*. 'redstem', both of which can sometimes be found flowering in close proximity. After all, there does seem to be evidence that *C. chlorostyla* does cross with *C* 'redstem' at times, which suggests we should occasionally run across *C nothofageti* crossing with either as well.

In 2013 my daughter Kendyll, who was at the time living on a property north of the Nile River, near Charleston forwarded me photos she had taken of some *Caladenia* specimens that fitted the basic description of *C. nothofageti* but on closer examination clearly showed they were neither that species or *C. chlorostyla,* nor *C* 'redstem'. The difference being that both column and labellum wings lacked red barring but

Pic 1: Putative redstem x nothofageti

the pedicels of the disc calli were red [Pic 1]. It suggests a *C*. 'redstem' x *nothofageti*. Then there was the photo taken by a local resident of Westhaven, NW Nelson [Pic 2]. This one clearly having C *chlorostyla* as one parent, but with no barring on the column. *C nothofageti* is present there. Or [Pic 3], a specimen of *C. nothofageti* from Lake Hauroko having a pale flush of pink where barring normally occurs in *C chlorostyla* and the typical pinkish flush on the petals that we often see on *C. '*redstem*'*. As these examples suggest strongly that, indeed, *C nothofageti* ,*C chlorostyla* and *C* 'redstem' are genetically close enough to cross, does this answer Ian's question? Should *C nothofageti* perhaps be reduced, at best, to sub-specific level or even to being merely an alba 'forma' of *C chlorostyla*?

Pic 2: C. chlorostyla x nothofageti, Westhaven Inlet, NW Nelson

Pic 3: C. nothofageti, Hauroko

At about the same time Georgina Upson had taken me to a lowland forest remnant in the Moutere, Nelson where very robust, multi-flowered specimens of a white flowered *Caladenia* with unusual almost corrugated ridges on the labellum tip inspired her to tag them C 'corrugata' [Pic 4]. The flowers were completely white so technically *C. nothofageti* and though living in very close proximity to *C. chlorostyla* no crosses were evident [Pic 5]. Most *C nothofageti* have a central groove down the midlobe. These had three quite distinct grooves, giving the midlobe a corrugated cross-section. Interestingly while the local *C. chlorostyla* had the typical erect dorsal, the *C. nothofageti* displayed the typical hunched over dorsal of *C.* 'redstem'.

Does anyone else have evidence of crosses involving *C. nothofageti*?

C. nothofageti is a 'Beech species'. We have a raft of orchid spp we call 'Kauri species', ie. they are all found where kauri grows or once grew. I would like to coin the term 'Beech species'. As equally as many species of our native orchids are associated specifically to beech forest. [Perhaps the subject of another article].

From the above, I take one thing. *C. nothofageti* deserves recognition as something separate from *C. chlorostyla*. The debate in my mind is: at what level? My personal opinion is a barrow I have been pushing for decades. Why are we not recognising orchids in Aotearoa at sub-specific and even forma level as the populace of Europe do willingly for their local species?

I would be quite comfortable with C*. chlorostyla chlorostyla, C. chlorostyla alba* [the present *C. nothofageti*], *C. chlorostyla rubricaulis* [redstem] *C. chlorostyla callilabiata* [Bacon Creek]

Pic 4: C. 'corrugata'

Pic 5: Neudorf, Moutere

and perhaps even *C. chlorostyla variegata.* The subspecific name immediately alerts the reader to exactly what makes it different enough to be recognised officially ie. a green style; all white; red stemmed; midlobe with calli to tip; or with variable rows of calli. Should we also be considering *C. lyallii lyallii* ,*C. lyalli alba* ['Iwitahi'], *C. lyallii alpina* and *C. lyalli falcata* .[the montane form with narrow, often falcate petals]

C. nothofageti, Mt Robert

Dan Hatch and Bruce Irwin, Cheeseman and most of the early taxonomists favoured the concept of subspecific taxonomy. It both makes sense and keeps obvious close relatives grouped together, what's more, it is an easy concept to show that while observable physical and colour differences occur, sometimes, plants are still on the journey to becoming different species but in the interim need nominal recognition, but, not so different that they deserve specific names yet. The pathetic protest from one opponent was that it took too long to write names with Genus, Species, Subspecies and/or forma. My response to that then and now is ' The exercise will do you good.' Besides, humans have that peculiar way of getting round issues like this. In the field as a group who of us use full botanical names? We clip the genus off and refer to plants by their specific names in daily speech don't we? If they had sub-specific names we would do exactly the same. Perhaps in another couple of human generations we will finally catch up with the European nations… 'good things take time' so the cheese makers assure us. By then both you and I will likely be just faint memories, but at least either genetics or common sense will have prevailed and New Zealand orchidophiles will know the answer to Ian's question 3.

C. nothofageti, Pyramid Farm

2023 AGM and Tagalong

Gael Donaghy

This is the first year the NZNOG has combined the AGM, field days and tagalong into one event.

We started in Rangiora (and its excellent RSA) as our base for the first three nights, with Max Hill and Gordon Sylvester's local knowledge as a guide to the nearby Canterbury foothills. Friday night was catching up with everyone, including new members, our youngest member, Indy, and one of our oldest members, Gordon, over a meal at the RSA.

On Saturday we visited View Hill and were treated to a lovely patch of *Pterostylis areolata* in full flower. Some of the group went further up the hill and saw *Corybas macranthus* in late flower.

The AGM was held at the RSA before our meal on Saturday. The highlight for me was presenting Bill Campbell with the Hatch Medal, introducing Cara-Lisa as our new editor, and hearing about the orchid research. Another highlight is the willingness of people to step up and contribute to the work of the group. Special thanks to Max for researching the setting up of a Facebook page for NZNOG, and

Corybas at Arthur's Pass—Cara-Lisa Schloots

for Cara-Lisa (Canterbury), Hayden Jones (Manawatu) and Kirsty Williams (West Coast) for volunteering to act as regional coordinators.

The second day saw us take a dodgy road up to Glen Tui Loop Track in the Mt Thomas Forest Conservation Area. Here *P. irsoniana* was almost in flower, and Max showed us a group of *Pterostylis* growing nestled in a rotting log. They were in bud, and too difficult to determine which species they belonged to. Max has posted a photo of it in flower on iNaturalist. The experts think it could be a *P. banksii x P. montana*, as both parents are in the area.

Monday was the start of the Tagalong, and we headed into the mountains towards Arthur's Pass, stopping in the inter-montane basin to look for *P. tanypoda*. Our scouts (Max, Mark, Bill and Trevor ranged widely and found a couple of tiny plants - it was good to see it. Our lunch stop was at Te Hāpua Waikawa / Lake Lyndon where we saw a Great Crested Grebe, just voted NZ's Bird of the Century. Our final stop was at Greyney's Track, just over the Waimakariri Bridge. It was drizzling by the time we got here but it is a very good spot for orchids – we saw *Townsonia deflexa* and *P. oliveri*, both still in bud. There was a very late-flowering *C. vitreous*

By the time we arrived at the backpackers at Arthur's Pass it was raining heavily. Thank goodness all the amenities were under one roof! We all braved the rain and went out to dinner though – to the pub at Bealey.

Tuesday was still raining in the mountains, so there was a cursory stop at Okuku reserve for *P. cernua*, but it was too wet to be serious about walking. The rain lightened as we travelled towards the coast, and people went scouting for flowers in all directions.

On Wednesday the weather had cleared we started at the Hokitika Gorge Walkway where we saw *P. cernua*, and some white *C. oblongus*. The best photo for the day (see page 3) is of Indy about 3 m up a tree photographing a white *P. australis*. Further stops were made at Dorothy Falls and Lake Kaniere Walkway. We were now regularly seeing *P. cernua*.

On Thursday the rain had cleared, and we packed up and travelled towards Greymouth, with a notable stop at Woods Creek. Here Max found one single plant of *Drymoanthus flavus*, in full flower. Indy had this on his hit list and we had been looking for it all trip. Indy leapt up what looked to me like an unclimbable tree to record the find and took photos for others in the group. Later we looked at the south end of the Point Elizabeth Walkway.

On Friday, the rain returned. We headed out for Moana, but couldn't reach our destination because a truck and trailer had rolled, and the road was closed. A quick rethink, and we decided to go to the Arnold Dam and Coal Creek areas. Here we needed umbrellas!

Saturday was the highlight of the trip – firstly good weather for our trip north to Westport and then the lovely sea views and blowholes at Punakaiki, with the prize being *D. adversus* in flower at the very start of the track. We had lunch at

the Nile River, and found *Corybas* "Trotters" in flower there. And then we went back to a roadside stop discovered by Bill and Max on a scouting trip earlier in the day. Here they had found a good population of the rare *P. paludosa* in full flower and a single plant of *Calochilus paludosus.* The habitat here was very poor pākihi, with its usual rushes, sedges and tangle fern. For some reasons orchids seem to thrive in habitats like this. The downside of the day was that all the bigger eating places in Westport were booked out, so we all found our own dinner for the night – I can recommend the pizza joint in the main street!

The last day saw us meeting up at a coffee cart in the middle of nowhere (delicious coffee and homemade goodies) while we waited for everyone to arrive. Here we met Kirsty Williams, a local NZNOG member, who took us up the Denniston Plateau. Our first stop was the lower part of the Bridle Track, where there were good flowers to be had. *P. cernua, C. oblongus* (normal and a plant with yellow flowers), many *P. banksii, P. irsoniana,* and some *Caladenia chlorostyla* in bud. Our next stop was at the top of the Incline (where the little wagons of coal were sent down a ropeway) in another pākihi area. Here there was much discussion about the round-leaved rosette of a *Pterostylis* – was it *P. venosa* or *P. humilis*? Mark finally found a flower, and it turned out to be *P. venosa*.

The tagalong again proved its worth in getting to know people, especially new members. I must remember to put out a warning with the trip information that orchids often do not have clear-cut features that enable decisive identification! I must mention the good laughs we had – often thanks to Margaret and Glyn, who make everything seem funny!

A big thank you to everyone who came – you all contributed in unique ways, whether it was contributing local knowledge, climbing trees, sharp spotting, or scouting ahead. Let's do it all again in 2024.

Pterostylis paludosa near Charleston—Cara-Lisa Schloots

Notes

A surprise find of *Pterostylis paludosa*

Bill Campbell

While participating in the NZNOG 2023 tagalong tour I decided to revisit a pākihi site that Mike Lusk and I had been to during our South Island trip the previous year. On that trip we had observed a couple of plants of *Calochilus paludosus* at the site and I was hopeful that we might find it flowering there this time, even though we were a week and a half earlier.

Max Hill and I stopped at the site while travelling towards Charleston on Saturday 18 November. A single plant of *C. paludosus* was located almost immediately near the road, very close to where one of the plants had been observed in 2022. Unfortunately, this plant was still a few days off being in full flower.

Max and I continued searching in the area, with me following a track out towards a power pylon, where the other plant of *C. paludosus* was observed by Mike Lusk and I. With no further sign of any *Calochilus* I decided eventually to go cross country for the return trip. Initially, all I saw were leaves and buds of *Thelymitra* species, presumably *T. cyanea* and *T. pulchella*.

Just when I was beginning to think my cross country excursion was going to be fruitless I spied a lone, very yellowish, *Pterostylis* flower and leaves poking up out of a clump of the wire rush *Empodisma minus.* It was quite unlike anything I had seen before in relation to both colour and shape, so *Pterostylis paludosa* immediately sprang to mind. However, not having seen this species previously I wasn't about to jump to any hasty conclusions. I called Max over, took some photos and then carried on. It wasn't long before more plants began to appear and further photo taking confirmed that they were indeed *P. paludosa*.

The plants became more numerous as we progressed and the final estimation was that there were more than 80 plants at the site, with the majority of these being in full flower. Thankfully, we were able to catch up with the rest of the tour group at lunch time and guide them back to the site for photo opportunities. For most, this was their first encounter with this rarely observed species.

A subsequent search of iNaturalist NZ ascertained that *Pterostylis paludosa* had not been recorded on that site previously. This is a fair indication that we were very fortunate to observe and photograph what is obviously an extremely elusive orchid.

Original Papers

A southern coastal form of *Corybas macranthus*

Ian St George

Thirty or forty years ago, I saw, under mānuka scrub at Shag Point, Otago, a colony of what I took to be *Corybas macranthus* but with all the flowers sessile on the leaves and of a strikingly even red-maroon [**Fig.1**]. At nearby Trotter's Gorge there were typical plants of *C. macranthus,* their leaves stemmed, their flowers arising from the leaf stems, maroon with pale throats [**Figs 2**].

Fig.1 *First observation, Shag Point, Otago*

I thought no more of it. Well, not entirely true, I worried about it from time to time. Then I saw similar plants near Oban on Stewart Island in November 2012 [**Fig.3**]: dark maroon, almost black, their broad, short, rather blunt dorsal sepals often separated from the gap between the two labellar sidelobes they should have been covering. Other plants a mile or two away (also coastal) were typical *C. macranthus* [**Fig.4**].

Figs 2 *C. macranthus from Trotter's Gorge, inland from Shag Point.*

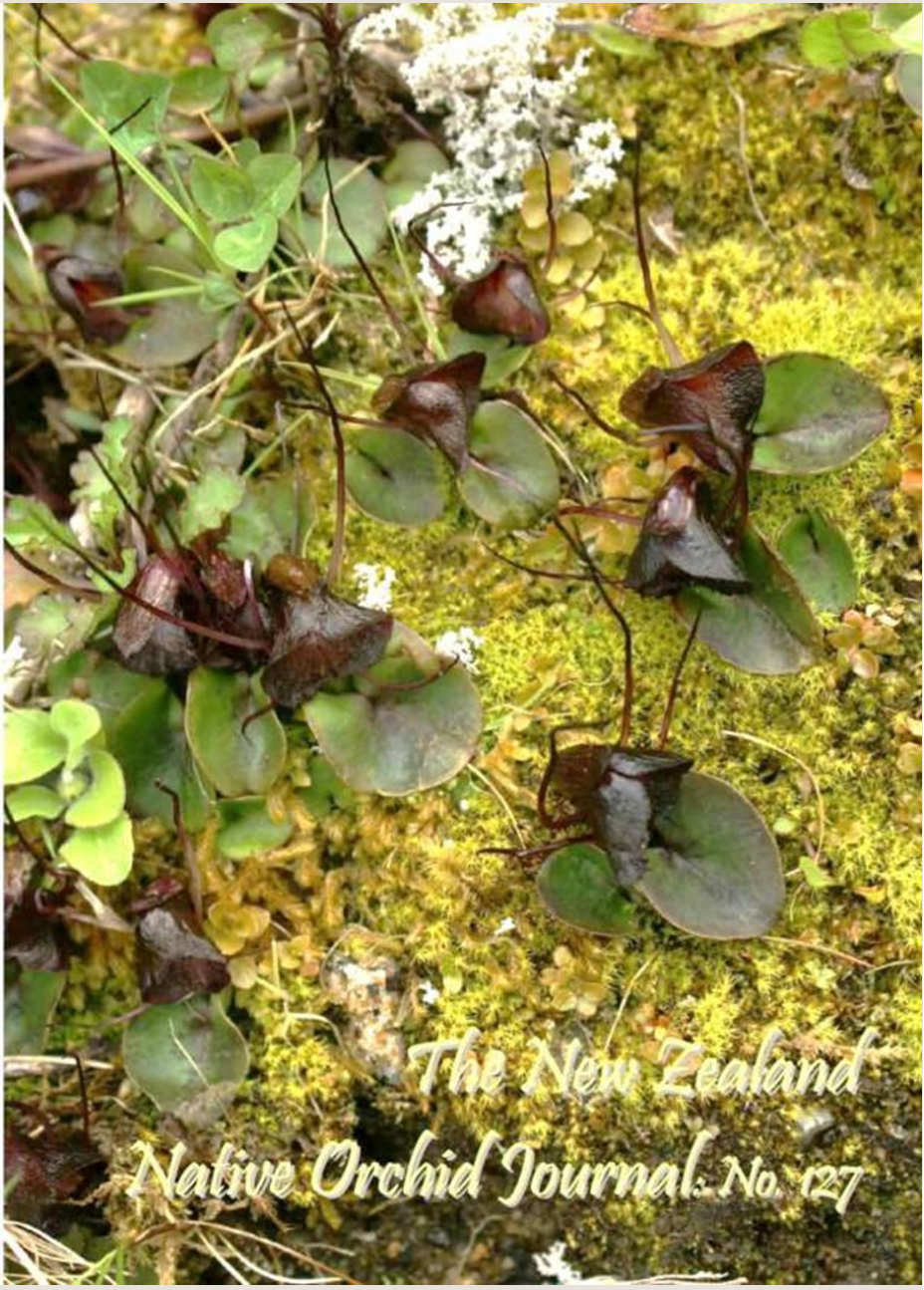


Fig. 3 *Second observation, Oban, November 2012 [NZNOJ 127, cover].*

Fig. 4 *C. macranthus from another site near Oban, November 2012.*

On 18 November 2017 John Barkla took photographs of similar plants at Point Elizabeth north of Greymouth and posted them to *iNaturalist.* Colour somewhere between my two observations. [**Fig.5**].

Fig. 5 *John Barkla's Point Elizabeth plants (https://inaturalist.nz/observations/8905894*).

In October 2023 we were again on Stewart Island and this time saw hundreds of emerging and newly emerged *Corybas* on a clay bank near Oban. The leaves came through the ground in a tight ice-cream cone spiral, opening out to a shallow cup of ±10mm diameter, the flower buds already dark blobs inside the cups [**Fig.6**]. That is how members of the *Corybas hatchii* group emerge in Otago, the cups perhaps a local adaptation to protect the developing buds from the harsh weather [**Fig.7**]; I thought these would prove to be of that group too.

Typical *C. macranthus* develops differently: the leaves open out flat and the flower buds appear from under them

Fig. 6 *The mystery Corybas near Oban, in bud in October 2023.*

Fig. 7 *Corybas hatchii Trotter's Gorge, Otago, showing the cupped leaves.*

Fig. 8 *C. macranthus from its type locality, near Wangaehu, Hawke's Bay [NZNOJ 120].*

Fig. 9 *Corybas from the type locality of C. papillosus, Glenross, Hawke's Bay [NZNOJ 116].*

Fig. 10 *C. macranthus with an unusually long dorsal sepal, Twelve Mile creek, Queenstown.*

Furthermore, the dorsal sepal is long, narrow, acuminate [**Figs 8,9,10**].

We had to leave before the flowers opened (of course), so Stewart Island guide and naturalist Peter Tait of Sails Ashore at Oban agreed to visit and photograph the developing flowers. His images form **Figs 11–15.**

Fig. 11 *photo by Peter Tait, 2 November*

Fig. 12 *Peter Tait 9 November.*

Fig. 13 *Peter Tait 9 November.*

This seems to be the extreme end of local variation in *Corybas macranthus,* its form presumably determined by its habitat or by isolation. *C. macranthus* certainly shows a range of forms. Hooker wrote of the specimens Colenso sent from Hawke's Bay, "Leaf petioled… Upper sepal horizontal, lanceolate, acuminate, larger than the lip…."

These forms have no petiole and the dorsals are often shorter than the labellum.

Fig. 14 *Peter Tait 16 November: the ovary elongating*

Fig. 15 *Peter Tait 16 November: a reasonably typical C. macranthus.*

Notes

Mystery *Corybas* at Arthur's Pass

Bill Campbell

While returning to Christchurch from the 2023 tagalong, Max Hill and I decided to stop at the Bealey River Track at Arthur's Pass to stretch the legs. We crossed the river and walked a reasonable distance up the track on the other side, with a few orchids to be seen along the way. *Corybas vitreus* in full flower and *Pterostylis venosa* just finishing flowering were the highlights at that stage.

The return trip proved more productive, as we came across *P. venosa* in full flower just after re-crossing the river. I had not previously encountered this species in flower, so the camera was put to work. Not long before hitting the roadside carpark, we came across a small flowered *Corybas* under beech on the trackside. This was unlike anything I had seen before and the ball-shaped flower most closely resembled images I had in my mind of *C. sulcatus*. A number of photos were taken for further reference.

Following my return home I sent a photo to Carlos Lehnebach at Te Papa Tongarewa to get his opinion on what we had observed. Carlos responded by saying that it was not *C. sulcatus* but something similar to an entity he had previous seen west of Arthur's Pass.

A search of iNaturalist turned up a couple of similar looking observations, one from Otago and one from Canterbury. Both of these had been identified on that site as *C. sulcatus*, presumably because of the flower shape and general appearance.

At this stage it would appear that this is an undescribed entity, possibly restricted to the mid and lower South Island on the eastern side of the Southern Alps, although the observation made by Carlos was slightly west of the Alps. More observations and more information is needed to pin this one down, so I would encourage you to watch out for anything similar in mid to late November. Information regarding future observations of similar plants can be circulated via this journal and details should also be passed on to Carlos for his records.

Original Papers

Caladenia 'Bacon Creek' update

Mark Moorhouse

After several dry summers where numbers of located specimens had dropped to less than five for a season, and in two of those years a total failure to locate a flowering specimen, it is very heartening to be able to announce that at last the climate has shone a kindly ray of hope on *Caladenia* 'Bacon" Creek and at two known sites a total of fifteen flowering plants and a few suspects that had finished were located this year.

Much of this 2023 progress is thanks to the concern of the Deptartment of Conservation in locally scarce and threatened plant species. Having DOC ranger Laura Parks initiating some 'Official' interest and being fortunate enough to locate a good number of plants prompted this comment from Georgina Upson.

Photo: Laura Parks

'Laura, having been the first 'officialdom' to see them, can verify that we are not highly imaginative individuals and the plants ARE real, which, in itself, has immense value.' That was inspired by the fact that until a couple of years back when Georgina invited a local Botanical Society party to visit the Upson property, Georgina's family and yours truly were the only ones to have seen it in the flesh.

The plants, when healthy and growing in good sites, are distinctive enough to recognize without getting a glass out to inspect the two rows of calli down the mid-lobe of the labellum. Healthy plants are tall, robust and often two flowered. They are utterly distinct from all forms of

Caladenia lyallii, and even the poorest specimens, doing it a bit hard, are still 1.5 times the size of *Caladenia* 'red stem', which in general appearance is the nearest recognised *Caladenia* here in New Zealand. As Georgina once said, 'It's like a *C.* 'red stem' on steroids". Like the mis-named *C* 'red stem', it may have red or green stems or something in between, but the consistent feature is red-tipped trichomes, some stipitate, on the dorsal sepal. Plants that do have a red stem often also have a pale pink suffusion to the petals as well. Notably, red examples of *C.* 'red stem' can display the same characteristic.

Habitat for every example we located this year was open mānuka and kānuka, understoried with scattered crown ferns and patches of pesky *Lycopodium* which tend to smother everything temporarily. The criteria is dappled light, not full sun, the maturity of the scrub or lack of maturity, is of secondary importance, providing light factors are right, and sufficient shade allows the retention of some moisture in the substrate. In reality, it shares the liking for this habitat with *C. atradenia* and *C. minor* which have all but finished flowering when *C.* 'Bacon Creek' begins. *C. lyallii* in the area begins to flower a week or two earlier too, but is so numerous that flowering plants can be found over at least the whole month of November giving an overlap, and with *C.* 'Red stem' and *C. chlorostyla s.s.* that flower at the same time as *C.* 'Bacon Creek', beginning mid November. This is useful to know as it gives a time marker of when to start seriously searching for specimens.

Our search this year covered perhaps 15 acres of 'perfect' habitat and as much again of slightly less suitable terrain. Crunching numbers, that means its scattered distribution amounts to maybe one specimen per acre, and in that respect it is rather like *C. atradenia* which is more commonly found as scattered individual specimens and at best in groups of less than five.

Non flowering plants are virtually impossible to distinguish from the other smaller *Caladenia* spp. and there is still the hope that perhaps another 15-20 juve-

nile plants were also present and will keep the population going in the future. Having said that, even a population of 50 still makes it one of our rarest orchid taxa and I personally am thankful that at last, there is some beginnings being made to conserve it.

Perhaps some year Te Papa may develop a seed bank, or figure out how to grow the tricky *Caladenia* genus from seed and set about extending the range of *C.* 'Bacon Creek' to other 'perfect' sites.

Questions about it still remain unresolved. Is it an unnamed species? Is it a natural 4n form of *C.* 'red stem'? The latter seems to be a possibility, but then the issue arises regarding critical differences in morphology apart from the obvious one of size. ie. calli down the midlobe and lateral calli long, straight to arching cf. the flattened falcate laterals of *C* 'Red stem'. Simple DNA tests could prove or disprove the 4n concept and leave it clear to be described as a new species or relegated to a natural form [nudge! nudge!].

Over the 15-20 years we have been observing *C.* 'Bacon Creek' its habitat has been reduced by natural regeneration. Many seedling beech and rimu are progressing, so there is now some urgency for its study and preservation.

Thank you DOC, especially Shannel Courtney and Laura for caring.

Photo: Laura Parks

The Type locality Ian St George

Earina aestivalis Cheeseman, Muriwai

Life is short, and the art long, opportunity fleeting, experiment perilous and judgment difficult—Hippocrates

RH Matthews wrote to TF Cheeseman from Kaitaia on 21 January 1908, *I am posting a few specimens from Tauroa where my son and family, Carse and family, and myself have camped out for a fortnight, splendid weather and had a very pleasant time. We thought the Earina flowers unusually large so I enclose some….*

And again, on 19 February 1908,*The Earina is fairly plentiful in the several clumps of bush growing on trees, and is worthy of being called a variety. If all's well we intend to camp at Tauroa again in May.*

Cheeseman described *Earina aestivalis* eleven years later (1919. *Trans. NZ Inst* 51: 93–4).

Earina aestivalis Cheesem. n. sp.

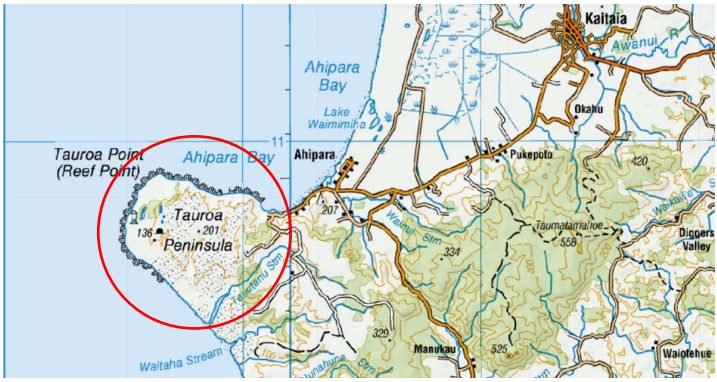
Affinis *E. mucronatae* a qua differt caulibus robustioribus firmioribusque, foliis latioribus et brevioribus, floribus majoribus, labello longiore, lobis lateralibus majoribus et acutioribus.

Hab.—North Island: Near Ahipara, *R. H. Matthews!* and at Kaiaka, *H. Carse!* both localities in Mongonui County. In forest at Muriwai, and near the mouth of the Waitakare River; *T. F. C.* Forest by the Waikanae River, Wellington; *B. H. Morison!*

Rhizome creeping, much as in *E. mucronata*. Stems numerous, 9–18 in. long, suberect or drooping, smooth, compressed, rather broader and stouter than in *E. mucronata*, and firmer. Leaves 3–6 in. long, ⅓–⅛ in. broad, flat, stiff, erect, narrow-linear, acute or acuminate; midrib and veins conspicuous on the under-surface, not so evident above. Panicle terminal, 2–5 in. long; branches or racemes 3–7, rarely more, 1–1½ in. long, 4–7-flowered; bracts short and broad, clasping, many-striate. Flowers larger than in *E. mucronata*, ½ in. diam. or more. Sepals and petals similar in size and shape, linear-oblong, subacute. Lip longer than in *E. mucronata*, and brighter in colour; lateral lobes wider and more acute. Column short, stouter.

I have been acquainted with this plant for several years, having gathered specimens at the mouth of the Waitakare River as far back as 1895. But the differences between it and *E. mucronata* are mainly comparative, and before describing it I was anxious to satisfy myself as to how far they were constant. Since then I have seen specimens gathered in several localities between the North Cape peninsula and Wellington; and as I find that the distinguishing characters—viz., stouter and stiffer habit, broader and more rigid leaves, larger flowers, longer lip with broader lateral lobes, and stouter column—are constant throughout, I cannot any longer refuse it distinction as a separate species. In addition to the above, there is the important fact that it flowers from the beginning of January to the first week in February, whereas the flowering period of *E. mucronata* is two months earlier at least, stretching from the first week in October to the middle or end of November. At Muriwai, a few miles to the north of the mouth of the Waitakare River, I observed it in full bloom on the 16th January, 1916; while typical *E. mucronata* growing in the vicinity had practically matured its capsules.

(Why did he take so long? Harry Carse sent some *E. aestivalis* to William Townson and wrote, *Earina species ined. This you will see is considerably larger than E. mucronata, a form of which Mr Cheeseman insisted for years that it was. At last he has decided to describe it as a n. sp.* Elsewhere Carse wrote, *Mr Cheeseman moves slowly.*)



Tauroa peninsula, Ahipara, where the Matthews and Carse families camped in the 1908 summer and found the plant Cheeseman later called *Earina aestivalis*.

Lucy Cranwell designated Cheeseman's own collection from Muriwai as the lectotype (AK3310): Matthews's and Carse's specimens are no longer in the Auckland Museum herbarium.

What Cheeseman said in that description is that this species differs only "comparatively" from *Earina mucronata,* in having stouter and stiffer habit, broader and more rigid leaves, larger flowers, longer lip with broader lateral lobes, and stouter column—and it flowers in summer (January to February) whereas *E. mucronata* flowers in spring (October to November).

But Dan Hatch was unconvinced and commented with customary third-person directness—

> The writer cannot accept Cheeseman's *E. aestivalis*. The type locality, Muriwai, contains both robust and slender forms which flower in the spring or summer or both, or not at all. Material examined from localities as far apart as the Waitakeres, New Plymouth, Westland, and Stewart Island could not be distinguished from *E. mucronata*, although flowering at times ranging from December to May (all these plants were from coastal associations). During 1945–47 he had opportunity to observe 2 plants of *E. mucronata* which had been brought in from Hunua on their original *Cyathea* trunks and established in the fernery at the Auckland Winter Gardens. The first plant flowered in September, 1946, and again in February, 1947. This was not merely a drawn-out flowering period, but two distinct bursts of activity with a completely flowerless period of several months in between. The second plant flowered in September, 1945, and not again until February, 1947, a flowerless period of 17 months. It then flowered again in October, 1947. It is considered that *E. aestivalis* is nothing more than an epharmone of *E. mucronata,* brought about by the more rigorous conditions of the coastal environment. The floral morphology in both is identical and the slightly darker labellum in the summer flowering form is certainly not of itself sufficient to warrant retaining the species.

Irwin had grown specimens of *E. mucronata* which had reverted to summer flowering (supporting Hatch's contention that the differences in flowering season, at least, should not separate them) and Moore (1970) also lumped the two. Years ago Brian Molloy showed me a range of *E. mucronata* of remarkably varying leaf and stem size he was growing in hanging baskets under his trees in Riccarton.

Eric Scanlen added "other notable differing characters" to Cheeseman's list: lemon leaf perfume, double length ovary, deflexed sepals, column doubling in length with maturity. Others have told us *E. mucronata* droops while *E. aestivalis* is upright.

Peter de Lange noted (under "Similar taxa"),

> *Earina mucronata* Lindl., from which *E. aestivalis* differs by its shorter stems, flaring and broader leaf-sheaths, and distinctly broader leaves, broad, prominently deeply depressed and channelled, midrib, larger oblong to oblong-ovoid dark purple spotting along the stem, larger and fewer flowers, generally longer column, and by its later flowering time (usually late summer, rather than spring to early summer). Some people maintain that *E. aestivalis* flowers are fragrant while *E. mucronata* are not. No clear distinction is evident.
>
> —de Lange, P.J. (2021): *Earina aestivalis* Fact Sheet. New Zealand Plant Conservation Network. https://www.nzpcn.org.nz/flora/species/earina-aestivalis/ (5 May 2021)

(My underlining). So there it is. Fragrance is subjective, drooping variable and the other differences are, as Cheeseman confessed, only comparative (too many words end in -er). There are no absolute points of difference.

I briefly considered a bit of research on *iNaturalist* data: map the flowering times of the many reports of the two identities and see if they really differ. But of course they will differ, for the flowering time is what, in most of the reporters' minds, separates them. Circular, circular….

Did Mr Cheeseman move too fast after all? I'm with Dan Hatch: frankly unconvinced of real structural differences between the two entities. But, as Hippocrates wrote, it aint easy.

Earina mucronata above the authors great great grandfathers grave in a cemetery in New Plymouth.

Earina aestivalis flowering at its type locality, Muriwai, on 9 January 2023. Photograph by John Rugis.

Upcoming Events

10-12 April 2024—PAIHIA TE TAITOKERAU, National Wetland Restoration Symposium

18 May 2024—SOUTHLAND, Botanical Society of Otago Field Trip to Slope Point and Environs

22 May 2024—International Day for Biological Diversity

5 June 2023—World Environment Day

July 2024—Registrations open for CATLINS conservation trip (Department of Conservation)

August 2024—CATLINS conservation trip to Te Rere Reserve and Otanomomo Scientific Reserve (Department of Conservation)

6-9 October 2024—WHANGĀREI, New Zealand Plant Conservation Network Conference.

25-29 November 2024—ROTORUA, New Zealand Ecological Society Conference

6-8 December 2024—IWITAHI Native Orchid Reserve Working Bee

Do you know about an upcoming event that the NZNOG may be interested in? Let me know by email: caralisa95@gmail.com

An exceptionally large Corybas leaf in Te Kauri Reserve, November 2023 (Alasdair Nicoll)

The inbox

Editor's top picks from recent iNaturalist observations

▼ *Pterostylis patens*

Prasophyllum hectorii ▲

Can you help this orchid research?

Do you have photos of any of the following species along with a date and location?

Acianthus sinclairii
Adenochilus gracilis
Aporostylis bifolia
Caladenia lyallii
Chiloglottis cornuta
Corybas acuminatus
Corybas cheesemanii
Corybas macranthus
Corybas oblongus
Dendrobium cunninghamii
Drymoanthus adversus
Earina autumnalis
Gastrodia cunninghamii
Gastrodia sesamoides
Orthoceras novae-zeelandiae
Pterostylis alobula
Pterostylis agathicola
Pterostylis brumalis
Pterostylis irsoniana
Pterostylis patens
Pterostylis trullifolia
Thelymitra carnea
Thelymitra cyanea
Thelymitra nervosa
Waireia stenopetala

Joe Dillon is a Masters student at Victoria University of Wellington and is looking into the responses of our native orchids to changes in climate over the last 164 years. While you may not be quite old enough to have records dating back that far you can still help his research by:

- Joining Joe's project on iNaturalist here, and adding your observations. Make sure you select "trust" when you join the project.
- Email Joe directly with your photos and the associated locations and dates, or any questions you may have. His email is: wellyshungrybotanist@gmail.com

Any help is greatly appreciated!

JDi