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From the Chair: Gael Donaghy



Kia ora tatou

I'm going to start with the end in mind!

Tucked away on p30 of this issue is something that should be shouted from the rooftops of Orchidland – a very generous offer from an

extremely knowledgeable, botanically experienced young person with a long family connection with NZNOG has been accepted and she will be co-editing the journal. I am so grateful to her for being willing to take our journal forward.

This issue contains several articles that members have written based on their observations. The first article on the Kaimaumau swamp will be of particular interest to those of us who visited this area when Bill organised the field days associated with the AGM in 2020. Fires can damage habitats but they can also reveal the species that are present and also create new habitats for orchids to grow. This is particularly true in Australia, where recently burnt areas are good places to look for orchids (and to get your clothes covered in charcoal!) As many of our orchids have evolved from Australian orchids blown in on the prevailing westerly winds, it is not surprising to find they are growing in such areas. This article also shows the value of revisiting an area over a number of years as there will be new arrivals, and some species seem to peter out as the habitat naturally (or with the help of people) changes over time.

John Rugis's article on *Thelymitra longifolia* reminds me how harsh conditions can

change how an orchid looks. It explains the leaf flat to the ground, but I'm not sure about

how a plant with a normally white flower can throw up varieties with blue pigments? I have observed *Thelymitra* leaves on cliffs in Golden Bay and the Coromandel Peninsula, and some of them grow in a spiral arrangement, as seen in *T. matthewsii*.

The article on *Thelymitra cyanopicata* by Kevin Matthews shows we have to be open to finding new species. Orchid seeds are tiny and it is said we live in a sea of them. As they need to find a compatible mycorrhizum to feed them when they land on the ground, it is hit or miss (and mainly miss I guess), but a miniscule percentage are lucky

and survive. They are called "vagrants" by the botanists until it becomes obvious they have settled in for a duration. This is a beautiful addition to our orchid flora if it does establish itself.

My challenge to all members is to observe, ask questions of others, and above all, write notes or articles and send in photos for our journal.

Finally our events this year have been ably covered by Mike and

Mark in this issue, but I would like to comment on the value of going orchid hunting in a group. I know some new members wonder why we can't easily agree on which species any particular orchid belongs to – it is in the discussion and reflection on why it is species X and not species Y or Z that the learning for all of us occurs. And the tagalong was the first time I had seen enough of the pink *Caladenias* to be reasonably confident of their identification (thanks to Georgina Upson's careful 2020 study, see Journal 155 p13). I have come home from the tagalong wanting to look more carefully at some of my photo identifications from previous visits to the South Island.

We all keep learning!



Thelymitra ixioides on the Abel Tasman NP (from first day of tagalong)

Original papers

The native orchids of Kaimaumu Wetland

By Bill Campbell.

Since the devastating fire in December/January that ravaged over 2,400 hectares of the Kaimaumu/Motutangi wetland vegetation, I have visited the Kaimaumu wetland on five occasions to ascertain what impact the fire may have had on native orchid species. This article summarises observations made on those visits and in the years prior.

A number of native orchid species have been observed flowering in the burnt over areas, including one or two which may not have been observed in the wetland complex previously. It is likely that these new observations are due in no small part to the loss of the dense low vegetation, now providing easier access and making it much easier to see low growing species.

Threatened/At Risk orchids observed since the fire include *Caladenia minor* (Data Deficient), *Microtis arenaria* (Data Deficient), *Pterostylis puberula* (Threatened-Nationally Vulnerable), *Thelymitra ixioides* (At Risk-Naturally Uncommon), *Thelymitra* “rough leaf” (At Risk-Naturally Uncommon), *Cryptostylis subulata* (Coloniser) and *Thelymitra malvina* (Coloniser).



▲ *Pterostylis puberula*, 22 September 2022.

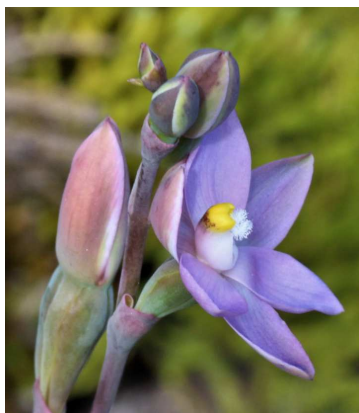
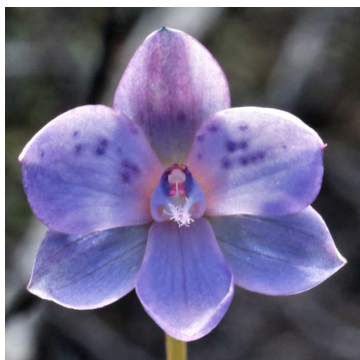
◀ *Caladenia minor*, 11 October 2022



It would appear that *Pterostylis puberula* had not been recorded previously at Kaimaumu but one colony of 50+ plants was observed during my first post-fire visit in July. A number of the plants subsequently flowered and are currently setting seed. Whether this species was actively growing prior to the fire or its appearance was triggered by the fire is unknown, as the site where it is growing had not been previously looked at by me.

Caladenia minor and *Microtis arenaria* are both widespread but generally in small numbers, although one colony of *C. minor* consisted of 45+ plants. Only one flowering plant of *Thelymitra ixioides* was observed (in an unburnt area), but *Thelymitra* “rough leaf” and *Thelymitra malvina* are both reasonably common on higher ground. *Cryptostylis subulata* is also reasonably common, although localised.

Three other threatened species, *Calochilus herbaceus* (Threatened – Nationally Critical), *Pterostylis tasmanica* (Threatened – Nationally Vulnerable) and *Thelymitra* “Ahipara” (Threatened – Nationally Critical), known to be present in small numbers and observed on occasion pre-fire, have not been observed with certainty since the fire.



They are elusive and cryptic, however, and it is expected they will reappear at some stage.

I am planning to make a further visit to the wetland complex in mid-November 2022 and at least one visit in December. A further visit may be made early in the new year to look specifically for *Spiranthes australis*, as I have only observed one plant of this species there in the past.

It would be fair to say that there is no evidence at this stage to suggest that the fire has had a negative impact on native orchid species. Rather it may have encouraged the re-emergence of some species. Only time will confirm whether these species are able to persist in the long term. Observations made at other fire sites in the past suggest that orchid numbers will spike in the year or two after a fire and then start declining again over the next few years.

The complete list of orchid species I have observed at Kaimaumu since I first began visting in November 2014 is as follows:

Acianthus sinclairii (uncommon), *Caladenia alata* (uncommon), *Caladenia minor* (rare), *Calochilus herbaceus* (rare), *Corybas rotundifolius* (common), *Cryptostylis subulata* (locally common), *Genoplesium pumilum* (uncommon), *Microtis arenaria* (rare), *Microtis parviflora* (uncommon), *Microtis unifolia* (locally common), *Prasophyllum* “patentifolium” (rare), *Pterostylis puberula* (rare), *Pterostylis tasmanica* (rare), *Spiranthes australis* (rare), *Thelymitra aemula* (locally common), *Thelymitra carnea* (common), *Thelymitra ixioides* (rare), *Thelymitra longifolia* (locally common), *Thelymitra malvina* (locally common), *Thelymitra pauciflora* (uncommon), *Thelymitra* “Ahipara” (rare), *Thelymitra* “darkie” (rare), *Thelymitra* “rough leaf” (common), *Thelymitra pulchella* (common).

There are historical records of other orchid species being present, mostly from the Motutangi portion of the wetland complex. I have not yet been able to access that portion of the wetland, but hope to be able to in 2023. I have no doubt there are more interesting finds to be made, particularly in the area formerly known as the “orchid block”.

All photos Bill Campbell.

Above: *Thelymitra ixioides* 11 October 2022.

Below: *Thelymitra* “rough leaf” showing the distinctive column, 11 October 2022.

Thelymitra on Muriwai cliffs

By John Rugis.

In early October 2022, local Muriwai resident Michael (Mike) Fitchett discovered what he suspected were native orchid plants, not yet in flower, on private coastal cliff-top land. Mike has access to coastal cliffs and bays as part of his Muriwai Environmental Action Community Trust (MEACT) Penguin Project work. Later that month I accompanied Mike to the site and identified the plants, some now in flower, as *Thelymitra longifolia*.

The site is approximately 35 meters by 12 meters in extent, on sloping loose sandstone, down from the cliff top overlooking the Tasman sea. There are approximately 40-45 small clumps of mature orchid plants on the site with anywhere from 2 to 20 individuals in each clump. There are also dozens of single juvenile specimens scattered throughout the site.

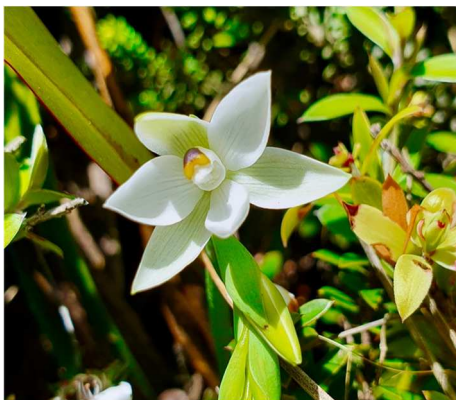
Many of the orchids are contorted by the rather harsh coastal conditions. However, the general impression is that, in spite of the harsh conditions, the population is stable and, at least in that sense, healthy.

Interestingly, there are a number of different *T. longifolia* variants present on this single site. Multiple site visits on selected sunny days (so that the flowers were open!) resulted in the photographs that follow.

Mike and I plan to keep an eye on this site and to explore and document our local region further.



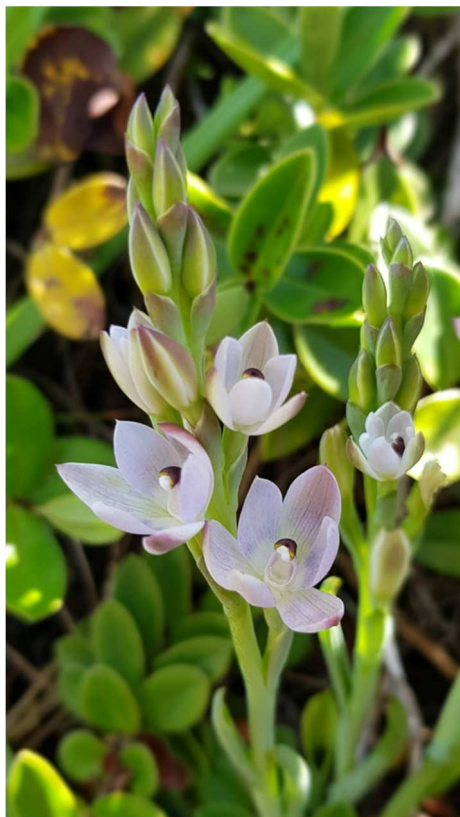
▲ Muriwai cliffs: *Thelymitra longifolia* contorted by harsh coastal conditions.



▲ Muriwai cliffs: *Thelymitra longifolia*.

▼ *Thelymitra longifolia*, Muriwai purple halo.





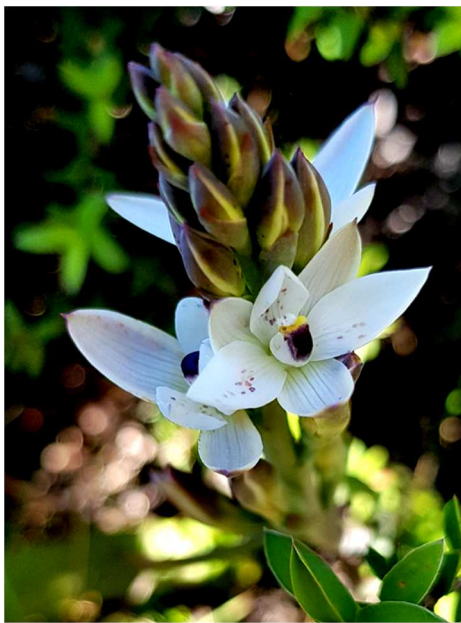
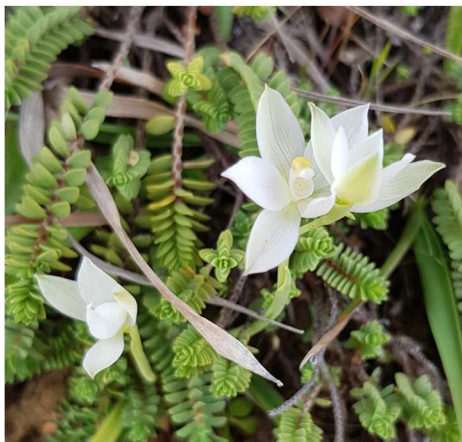
▲ *Thelymitra longifolia*,
Muriwai purple stripes.

▼ *Thelymitra longifolia*, Muriwai white.



▲ *Thelymitra longifolia*, Muriwai purple stripes (with deep cleft).

▼ *Thelymitra longifolia*, Muriwai purple spots.



Thelymitra cyanapicata—Blue Top Sun-orchid, Dark-tipped Sun-orchid—a new NZ record. By Kevin Matthews.

This is, I think, *Thelymitra cyanapicata*, a small colony at Houhora; the flowers are not fragrant unlike their close by violet perfumed *T. aff pauciflora* which are identical to *Thelymitra arenaria*. Critically endangered in Australia and as far as I'm aware never been seen before in NZ. The split in the p.a is somewhat variable.

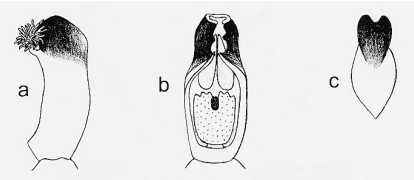
I photographed these on 10 November 2022 in full sun: humidity high (found it yesterday late afternoon). There is nothing else that looks remotely like it with dark top and light purple/blue column. When viewed from the top the cilia look spherical, leaf is variable and similar to other *Thelymitra* aff. *pauciflora* at the site, dark base, leaf approx. $\frac{2}{3}$ height of scape, in fact if you don't look at the flowers it's almost impossible to tell them



apart. Has more flowers than Jeanes's description of 3, having a max of 9 on one scape in the colony. Looked at a number of pix on web, the flowers are within the variation. I'm guessing the arrival was from one seed and the colony is descended from this. The best I can do is add an aff. but it is most likely the Aussie *T. cyanapicata* because of its "sudden" appearance.

[For more on *T. cyanapicata* in Australia, see NZNOJ 107 February 2008 pp22 & 25].

Jeanes described *T. cyanopicata* in his revision of the *Thelymitra pauciflora* complex in Australia (*Muelleria* 19: 19–79, 2004). His sketch of the column is at right—*Ed.*



Thelymitra cyanopicata
Photograph by Kevin Matthews 10 November 2022.

The 2022 field days

By Mike Lusk

The forecast in the week before the AGM was for rain but with a bit of improvisation the weekend turned out to be a great success, thanks to Gael and Graeme and the good folk of the Waihi Beach RSA where we dined well, some of us on three successive nights.

Saturday was unremittingly wet and orchid hunting was out of the question as tracks would certainly have been wet and small streams were certainly in some degree of flood. Sitting in the rain on the wrong side of a stream did not appeal and being washed away trying to cross rather less so. Gael was able to hire the excellent clubrooms of the local bowling club, most conveniently placed immediately below the RSA dining room and there we were treated to orchid travelogues from Alasdair and Gael and talks by Carlos and his summer student Hayden Jones. The last is looking into the confusion that is *Thelymitra longifolia* and he will be asking for the help of NZNOG members. Between talks we were able to see the rising and occasional falling of the flood on the bowling green, the slight undulations being exposed when the level fell.



Sunday saw us at the Whenuakite SR where there is an excellent track system partly amongst kauri, some of which showed symptoms of the nasty disease that is killing many trees.

We explored and found a good range of orchids, some in flower. The list made at the time is: *Acianthus sinclairii*, *Bulbophyllum pygmaeum*, *Caladenia* sp., *Corybas oblongus*, *Cyrtostylis oblonga*, *Dendrobium*

cunninghamii, *Drymoanthus adversus*, *Earina autumnalis*, *Earina* sp., *Pterostylis agathicola*, *Pterostylis alobula*, *Pterostylis banksii*, *Pterostylis brumalis*, *Pterostylis trullifolia*, *Orthoceras novae-zelandiae*, *Thelymitra longifolia* (strap leaf), *Thelymitra* sp.

On the way home Bill and I stopped close to a likely stream and found a colony of *Corybas* beside a small waterfall. All but one of the flowers were wrecked by the flood but this one was worth a pic.

Initial thought was that it was *Corybas* 'Kaimai' but Gael (and Graeme) point out some pretty significant differences. It looks closer to one they have found near Paeroa. The rain came back on Monday and we went our various ways well pleased that we had made the best of a tricky situation.



The Tagalong Tour, Nelson Nov. '22

By Mike Lusk

The Tag Along system again worked well, with participants finding their own accommodation and food, apart from a few shared dinners. Local knowledge helped with sites to stay and explore. A core of people stayed the distance with others coming and going. It was particularly pleasing to see some unfamiliar faces and we hope they will come on other trips. Their delight, visible and expressed, gave pleasure to the old lags. The weather was fine apart from rain on one night.

The area is rich in habitats and species, some of the latter unusual or rare so they were naturally targets. We saw *Pterostylis puberula* and *P. tasmanica* in the extreme habitat of impoverished windswept soils at the base of Farewell Spit, and at a couple of places *Thelymitra brevifolia* close enough to flowering for column examination. At Georgina's block a small colony of *Corybas* aff. *sulcatus* lived in beech forest and in manuka higher up was *Caladenia atradenia* with an unusual arrangement of calli on the disc. *Caladenia* "Bacon Creek" was having a year off and in spite of some sloshing about in wetlands *Pterostylis micromega* eluded us.

Cameras of many shapes and sizes intruded into many an orchid's personal space and I was most impressed by the quality of pix produced by phone and iPad cameras. Hopefully many of these pix will appear on *iNat* and via that on the NZNOG website.

The tag along is designed to reduce the workload of the organisers and no doubt it does to some extent. But there is no denying the need for planning and communication before and during the event. Gael and Mark had put a great deal of thought in the planning and their on the spot expertise, supplemented by that of Graeme and Georgina was fully appreciated.

Retired headmistresses may drop walking sticks here and there but their mana (? woman) and ability to impose subtle command remain priceless assets.

By Mark Moorhouse

As co-convenor, I wish first to thank heartily those who expended their time and money to accompany me for our NZNOG annual tagalong. You were all wonderful company, our pooled knowledge was shared and much was gained by us all, not to belittle the very enjoyable and important aspect of social interaction and making new acquaintances and friends with orchid interests.

One of the greatest difficulties of arranging such an event is predicting the flowering season months before a visit. The Nelson and Tasman Districts are notoriously difficult to predict and for that reason numerous reconnoitres prior to people arriving were essential, and long range forecasts consulted. Sadly, it was too late to change booking dates by the time we ascertained that two unexpected cold snaps had set the flowering times back a fortnight for some intended visit sites. So with the help of two early arrivals, my co-convenors, Graeme and Gael, who had enjoyed a prior visit to Karamaea with Nelson Bot. Soc. we frantically assessed several local Nelson sites and haggled almost on a daily basis, over which sites our visitors could best enjoy a range of species. The Hackett-Miner Rivers in Nelson's Eastern Ranges showed potential. It was agreed that coastal sites were most advanced and that a predicted nasty wet front might interfere with a visit to the already booked subalpine Cobb Valley site. Nelson does not have numerous local coastal sites so Abel Tasman N.P. was an obvious choice to set us off on the right foot on the first day. Our Tauranga visitors, Brett and Hui were pleased to see *Pterostylis irsoniana* in flower as that species is not in their local area. We encountered it in several other places in the ensuing days with typical variations in colour. We passed by the *P. alveata* site on the Marahau coast but could not find any remains of the Feb.-May flowering plants. However we were rewarded with the early flowering *Thelymitra ixioides*, [Fig.1], numerous other winter spp in various stages of their life-cycle, and various *Pterostylis* spp. including the "Coastal" form of *P. banksii* with its much

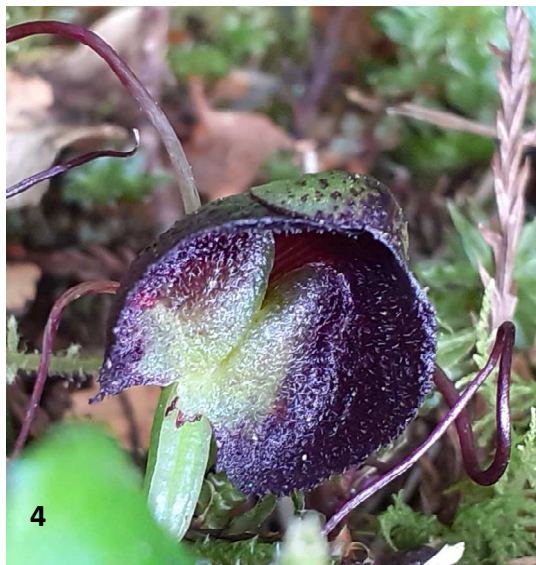
smaller flower, weaker plant and lax leaves. A quick visit to the Split Apple Rock track failed to turn up a white lipped form of *Caladenia* we had targeted there [Fig.2] but rewarded us with *Cyrtostylis* with oblong leaves and some good reason for discussion, not to mention a nice view of one of Nelson's famous attractions. No! Not the attractive young ladies braving the cool water, the huge split granite rock!

Day two arrangements were last minute. The morning looked showery in the Hackett, our intended site, so a last minute choice of the Riwaka resurgence and Brooklyn Reserve were chosen, a place local members Don and Beryce had never visited.. From my point of view, that proved a good choice, at Brooklyn we saw a new site for *Corybas cheesemanii* [Fig.3] and plenty of *Caladenia atradenia*, the target spp. However there were still some *Cyrtostylis* in flower, also with very oblong leaves amongst those with rotund ones. Hmmm! At the resurgence a new site for *Caladenia variegata* and some agreed an identity of *Corybas obscurus* [or is it s.s.?] at an old monitoring site of mine by the river flowing out of the mountain. The flowers were getting to season's end and notably covered in retrorse hairs internally [Fig.4]

As the forecast had threatened us with rain the following day when we were due to pass the site to travel to Cobb, a spur of the moment decision saw us driving 11 kms up the winding Takaka Hill route to Hawkes lookout to see *Pterostylis irwinii* [Fig.5]. That capped off the day very nicely as we found a number in full flower and the very dark coloured *Corybas macranthus* so typical of Takaka Hill karst country.

Day three: It became evident that the predicted nasty front was crossing Te-Wai-Pounamu south of us and we had fluked a miss from most of its effects. An attempt to find *Pterostylis oliveri* in full flower at the top of the Takaka Hill proved to be too optimistic due to elevation and the effects of those earlier cold snaps. It did not augur particularly well for our Cobb visit and resigned me to expecting little on Cobb ridge but hopeful for the earlier flowering *Corybas hatchii* by the reservoir. That proved to be the case, but came with a huge bonus of someone spotting a small colony of *Corybas confusus* [the old *Corybas* "Round leaf"] in flower on the start of the Lake Sylvester Track. That is a new record for the Cobb, the closest being the Mt Arthur tablelands.





The colony with its round leaved non-flowering plants was handily identifiable, because *C. obscurus* was also found just a few m. away with its very trilobate nonflowering plant leaves for a comparison. The *C. confusus* site was typically wet, yet another identifying marker from the *C. obscurus* nearby on a drier bank. We located many *Corybas hatchii* [Fig.6] in an amazing range of colours including that of *C. iridescens* while there in the Cobb at the Bullock Track site we visited. Debate again proved helpful and some consensus reached that the dark rich wine red specimens were a colour variation of *C. hatchii* rather than *C. iridescens*. Later a brief walk up Myttons track proved disappointing and the geologists in our group opted late in the day to investigate Trilobite Rock with mixed success.

Day four was perhaps our least successful. We walked up to the Asbestos Mine to discover we were far too early for the *Thelymitra* spp. there before travelling on towards Collingwood. Attempting the Pupū Powerhouse walkway up to the Head Stocks proved less fruitful than in past years too and perhaps reflects the generally poor season nationwide. With several hours of daylight left and only a relatively short drive to digs the party had two choices. Milnethorpe reserve or Waikoropupū Springs. Given that my passengers had not seen the Springs, the largest freshwater ones in the Southern Hemisphere, we opted for the latter and were rewarded with *Pterostylis cardostigma* and *Caladenia chlorostyla* both flowering. Strange to say, the other party found the same at Milnethorpe too, so our oneupmanship was somewhat dented.

By this stage we had reached our full quota of 11 attenders too, Max having joined us from North Canterbury after a very long drive two days before and Lane had found time to join us from Seddon, after a similar very early start

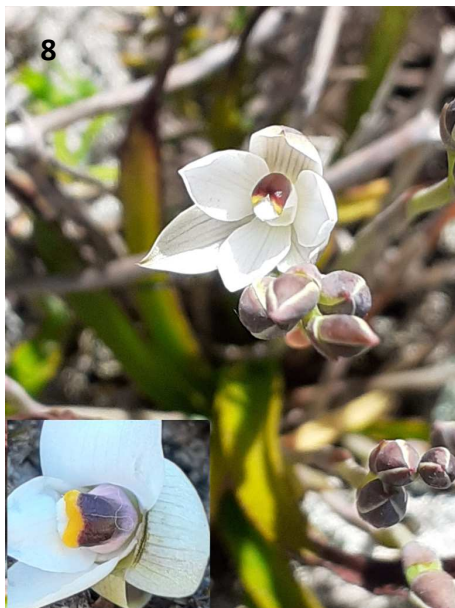
and the circuitous route to Nelson via Nelson Lakes due to flood damage repairs on the Whangamoas. We enjoyed both their input and company.

Day 5 dawned to what Golden Bay visitors might consider a miracle. Fine, but with no persistent westerly, in fact calm. An earlyish start saw us all keen to visit the Old Man Range at the base of Farewell Spit. We had heard feedback from local DOC staff that both *Pterostylis puberula* and *P. tasmanica* were hanging on to their flowers only a few days before. I must say it took a bit of scrambly searching, but we did find both. Thanks to Lane a specimen of *P. tasmanica* which had just done the day before but quite recognizable was finally turned up, then that yell of “Bingo” as a single still fresh *P. puberula* [Fig.7] was found in one of its usual haunts on the fringe of an open low scrubby area. Two different columned *Thelymitra longifolia* [L1 & A3 Ref Journal 166 p13 Fig.4] [Fig.8] in flower, and a number of other spp. had everyone leaving with some satisfaction for the other site intended for the day. Mangarakau Swamp Conservation Area, a privately cared for site, very special in my eyes as the only site for *Spiranthes* in Nelson Province [Fig.9] and only one of two sites for *Pterostylis micromega* in Nelson Province. This year it did not flower in the known sites, much to my chagrin, but that is life. *P. foliata* did though and a nice colony was located on the Knuckle Hill near the site we had seen *P. micromega* a few years before.

A nice social evening meal was enjoyed by the remaining group at the Collingwood Tavern that evening. These are valuable Tagalong times when people can chill, discuss finds, share thoughts and cement friendships.

Day 6: By this time Lane, Max, Trevor and Shelley had departed due to work or travel commitments, and the rest of us were faced with a long day, having hung back to the latest possible moment to attempt to find *Caladenia* “Bacon Creek” in flower. Starting from Collingwood, travel included destinations as varied as Marahau, St Arnaud, Moutere and Nelson City that night, with an orchid site 80 kms or more from all. We touched bases at Tapawera before proceeding further.

Georgina Upson joined us there, as it was her





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property [in the Western Ranges Wop-Wops] we were to visit. We spotted *Corybas orbiculatus* and *C. macranthus* in full flower at the first creek crossing, a good start. Numerous examples of the South Island diminutive form of *Pterostylis graminea* [Fig.10] kept cameras clicking. Unfortunately, even delaying as long as we could, we were either too early for our target species, *Caladenia* “Bacon Creek” or it hadn’t shown this season, but Mike’s list of 22 species at that site shows how amazingly rich Lawrence & Georgina Upson’s property is in orchids. A total of more than 50 spp. have been found there in an area of about 70 hectares over the years, possibly NZ’s richest known private site.

Nelson province is orchid rich, for which I am grateful as an orchidomaniac aka orchidophile. We missed a few of our target species. All the more reason to come again.



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Thank you to everyone who tagged along. Please [anyone] contact me [memopob@yahoo.com.au] when in my area and visiting with a view to seeing orchids.

The inbox



A late but profuse flowering of *Corybas rotundifolius* at Kaimaumau ▲; photograph by Bill Campbell who surmises the recent fires there may have stimulated the orchid.



Alasdair Nicoll posted these photos of a very red *Corybas* to *iNaturalist* ▲: found at Waitomo on 7 September. Probably a colour form of *Corybas trilobus* s.s.

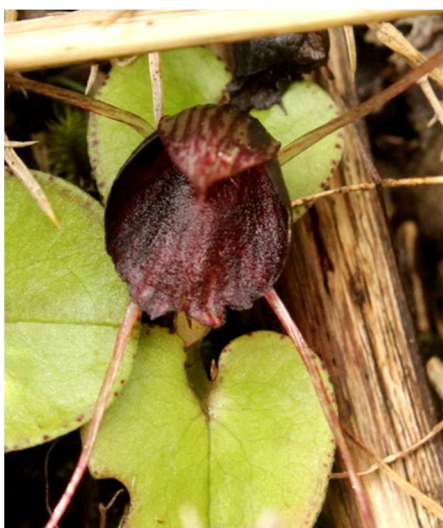


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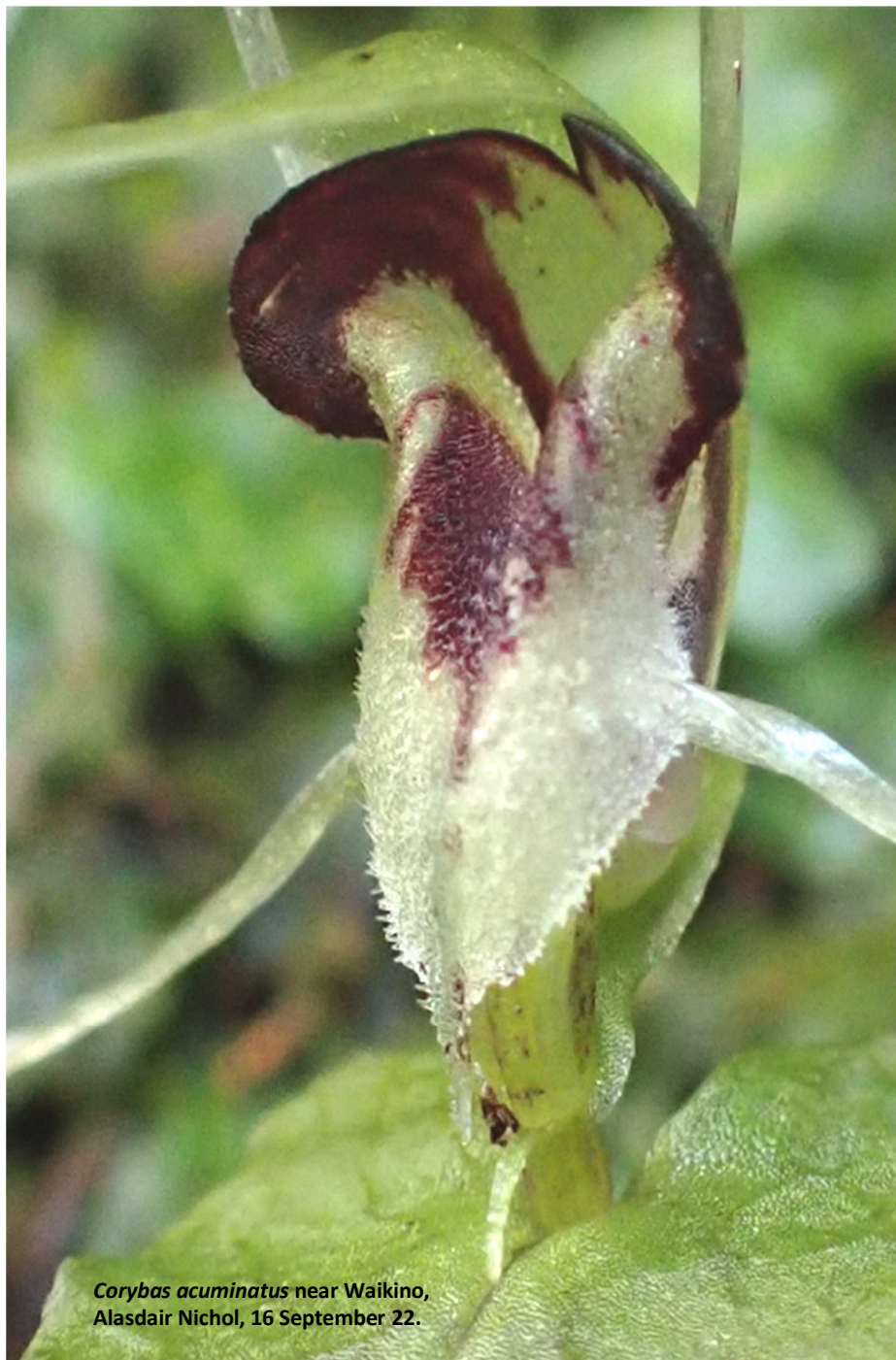


▲ ▲ Mike Lusk has been watching a colony of *Corybas iridescens* annually for many years: “Most years the flowers are the usual dark colour but this year the leaves are fewer and the flowers far fewer. The latter are notably pale too. I wonder if the pale form simply reflects a less than ideal flowering year?”

Below is a Pat Enright’s 4 October 2022 photograph of a very dark *C. iridescens* from the equally wet Remutaka ▼



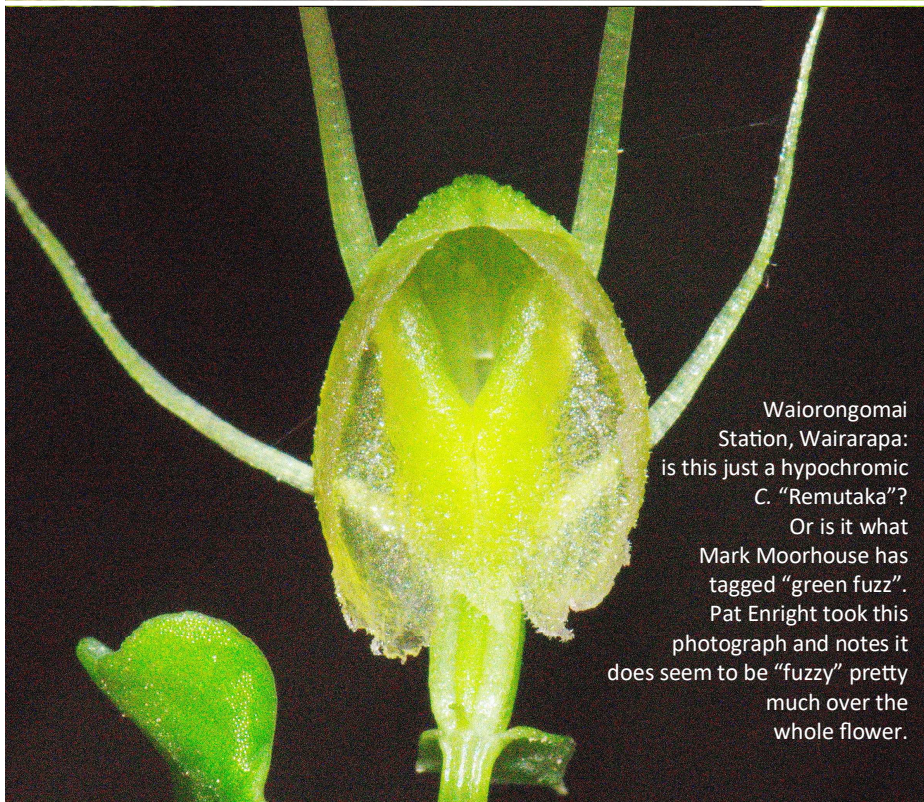
Pat Enright’s little finger, showing how small *Corybas dienemus* is: late September.



***Corybas acuminatus* near Waikino,
Alasdair Nichol, 16 September 22.**



A fungus gnat rests on a
Corybas "Remutaka" leaf.
Photo Pat Enright 17 Sep.



Waiorongomai
Station, Wairarapa:
is this just a hypochromic
C. "Remutaka"?
Or is it what
Mark Moorhouse has
tagged "green fuzz".
Pat Enright took this
photograph and notes it
does seem to be "fuzzy" pretty
much over the
whole flower.

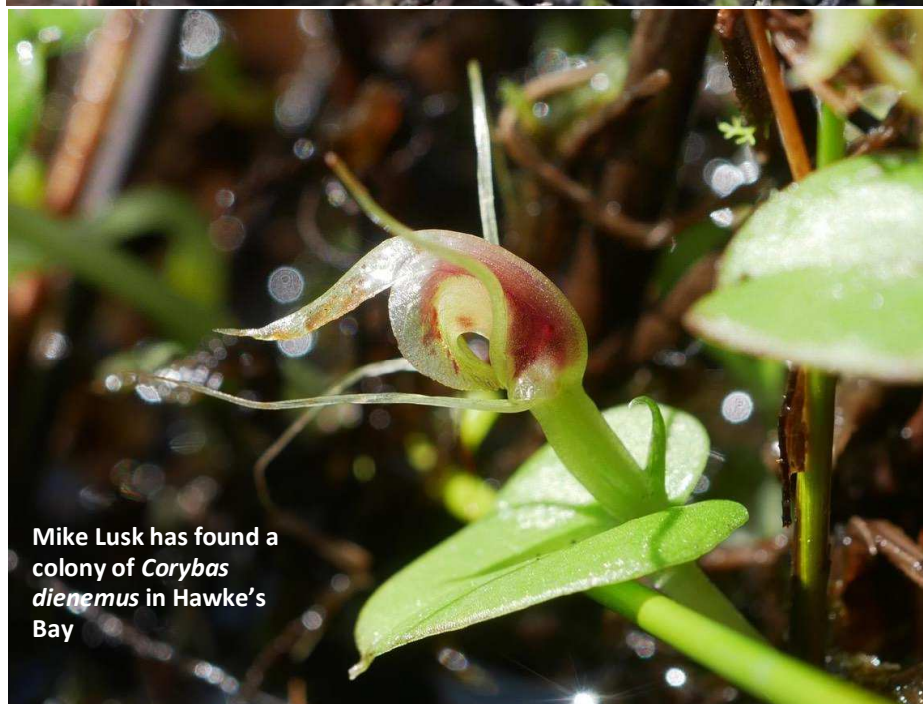


A perfect pair of photographs of *Pterostylis tasmanica* growing near Collingwood, photographed by gnapp in October 2022 and posted to *iNaturalist*.





A hypochromic *Pterostylis venosa* flower,
Denniston , 18Sep22. Nikau44, 1Naturalist.



Mike Lusk has found a
colony of *Corybas
dienemus* in Hawke's
Bay



An interesting *Drymoanthus adversus* apparently lacking anthocyanin, so flowers green with no red markings. Rhonda Billington 4 Oct. 22, Eastbourne, *iNaturalist*.



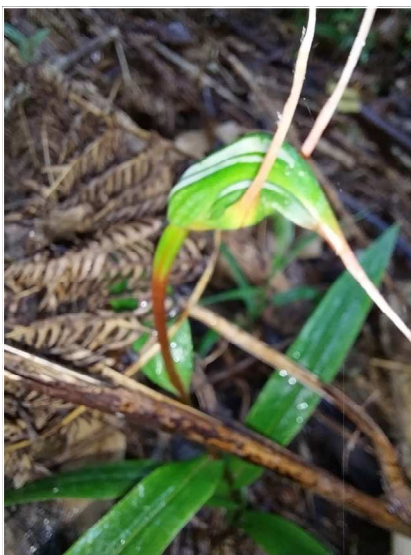
On 28 October Hayden Jones found *Thelymitra pauciflora* “near Katikati, this is the same location as the ‘Orange-Top’ photo I submitted to the journal this time last year. Just yesterday the conditions were finally agreeable enough for them to start opening their flowers and I noticed something quite interesting... two of the three plants had a strong scent – my best description would be similar to roses.

“I’m curious if you know of any other records of this species being scented.”

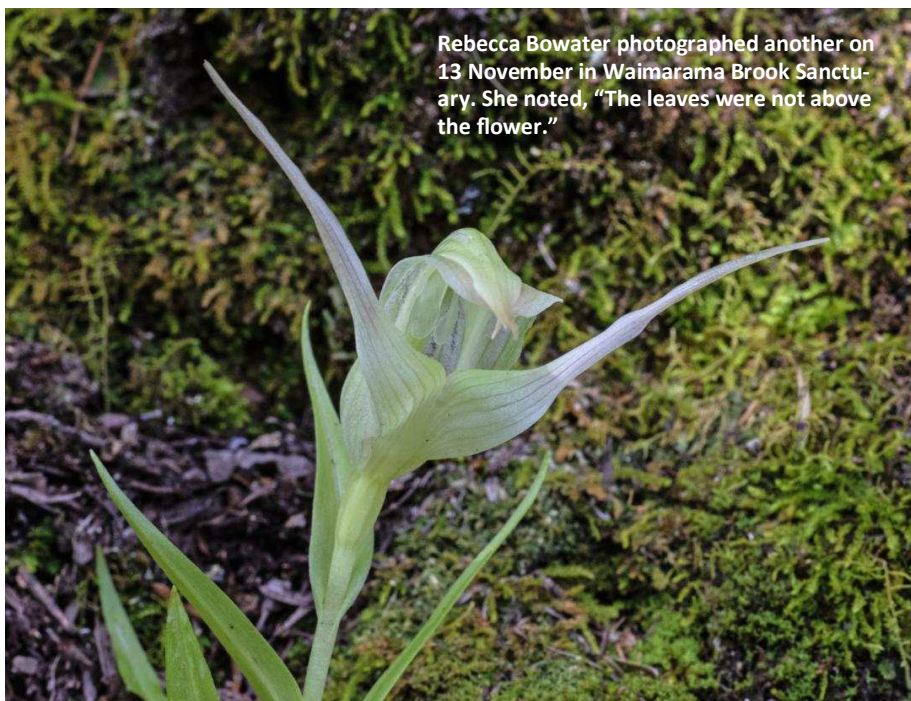
Please email him: haydenrjones@xtra.co.nz.



Gaylene Harrison photographed these – Bay of Islands, 22 October – and posted to the *Facebook* site. Probably a hypochromic *Pterostylis banksii*. These hypochromic plants, short on chlorophyll (narrow leaves too) must rely to a greater extent than usual on mycorrhizal fungi for nutrition.



▲ Another hypochromic *Pterostylis banksii*, this one also showing the common “trident” deformity (petals not zipped to dorsal sepal), posted to *iNaturalist* by Tim Quinnell: Te Aroha, 30 October. Note also the tiny leaves. A “normal” *P. banksii* from Te Aroha at right.

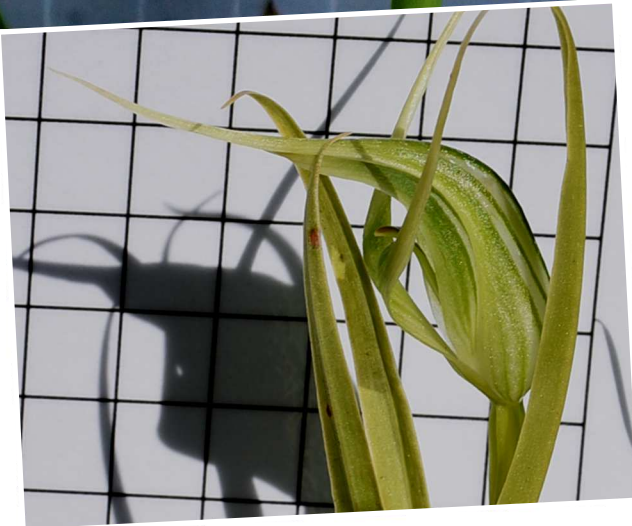




1cm gridlines

This is to demonstrate the use of 1cm gridlines as close background to orchid photographs, enabling easy size comparisons once you align the grids in the two photos.

The upper shot is a typical *Pterostylis banksii* near Waitawheta by Alasdair Nicholl, the lower is what I think may be *P. emarginata* Colenso from Airlie road, Plimmerton: a consistently smaller plant, bronze-green, narrow leaves, emarginate labellum tip – but otherwise looking pretty similar and flowering at the same time.



Most of those characters can be seen in some colonies of typical *P. banksii*, so it is fair to suggest this is just habitat effect, though the consistency of the Airlie road plants impresses me.

I think the grid will be useful particularly for *Pterostylis*, where shapes can be similar (eg *P. areolata* and *P. subsimilis*) but size different. Alasdair suggests taking a wire tent peg and a clothes peg facilitates the photography.

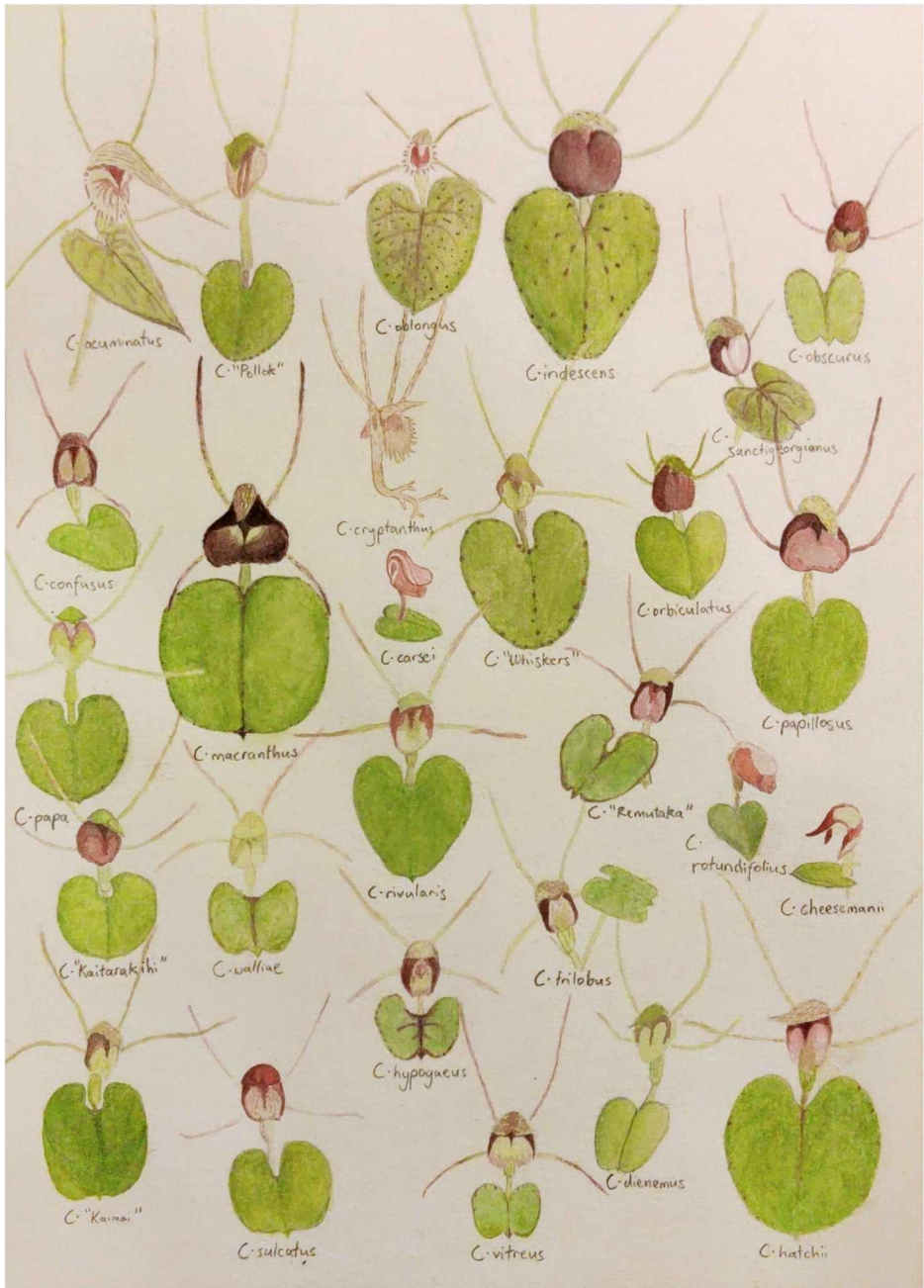


A warning for NZ orchid lovers: a wallaby having *Caladenia latifolia* for lunch. WANOSCG Bulletin Nov '22.

<https://nossa.org.au/orchid-topics/australian-orchid-books/> is a remarkable site giving free access to a number of important publications on Australasian orchids.



On the Wainuiomata Ridge Track on 8 November *Pterostylis cardiostigma* was plentiful and robustly 30cm tall (and sporting an unusually prominent synsepalum). On the other hand *P. banksii* was stunted at 10cm to the arch of the dorsal sepal, with small grassy leaves (compare the sizes against the aligned grids). Also present: *Thelymitra longifolia* buds and flower, *T. colensoi* buds and fruit, *Earina mucronata* flowering profusely on stiffly upright as well as laxly drooping stems, robust *Microtis unifolia* with 10mm thick stems, *Drymoanthus flavus* flowers just spent.



The artist of this beautiful and extraordinary work is Joe Dillon, who says, "Thanks to Christopher Stephens and Pat Enright for kindly allowing me to paint their photos. For anything they didn't have, these are largely based on other open source photos, with most details coming from species descriptions."

Upcoming events

Environmental Defence Society Conference 22–24 March 2023

Tāmaki Makaurau | Auckland <https://tcc.eventsair.com/eds22/>

While not strictly or specifically about orchids, the protection of the environment is a key component of preserving native orchid populations in Aotearoa. With so many changes taking place that impact on environmental protection this conference will surely be thought provoking and will bring together many people with the common goal of protecting the special places, fauna and flora within Aotearoa.

International Day for Biological Diversity 22 May 2023

Arbor Day 5 June 2023 <https://www.arborday.org/>

A day to plant, nurture and celebrate trees.

World Environment Day 5 June 2023

New Zealand Plant Protection Society Conference 8–10 August 2023

Rotorua <https://nzpps.org/events/nzpps-conference-2023/>

Volunteering – the Rotorua Racecourse hunt



Why were people walking close together, in hi-vis jackets, staring at the ground?

Yes it was the annual *Calochilus robertsonii* survey, undertaken by DOC staff, a Tier 1 monitoring team, and volunteers. This orchid is found in only a couple of places in the Rotorua Ecological District, and there has been a good population in an area of very stunted manuka. A recent survey found soil temperatures may be higher than general in these areas.

We found a total of 525 plants, down from 1470 in 2021, and the lowest number in about 16 years. In recent years numbers have all been 1000+.

Although this is a very disturbed habitat (ie it is subject to mowing), I speculate that the lower numbers follow the general trend I have seen in the Bay of Plenty and North West Nelson this year. Known patches of orchids have had fewer leaves, and a lot fewer flowers than normally seen. We saw evidence of plants with big leaves that had come up this year, but had been killed, maybe by a late frost that hit in October.

It is great to know DOC are involved the conservation of orchids, and that they invite interested members of the public to help with this important work. It was a good opportunity to talk about orchids in the wider botanical community context.

—Gael Donaghy.

Editorial—Ian St George

1. Is climate change affecting the NZ orchids?

If climate change consisted only of global heating we might expect northern species to extend their distribution southwards, earlier flowering everywhere, longer survival of Australian vagrants, reduction in the northern range of a few cold lovers. Some species might flower out of sync with the hatch of their pollinator, causing fewer numbers.

If we add increasingly wet winters then we will see local colonies wiped out by flood-water.

I think I have already seen some of these changes.

There used to be huge carpets of *Corybas hatchii* in the spray zones of nearly every waterfall around Waikaremoana. One big flood washed them all away. I have a little local spot in a pine plantation at Te Wharau where a stream runs gently through a remnant of beech forest. When I first found it there were lots of *Corybas* “Trotters” along the stream edge, a colony of *C. macranthus*

and a few *Caladenia atradenia*. One flood ripped the banks back to clay. *C. “Trotters”* hangs on, but nothing beside remains.

Are they flowering earlier? *iNaturalist* is telling me so. On 22 October there appeared photographs of *Pterostylis tanypoda* just in flower. I used to find that on Queenstown Hill at Christmastime. The first *Thelymitra* photographs appeared in September this year. That is early.

Are they moving south? Gael Donaghy found *Pterostylis porrecta* near Bluff a couple of years ago. I have been seeing *Thelymitrae formosa, pauciflora & colensoi* around Queenstown in increasing numbers: I didn't see them there 30 years ago. Of course my eyesight may be improving, but I doubt that.

Perhaps we should revise the flowering times and restart the mapping scheme. The old mapping scheme recorded sightings after 1972 and 2022 is a nice half century later.

2. Give us your best shots

You will have noticed the journal's return to the portrait (vertical) orientation, perhaps better for cellphone and tablet users than the landscape orientation of recent issues – preferred by many tabletop computer users.

You may also have noticed orchid portraits on the outside back cover.

We are always looking for good front and back cover photographs and urge you to submit suitable portraits to one of us: caralisa95@gmail.com, or istge@yahoo.co.nz.

Come to that we are also constantly looking for material for the contents and invite submissions: observations, illustrations: things that you find interesting will also interest our other readers.

3. Progress *and* Success

This issue is edited by Cara-Lisa Schloots and me. She is an articulately intelligent young woman who knows her mind and this temporary co-editorship reminds me of lines by that wise old American doctor-writer Oliver Wendell Holmes—

*If the wild filly “Progress” thou wouldst ride,
Have young companions ever at thy side;
But wouldst thou ‘stride the staunch old mare “Success”,
Go with thine elders, tho’ they please thee less!*

The first two lines were always quoted by William Howlett (who collected Ruahine plants for Colenso) at the beginning of his regular newspaper column in the *Hawke's Bay Herald* in the 1890s.

Progress and success are not mutually exclusive and we think both are achievable.

4. Curled, not rolled

Curled = flat, ribbon-like & curved forward.

Rolled = tubular, stiff, cannot curl.

The lateral sepals of *Pterostylis* are usually stiffened by rolling to make a tube. The ones that have flat, often curled-forward lateral sepals are *Pp. montana* (1, Eric Scanlen; 2, Ed.) & *silvicultrix* (3, Matt Ward). Rarely a *P. graminea* (4, Eric Scanlen) and a *P. banksii* (5, Ed.) have flat curled lateral sepals too but that should probably be regarded as aberrant.



The Type locality

Pterostylis silvicultrix on the Chathams

Background

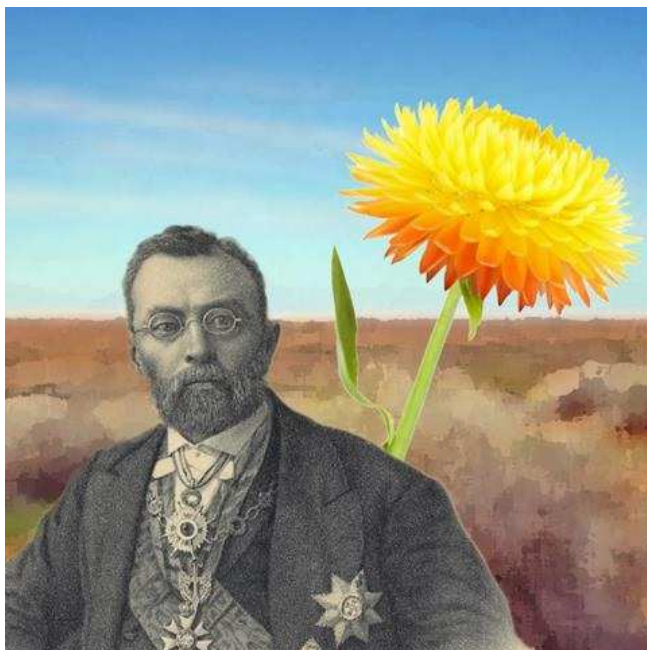
The distinguished Canterbury geographer and geologist, Julius von Haast, pointed out to Christchurch barrister (later politician) William Travers how advantageous to science a close examination of the Chatham Islands flora would be. Travers (an avid explorer and naturalist), “with a rare generosity” financed his 19 year old son Henry Travers to stay for several months on Chatham and Pitt Islands where he collected plant specimens from October 1863. One way of dealing with an adolescent I thought, but a dutifully long letter from son to father was published in the *Trans* and makes fascinating reading [1]. After young Travers's return a full set of these plants was presented by his father to the Phytological Museum of Melbourne.

In 1840 Ernst Deiffenbach had sent Chathams specimens to Joseph Hooker who accordingly regarded the Chathams flora as his own territory. The Melbourne botanist Baron Ferdinand von Mueller, stung by earlier criticism of his research

by Hooker and George Bentham, was having none of that and young Travers's set of plants formed the basis of Mueller's extraordinarily quick 1864 *Vegetation of the Chatham Islands* [2]. Its publication was the beginning of what Peter de Lange has called a long stoush between Hooker and Mueller.

Among the plants Mueller described were four orchids: *Earina mucronata*, *Pterostylis banksii*, *P. banksii* var. *silvicultrix* and *Chiloglottis traversii* (*Aporostylis bifolia*). Mueller wrote, “It is not improbable that still other terrestrial Orchids will be found existing in the Chatham-group” and indeed de Lange *et al* [3] have confirmed thirty-six orchid species for the Chatham Islands, including the endemic *Pterostylis silvicultrix* (elevated to species rank by Brian Molloy, David Jones and Mark Clements in 2002 [4]).

De Lange *et al* regarded two others, *Pterostylis* aff. *montana* and *Corybas* aff. *sulcatus* as “potentially endemic awaiting formal taxonomic recognition”.



The Baron: from the RBG Victoria website.

Mueller had written,

PTEROSTYLIS BANKSII.

R. Brown, accord. to All. Cunn. in Bot. Mag. t. 3172; All. Cunn. in Hook. Compan. to the Bot. Mag. ii. 376; Lindl. Gener. et Species Orchid. 388; J. Hook. Fl. Nov. Zeel. i. 248.

On grassy places of Chatham-Island.

The plants of Mr. Travers's collection are unusually dwarf, some only of a finger's length.

Varietas silvicultrix.

Chatham-Island, in woods only.

The characters of this variety consist in broader and shorter leaves, which are verging from broad-ovate into lanceolate, only 1-2½" long, but ¾-1" broad and acute but not acuminate, in proportionately broader sepals, of which the inner are lanceolate and simply acute, whilst the outer are hardly or little longer than these and never so much protracted into a narrow acumen as those of the typical form of *Pterostylis Banksii*. The author however has been unable to detect any important structural differences between these plants and has therefore not ventured to separate them as species, although middle-forms are missing in the collection. New Zealand specimens of *P. Banksii* prove that plant subject to considerable changes in its external form.

Mueller noted the main differences between this and the then broad concept of *P. banksii* (it included *P. montana* and others so was indeed "subject to considerable changes in its external form") were the short broad leaves and the shorter, broader ("never so much protracted into a narrow acumen") lateral sepals. Detail of the Melbourne type sheet is shown on the next page.

Other dried specimens from young Travers's collection are at Te Papa and show a prominent stigma. This is similar to the plant identified as *P. montana sensu* Moore with its bulging cordate stigma. *P. silvicultrix* is a Chathams endemic, different from anything found in the rest of New Zealand apparently. That said, it is clearly related to *P. montana* s.s. (*sensu* Moore).

Peter de Lange wrote, "Distinguished from other indigenous *Pterostylis* R.Br. species by the relatively short, broad, suberect to erect, ovate to lanceolate leaves, the uppermost overtopping the solitary green and white striped flower whose sepals and petals are characteristically orange-tipped. The lateral sepals are distinctive in that they curl forward while the dorsal sepals only just exceed the petals and are often curved upwards. On the Chathams *P. silvicultrix* has often been confused with *P. banksii* A.Cunn., which though highly variable is on the Chathams at least, a much smaller plant, whose uppermost leaves overtop the flower, and whose flower is more darkly green-striped, and without any orange colouration." [5].



◀ Details from Te Papa SP003500 showing prominent but not bulbous stigmas.

Detail of Te Papa image of a plant collected by FAD Cox from the Chathams and identified by Brian Molloy as *Pterostylis banksii* in 2001.



Landcare Research, Lincoln, New Zealand (CHR)
No. WEL 35407
Pterostylis banksii A. Cunn.
Determined: B.P.J. Molloy 3/5/2001
HERB. DOMINION MUSEUM, WELLINGTON, NEW ZEALAND
No.
35407

What's there now?

All of that suggested a few questions,

- How different is *P. silvicultrix* from *P. montana sensu* Moore? what does its stigma look like? it appears green/orange rather than bronze/brown, is bigger and has those (rather inconsistently: see cover photo) wider leaves, otherwise it is clearly closely related. Look at <https://www.nzpcn.org.nz/flora/species/pterostylis-montana/>.
- What is the Chathams *P. banksii* like? Smaller, says Peter de Lange, so is it like *P. emarginata*?
- What is the Chathams *P. aff. graminea* like? How does it compare with the Remutaka form (Type locality), or *Pp.* “sphagnum”, “peninsula” or the Otago form?

We planned to fly from Wellington to the Chathams in 2021 but rain, forecast for the whole week, caused our flight to be cancelled. We tried again on 18 November 2022 but were delayed by weather till the next day. Then till the next day. Then cancelled. “November is the worst month,” the sad man at the Air Chathams counter wearily told us. He seemed used to breaking bad news.

Perhaps in 2023? Or can some more successful Chathams visitor answer those questions?

Acknowledgements

I am grateful to Peter de Lange, scion of Chathams orchidologists, who helped me with judicious advice about how to get there, where to stay and where to look.

References

1. HH Travers 1868. On the Chatham Islands. *Trans. NZ Inst.* 173.
2. F Mueller 1864. *The vegetation of the Chatham Islands*. Govt Printer, Melbourne.
3. PJ de Lange, PB Heenan, JR Rolfe 2011. Checklist of vascular plants recorded from Chatham Islands. DoC.
4. BPJ Molloy, DL Jones & MA Clements 2002. *Austral. Orchid Res.* 4: 66.
5. PJ de Lange 2021. *Pterostylis silvicultrix* Fact Sheet. New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/pterostylis-silvicultrix/>.
6. See also Brian Molloy 2002. *Orchids of the Chatham Islands*. DoC, Wellington.



Pterostylis oliveri,
all curves....