

The
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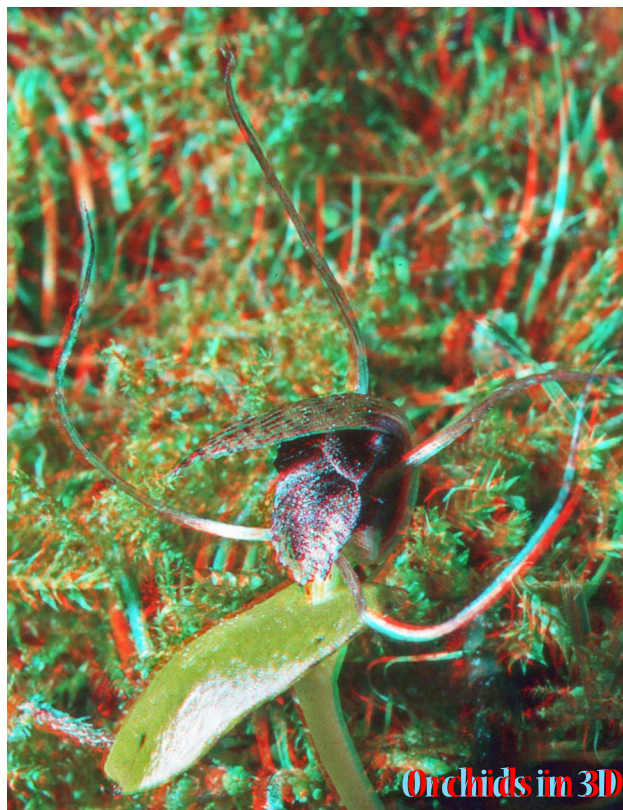
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If you don't have 3D specs,
please contact the editor

From the Chair: *Gael Donaghy*



Kia ora tatou.

I have been thinking of the joys and benefits of orchid hunting as a hob-

by, and how, like many other pursuits, it can become quite obsessive. And what are the benefits of joining with like-minded obsessives in the field?

The more I think about this, the more I see differences in individuals – a bit like the orchids themselves. We are all a bit different in our pursuit of orchids. For some it is the thrill of finding them, for some the sheer beauty of them, for some it is the challenge of identifying them, for others it is getting the perfect photo, and for some of us it is the catalyst for trying to observe what conditions exist to enable this orchid to grow in this place.

Whatever our interest or motivation the burst of dopamine in the brain we get from the find, the beauty, the puzzle of identification solved, the perfect photo or the crystallisation of an hypothesis keeps us coming back for more. This dopamine burst is what makes our hobby all-consuming – once we experience this we keep coming back for more.



Joining others in orchid hunting has benefits of networking the knowledge and experience of others, and learning from it. For example I have learnt from others

- to look for a particular shape of leaf when trying to find *Corybas* flowers,
- to look in areas of Black tree fern / Mamaku for *Corybas*, and
- that orchids often grow in disturbed areas – track sides and road sides, etc.

Over the past few years Graeme and I have found *Pterostylis agathicola* in three places in Kaimais where there are currently no kauri trees, and wonder if the mycorrhiza associated with kauri are able to utilise another species, or have acquired this ability? Or maybe the orchid is.

This year I am pondering the role of climate change in the flowering patterns of our native orchids. We were seeing some very early flowering in some species (eg *Corybas sanctigeorgianus* was in flower from late July in the Bay of Plenty), while there is a mass failure of flowers in *C. vitreus*, as evidenced by the little flower stalk that has no evidence of flower structures. I look forward to discussing this with others at the AGM, field days and Tag-Along Tour, to see whether there are any regional or even national patterns.

The more we know the better we can search and target habitats to find orchids, and maybe lead us to new finds. (*Corybas* “Hump Ridge” ►) And bigger dopamine hits!



Editorial: Ian St George

1. Welcome to Cara-Lisa Schloots, new editor of the journal.



This is my 147th issue as editor of the *NZ Native Orchid Journal* and No. 170 will be my 150th and my last.

Our new co-editor, Cara-Lisa Schloots, will then take over—to my considerable relief.

Cara-Lisa joined the Group in 2012 as a school student and was a welcome participant in our field days.

Now she is a professional botanist, having graduated with a BSc in ecology and botany at the University of Otago in 2016 and having completed her MSc thesis in 2022 (on *Water level fluctuation and vegetation patterns within an alpine wetland complex*).

During that time she worked in numerous positions as a subconsultant for Boffa Miskell, Manaaki Whenua / Landcare Research, Landward Management Ltd, and DOC, primarily as a botanist.

She travelled extensively for some of this work, “from Northland to Fiordland and everywhere in between”.

In the summer of 2021–22 she was a research assistant in the Botany Department, University of Otago, looking at Central Otago tussock grassland vegetation transects and long term vegetation changes.

That was followed by a position as field work assistant at Boffa Miskell Ltd, carrying out stream habitat assessments. In June 2022 she started as an ecologist with Boffa Miskell Ltd (“planning, landscape architecture, urban design, ecology, biosecurity, cultural advisory, graphics and mapping”—see her at <https://www.boffamiskell.co.nz/our-consultants.php>).

Cara-Lisa thus brings to the *journal* youth and professional and academic expertise.

But it can be a lonely job: please support her with news, views, reports, opinions, observations, images: anything on native orchids.

—Ian St George.

Editorial 2. Farewell to Brian Molloy

We record the death of Brian Peter John Molloy in July 2022 with great sadness but fond memories and considerable gratitude. His bio at [https://en.wikipedia.org/wiki/Brian_Molloy_\(botanist\)](https://en.wikipedia.org/wiki/Brian_Molloy_(botanist)) lists his many achievements, but for us he was a NZ native orchidologist, a professional who valued and encouraged amateurs for their ability to contribute to scientific study. Peter de Lange told me he had formally described more NZ orchids than any other person and that probably still holds. He supported the Group and its *Journal*, attending our field trips, sharing his enthusiasm and his great knowledge with unselfish generosity of spirit.



He wrote in *Journal* No. 27, “From modest beginnings this Newsletter is growing into a valuable source of information, news and views about our native orchids and the people who study and observe them. I hope this trend continues and more writers come forward with items of interest, it matters little how modest or ambitious the articles may be. The important thing is to communicate information and ideas within our community of native orchid enthusiasts.”

He was a kind, honourable and devoted family man, but a man whose life was beset by personal tragedies—in the recollection of which his attainments seem the more remarkable. He was nearly 92.

Gastrodia molloyi ►

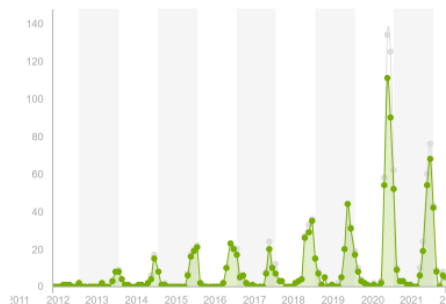


Editorial 3. *Microtis longifolia* Col. again.

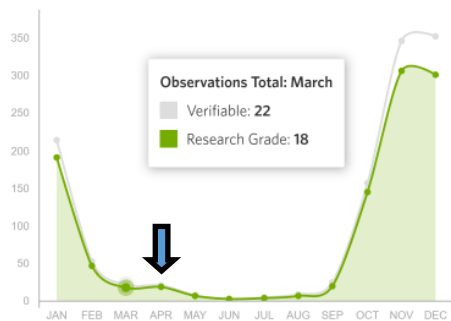
Colenso reckoned his *Microtis longifolia*, though structurally similar to *M. unifolia*, must have been a new species because it was flowering in the autumn. He collected his specimens from near the Maungatawhaiti bridge in Central Hawke's Bay. I have mentioned this in past issues of the *Journal*.

I wondered if clear evidence of a bimodal flowering might be available and turned to *iNaturalist* for help.

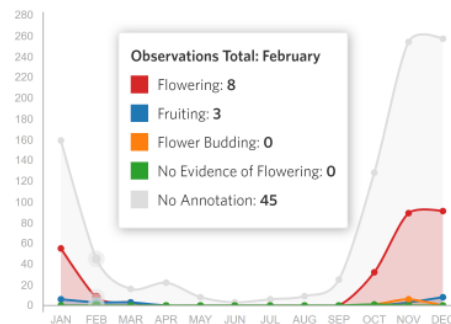
Here is *iNaturalist*'s history of *M. unifolia* observations in NZ, showing a minor blip in April in recent years but nothing definite.



The last year's observations might be said to confirm that impression, with a small secondary peak in April,



But observations to *iNaturalist* include those of plants in all stages of their life cycle and when you look at observations of flowering plants the peak no longer exists.



There were only eight observations annotated as flowering, mind you, and the grey line showing the 45 observations with no annotation as to stage of life cycle does show that April blip.

I don't think this takes us any further one way or the other.

This is a retrospective study of data that were not collected for research purposes and like all such is bedevilled by uncontrolled influences, one of which is the failure to record flowering stage.

Another is the small numbers. Another is the inability to consider latitude (are they later in the south?)

And climate: Colenso collected during a very cold period of NZ weather.

Or perhaps those reporting their April finds to *iNaturalist* were simply able to venture out more during the Easter break than in the weeks before or after, causing a peak that wouldn't be there if observation numbers truly reflected population numbers.

Or, contrariwise, they were out in the summer but not in the autumn, so the peak is smaller than it should be.

— Ian St George.

The inbox

Corybas cheesemanii colour forms



▲ Waitakere 9 July 22, ChrisC, *iNaturalist*.



▲ Runanga 6 July 22, Steve Reekie, *iNaturalist*.



▲ Paraparaumu 20 August 2012, Matthew Ward

Corybas cheesemanii,

Karikari peninsula, July 2022, Bill Campbell.



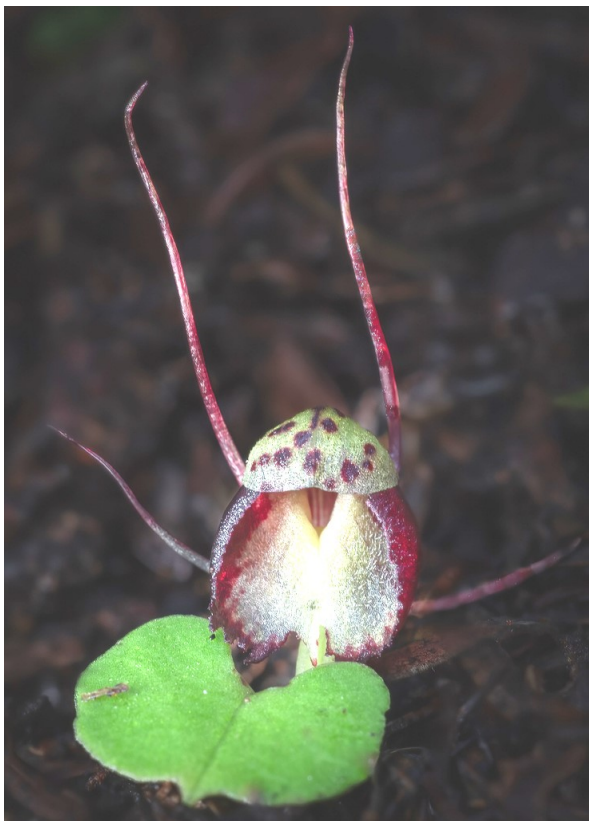
Winter flowering *Corybas* aff. *trilobus* (aka *Corybas* “pygmy”)



▲ Kaimai-Mamaku 7 July 22, haydenj, *iNaturalist*.



▲ Tawharanui 10 July 2022, michaelhswabnz, *iNaturalist*



▲ “With polka dots”: Tawharanui 17 July 2022,
michaelhswabnz, *iNaturalist*



▲ Near Kawhia, 26 July 22, alasdairn, *iNaturalist*.
An unusually notched dorsal sepal.



▲ At Cape Kidnappers, Mike Lusk, June: with key.



▲ Five Mile creek, Queenstown, Ian St George, July 2003: with end of 35mm film box.



▲ Photographs of a range of sizes of *Corybas vitreus* taken by Pat Enright near Featherston on 6 August. ◀ The smallest is as small as *C. "pygmy"* and is morphologically similar, though the shorter label-lum of *C. vitreus* exposes the tubular auricles and of course it flowers much later.

▼ *Corybas acuminatus*, Hui Syn Chan, Facebook.



Conferences...

The **NZ Ecological Society** conference is in Ōtepoti / Dunedin on 28 November–1 December 2022 (<https://confer.eventsair.com/nzes2022/>) and the key themes are climate change, predator control (Predator Free 2050) and working together to achieve conservation goals. Key points of interest may include symposiums about tree pathogens, the effects of weeds, invertebrate behaviours, and plant pollination. There will also be a number of field trips in the wider Otago area.

The **NZ Plant Conservation Network** conference will be held in Queenstown on 4–7 December 2022 (<https://www.nzpcn.org.nz/nzpcn/events/conference-2022/>) and key themes largely focus on various aspects of restoration. There are still some workshops available and one remaining field trip option to view various restoration sites around Queenstown. This conference was postponed from March 2022 due to covid-19.



▲ *Bulbophyllum tuberculatum*, Northland, July 22,
photo by Bill Campbell.

A very early flowering *Corybas iridescens*,
Whanganui National Park, 23 July 22,
photo by Leo George Gedye ►





▲ *Corybas rotundifolius*: Karikari peninsula July & August 2022, Bill Campbell, *iNaturalist*.



▲ *Pterostylis alobula*: Rangitoto Island, 16 July 2022, Cara-Lisa Schloots. Are the spider webs holding the tepals down?



Two new *Corybas* species were described in 2020 from the Philippines: (left above) *Corybas circinatus* and (right above) *Corybas boholensis*; and another in 2022, (left) *Corybas kaiganganianus*. A 4th new *Corybas*, *C. papillatus*, was described from Thailand in 2021.



***Corybas
papa***,
photographed
near
New Plymouth
on 22 August by
Emily Roberts,
iNaturalist.



Corybas cryptanthus
near Wellington.
Christopher Stephens,
iNaturalist, August '22.





▲ Matt Ward photographed *Chiloglottis trapeziformis* under pines (note their pollen) on 15 August: *iNaturalist*.

◀ Gael Donaghy and Graeme Jane were in Western Australia in August and saw “the spectacular Eastern Queen of Sheba (*Thelymitra speciosa*) in flower. It has a curly leaf like *T. matthewsii*”. Photo Gael Donaghy.



▲ ***Pterostylis agathicola***, Whangarei, 4 September 2022,
photo by Andrew Townsend, *iNaturalist*.

◄ and at Kaimai-Mamaku, 4 September 2022,
photo by synch_, *iNaturalist*

Original papers

Making sense of name changes – the red peg problem

By Graeme Jane.

The Editor annually publishes a list of his thoughts on orchid names. The recent publication of the list (*Journal* 166) prompted some musings on name choices.

In his list, where they are present he lists synonyms, names of those orchids that are sometimes regarded as being the same thing and can be used interchangeably. But that is not always true. Why not?

Where to start! Sometimes we get frustrated by name changes. When identifying plants I sometimes feel like a two-year old who, having placed a green triangle into a blue square is trying to bang a red peg into a yellow oval, finally tossing the whole toy on the floor and doing something else. You can only go so far, as far as the tools at hand let you. Context is everything. If there is only one name in the genus – problem solved! But if there are 10 where does your plant fit? It might be number 11.

And so it is with interpreting what the author of a name meant when describing that species. There is the description provided on the basis of the extent of knowledge at the time. Far less than today. Often the author will have several specimens (usually pressed) representing what he thought the species looked like, sometimes supported by notes from the collector.

Usually one specimen will be indicated as the type. But not always. There will also be a description of the key features (synopsis), usually very brief, that outlines how that plant differs from other species **known at that time**. There may also be a more general description. And if you are really lucky an illustration or now, photographs.

Many issues can arise in later years. A later investigator may need to define a type from the description provided and the representative specimens **that the author had on hand**. Also other later discoveries may have changed the concept of that species. They may change the placement of the species within the genus or within similar genera. Someone else may have described something quite similar at an earlier date and that may be seen to encompass that species. Another may see the definition as too broad and split the species. All these actions can lead to name changes. But the most disruptive changes are the result of technological changes such as the microscope, use of DNA analyses and computers to analyse the data (a dendrogram?).

As a result we are faced with what seems like continual name changes and disagreements about what name to use. But not all synonyms are equal.

Some name changes are just a shift between genera – there is no shift in the concept of the species. In other cases species are added or removed from the concept. And some are simply wrong because the description was interpreted wrongly and a wrong choice was made among two or more possibilities (the red peg problem). Perhaps a few examples will show the issues. I use *sensu* to mean the way in which an author used the name – the concept at that time.

Earina autumnalis (**Fig.1**) was first called *Epidendrum autumnale* (**Fig.2**) by Forster in 1786, a rather similar and huge genus. Lindley realised it was quite different and established the genus *Earina* in 1835 and described *Earina suaveolens*. Hooker in 1853 corrected this



calling it *Earina autumnnalis*. Cheeseman also added in Colenso's *E. alba*, as being too similar to separate, but since then the concept has remained the same. So we have,

Earina autumnnalis sensu Hooker, the same as *Epidendrum*

autumnale Lindl.,

Earina autumnnalis sensu Cheeseman, adding in *E. alba*.

Thelymitra longifolia (Fig.3) was first described by Banks and Solander as *Serapias regularis* in a very different genus (Fig.4) as a best choice. But the manuscript was not published. Forster in 1786 acknowledged this when placing it in his new genus *Thelymitra* as *T. longifolia*. Swartz was unaware of this when separately described *Thelymitra forsteri* in 1800. Cheeseman in 1906 included *T. forsteri* in his concept of *T. longifolia* as well as Hooker's *T. stenopetala* and Colenso's *T. nemoralis* and *T. purpureo-fusca*. In 1925 he added *T. longifolia* var *alba* so his concept changed again but only included white flowered taxa. In 1952 Hatch ignored colour and added another Colenso name, *T. cornuta* and dragged in two further Colenso species as new varieties. Moore 1970 thought this was too broad, largely reverting to Cheeseman's concept. Since then the *Journal* over the years has reported the stripping back of that concept to just the two earliest synonyms neither of which are alternative names. So we have,

Thelymitra longifolia sensu Forster,

Thelymitra longifolia sensu Cheeseman,

Thelymitra longifolia sensu Hatch,

Thelymitra longifolia sensu Moore and

Several different *Thelymitra longifolia* sensu NZNOG of different dates as various taxa have been distinguished and tagged – but several names remain to be sorted out.

Corybas rivularis is more fraught. It was initially placed as a best choice in *Acianthus* by Cunningham in 1837. On the

Auckland Is and Campbell Is Hooker encountered what we now know as *C. acuminatus*. He placed it in Sinclair's *Acianthus rivularis* with a question mark (Hooker 1844). When he prepared his flora in 1853 he created a new genus *Nematoceras* and placed it there. His description is quite brief noting it was found in deep ravines and suggesting it or several forms were very widespread south to the Auckland Is when in fact we now know it is probably confined to Northland. Then in 1864 he decided it would really be better placed in the earlier genus *Corysanthes*. Reichenbach then, in a review of *Corybas* in 1871, widened the concept and placed it there as *Corybas rivularis*.

Not that simple. According to Hatch (1986), in 1864 Kirk also had plants of *Corybas acuminatus* and could not fit them in with either *C. rotundifolius* or *C. rivularis* both of which Hooker had described but indicated may contain several other taxa (unknown holes in our board). In 1867 Kirk now encountered *C. rivularis* on Great Barrier. He chose to use *C. rotundifolius* for the streamside plants in spite of the fact that *rivularis* suggested a streamside habitat. A classic red peg problem with a green triangle in a blue square.

In 1906 Cheeseman (as *Corysanthes*) regarded what we now know as *C. rivularis* as similar to *C. orbiculatus* of Colenso but was puzzled by the *C. rotundifolius* of Kirk because it really did not fit that of Hooker.

Moore, in 1970, recognised Colenso's *C. orbiculatus* as a distinct species. This added one more hole to the tag board. She described *C. acuminatus* but used the name *C. rivularis* and treated it as a synonym. Hence continues the confusion between the two taxa.

Finally Molloy & Irwin in 1985 sorted it out (along with *C. orbiculatus* that it was tangled with at that time) which excludes *C. acuminatus*. (see Hatch 1986 – "The wet one" for detail). Then it begins to be used as a bucket for several other taxa especially by Bruce Irwin (1989).

With the advent of DNA and computer analyses we were able to visualise species relationships. Hence *Corybas* was split into several genera by Jones, Clements & Molloy in 2002 and *C. rivularis* was transferred back to *Nematoceras* (again). But that has not been widely accepted and currently we accept a broader *Corybas*. So we have,

Acianthus rivularis sensu Cunningham 1837, which is not the same as the more widespread

Nematoceras rivularis (Cunn.) Hooker 1853,

Coryanthes rivularis (Cunn.) Hooker 1864 and

Corybas rivularis Riechb.

Then,

Corybas rivularis Kirk 1874, Cheeseman 1906 which is not sensu Hooker but *C. acuminatus* instead,

C. rotundifolius sensu Cheeseman encompasses *C. rivularis*, then *C. rivularis* sensu Moore which includes *Acianthus rivularis* of Cunningham.

Corybas rivularis sensu Clements & Hatch 1985,

Corybas rivularis sensu Molloy & Irwin, 1996 excluding *Corybas papa* and *C. iridescens*,

Nematoceras rivularis Jones, Clements & Molloy 2002 which is the same as *Corybas rivularis* sensu Molloy & Irwin, 1996.

Finally,

Corybas rivularis sensu Lyon, S.P., 2014 which is sensu Molloy & Irwin, 1996 and perhaps

Corybas rivularis sensu Coffin A.J. 2016 who examined several tag names.

Also,

Corybas rotundifolius was first described by Hooker in 1853 in *Nematoceras*, a new genus. Then in 1864 he placed it in the earlier genus *Corysanthes*. Reichenbach then in a review of *Corybas* in 1871 placed it there.

So we have,

Corybas rotundifolius sensu Hooker 1853 as *Nematoceras*,

Corybas rotundifolius sensu Hooker 1864 as *Corysanthes*,
Corybas rotundifolius sensu Reichb. – at last identical with
Nematocearas rotundifolius and *Corysanthes rotundifolia*.

Then the fun starts. It gets tangled with *C. rivularis* and disappears from sight behind the skirts of *C. orbiculatus* and *C. oblongus*. As noted above Kirk applied the name *Corysanthes rotundifolius* to specimens of what is now *C. acuminatus*. Cheeseman in 1906 muddled things further.

With the role of *C. rivularis* now usurped by *C. acuminatus* and *C. rivularis* placed in *C. rotundifolius* along with *C. orbiculatus* of Colenso the red peg problem arose again. Cheeseman's solution was to create a new hole, so he created *C. matthewsii* for the real *C. rotundifolius* to fit into. But he was not sure that *C. orbiculatus* was the *C. rotundifolius* of Hooker.

Hatch in 1945 regarded the now *Corybas matthewsii* as similar to the Australian *C. unguiculatus* and placed it there while the real *C. rotundifolius* now disappeared into *C. oblongus*. And that of Cheeseman into *C. macranthus* and *C. orbiculatus* disappeared

Moore 1970 recognised Colenso's *C. orbiculatus* and placed *C. rotundifolius* under *C. oblongus*. It was not until 1991 that Hatch finally sorted it out. So we have just,

Corybas rotundifolius sensu Hooker 1853 as *Nematoceras*,
Corybas rotundifolius sensu Hatch 1991 including *C. matthewsii*,
Anzybas rotundifolia (Hook.) D.L.Jones & M.A.Clem. 2002 the same as sensu Hatch but not Hooker,

And a return to *Corybas rotundifolius* sensu Hatch 1991.

Hence the list of synonyms under *C. rotundifolius* hides the real story. In fact *C. matthewsii* is not identical with Hooker's *C. rotundifolius* but rather regarded as very closely similar.

Whew!

I could describe the ins and outs of *Caladenia minor* but that's another article in itself. An introduction might be Scanlen (1999, 2001) or Upson (2020).

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The Type locality

Thelymitra alba from Glenross

In 1885 William Colenso described *Thelymitra alba*,

T. alba, sp. nov.

Rather stout, 8–9 inches high. Leaf linear, 10–11 inches long, 3–4 lines broad, rather thin, many-nerved (sub 10), nerves closely and finely papillose at back in lower part of leaf. Raceme 3 inches long, 8-flowered; pedicels ½ inch; bracts large, 1–1½ inches long, oblong, suddenly acuminate, very acute, 10-nerved (as also sepals and petals). Sepals light-greenish purple with very thin white margins; petals pure white; both with labellum broadly ovate-acuminate with a mucro at apex, and all of equal size. Column rather short; tip recurved, deeply notched, sides of hood produced, with 2 angles, and notched in front between them; dark-brown with yellow margin; the appendages much produced in front, as high or higher than the column, very plumose; hairs white, branched, closely barred and knobbed at tips; side wings of column much excised; stigma large, sub-quadrant, sinuate and slightly lacinate at base; 2 small erect teeth in front, in centre of column margin; rostellum globular, prominent; anther tip long, subulate, obtuse.

Hab. Glenross, County of Hawke's Bay; 1885: Mr. D. P. Balfour.

Obs. A species having pretty close affinity with *T. longifolia*, Forst.; *T. muda*, Brown; and *T. nemorosa*, Col.; but differing from them all in several characters.



Colenso in 1887

The only reference to *Thelymitra alba* in the letters from Colenso to Balfour is on 16 November 1885,

... the 3rd (orchid you sent) is a *Thelymitra*, very near to *T. nemoralis* (Trans XVII), and to a Tasmanian sp., *T. muda*, but not agreeing with any; these are very troublesome things to decide on, —differences in the genus mainly depending on microscopical belongings to the internal column, in which are the *Anther* and *Stigma* etc., etc. I wish, too, that I had more of this; as it is shy in opening flowers. I have tried hard with these, and only on one day, did I succeed in getting 3 flowers to expand, and it has taken up some of my time—but I cannot always be quill driving.—

Colenso was annoyingly inclined not to specify the differentiating features, but instead to use expressions like “differing from them in several characters”. (Furthermore he misnamed his own *T. nemoralis* “*T. nemorosa*”). I believe he separated this from *T. longifolia* for the same reason he separated *T. nemoralis*: because the midlobe of the column was notched, whereas Forster's *T. longifolia* had no notch but had an entire midlobe. Other than that, this reads like a rather narrow-leaved (4 lines = 1cm) but otherwise pretty typical *T. longifolia*. Indeed, in 1906 Cheeseman lumped it with *T. longifolia*, though in 1920 he accepted *T. longifolia* var. *alba*. Hatch lumped it and so did Moore and everyone since.

David Paton Balfour 1841–1894 sheepfarmer, station manager, roading supervisor, diarist, was born in Scotland, worked for a shoemaker, then for a ropemaker, and at the age of 10 or 11 he became a cowman on a farm, working from 4 a.m. to 8 p.m. each day. He left when he was 13 to become a high-country shepherd at Glenisla. His father took the family to Australia, and David found odd jobs before



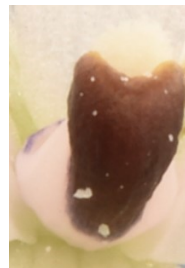
David Paton Balfour

moving to a large sheep station; there he was given the responsibility of tallying and pasturing the sheep. He joined the goldrush to Otago in 1862, worked on a sheep station at Moeraki, and attended night school in 1864 and at last became literate. He supported himself with work on various South Island stations. Balfour moved to Hawke's Bay in 1866, purchasing a rough tract of land miles up the Mohaka River. Later he managed Gwavas station, and in 1873 took up employment with John Kinross who owned Mangawhare station. He married Elizabeth Roberts on 18 November 1876 at Puketapu; they were to have three children. Balfour studied astronomy and botany, the latter enabling him to collect plants usefully for Colenso. He had accumulated

an extensive library, which in 1878 he made available to the station staff and community; they had previously contributed money of their own to buy books for winter reading. He bought Glenross Station, but when Kinross became bankrupt owing him a lot of money, was forced out by creditors in 1889. Balfour became a Hawke's Bay County Council roading supervisor. He drowned at Puketapu on 13 July 1894 while trying to rescue a ewe from a flooded drain; he had been weakened by the then epidemic influenza. Balfour wrote an account of his life for his children, and that, together with a number of letters and his diaries (begun in the 1880s), is a valuable source of information about contemporary life in New Zealand. For Colenso he collected the orchids *Sarcochilus breviscapa* (1881), *Corysanthes papillosa* (1883), *Pterostylis patens* (1884), *Thelymitra alba* (1885), *Orthoceras rubrum* (1885), *Prasophyllum variegatum* (1887). He kept Colenso's letters and they now form part of the taonga of the Hawke's Bay Museums Trust at Napier. Notes on his life are at <https://onadmiralroad.co.nz/>.

Colenso's *Thelymitra alba* fits widespread grassland plants with rather stiff narrow leaves which are C-shaped in cross section. They often have purple-brown in their stems, bracts, ovaries and backs of tepals—but these are not *T. purpureofusca*. Nor are they *T. longifolia*.

We visited Blowhard Bush, in the Kaweka foothills just above Balfour's Glenross, and the road to the Comet hut, further west, on 5 December 2021. There was a range of plants in the *Thelymitra longifolia* group, most with flowers already closed, many with quite variably notched column midlobes, including *T. purpureofusca*, plants matching *T. alba* Col. and *T. nemoralis* Col., standard wide-leaved *T. longifolia* s.s. – and a very robust colony in full sun, with leaves 40mm wide at the base and stout purple-black stems with a dozen fruit on each.



◀Top of the column of a *thelymitra* flower from a plant close to Colenso's description of *T. alba*.



T. nervosa was plentiful ▶▶ at the Comet roadside, the spotting of the petals and the degree of lumpiness of the back of the postanther lobe quite variable within a colony.



Te Papa specimen from Harry Carse's herbarium:
"Thelymitra longifolia Forst.f.
 var. *alba* var. nov. ined. (ie,
 unpublished). Flower pure
 white & golden column. Col-
 lected by HB Matthews, Buck-
 land, Franklin, 30 November
 1920." Gift of Victoria Univer-
 sity of Wellington, 2011.



This plant with a
 "golden column,"
 I photographed at
 View Hill, Canterbury,
 in December 2020
 —Ed.



Colenso wrote that his *T. alba* had a pretty close affinity with *T. nuda*, but differed from it in several characters. He would have known *T. nuda* from Archer's drawing lithographed by WH Fitch for Hooker's *Flora Tasmaniae* ◀. He certainly possessed that work. He had corresponded with the Tasmanian collector Gunn, but that was many years earlier.

Hooker wrote that the column midlobe of *T. nuda* was "rounded, notched or bifid, its margins more or less inflexed, quite entire". It was a variable plant, "of all degrees of stoutness and slenderness, and sometimes 2 feet high, at others 6 inches". That reads remarkably like our current concept of *T. longifolia* s.l.

In 2013 Muelleria published Jeffrey Jeanes's "An overview of the *Thelymitra nuda* (Orchidaceae) complex in Australia including the description of six new species." (*Muelleria* 31:3–30). The abstract says, "The *Thelymitra nuda* J.R.Forst. & G.Forst (*sic*), complex is defined as a group and an overview of the Australian members is presented. Six new species, *T. alcockiae* D.L. Jones ex Jeanes, *T. alpina* Jeanes, *T. glaucophylla* R.J. Bates ex Jeanes, *T. paludosa* Jeanes, *T. petrophila* Jeanes and *T. queenslandica* Jeanes, are described and illustrated. The key diagnostic characters are discussed where relevant. Information on distribution, habitat, flowering time, pollination biology and conservation status is given for all taxa. A dichotomous key is provided." These may have had similar or variable midlobes, ("rounded, notched or bifid... margins more or less inflexed") for Jeanes wrote,

Traditionally, the column has provided the main suite of characters used to distinguish between the species in *Thelymitra*. However, for this study of the *T. nuda* complex, vegetative characters, phenology and habitat information have proven more important for distinguishing many of the species. For example, *Thelymitra glaucophylla* R.J. Bates ex Jeanes can be identified with a high degree of confidence from mature leaves alone. *Thelymitra paludosa* Jeanes is similar morphologically to *T. macrophylla*, but usually grows in wetter substrates and generally flowers later (although there is some overlap). Most species in the complex exist as solitary individuals producing only a single replacement tuber each season. Others such as *T. gregaria* produce small dense clumps by vegetative reproduction (Jones & Clements 1998a)."

Have we been concentrating too much on the columns to separate *Thelymitrae*?

The vegetative characters, phenology and habitat information that Jeanes has used to differentiate species in the *T. nuda* complex may be as important as DNA and columns in differentiating the various taxa in our *T. longifolia* complex.

