

The
New Zealand
Native
Orchid
Journal

A close-up photograph of a green orchid flower, likely a species of *Chlorostachya*. The flower is the central focus, showing its intricate structure. It has a large, rounded, green labellum (lip) with prominent white or light green longitudinal stripes. The sepals and petals are long, thin, and brownish, curving upwards and outwards. The background is a soft, out-of-focus green, suggesting a natural, forest-like habitat. The lighting is natural, highlighting the texture and colors of the flower.

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Late flowering *Caladenia* "kaweka": photograph Mike Lusk.

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May 2012 ISSN 1177-4401

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Editorial: Ian St George

Evolution made visible?

You and I would think the *Petalochilus* (*Caladenia*) photographed so ably by Mike Lusk and shown in our **inside front cover** was simply *P. chlorostylus*.

But Mike wrote, “Eric and I have been aware for several years of a late flowering *Caladenia* very similar to *C. chlorostyla* from the eastern side of the Southern Kaweka Range, and I’ve seen it also further south on the same side of the central Ruahines. Eric tells me the latest he’s seen *C. chlorostyla* flowering was at Lake Hauoko, on 20 January and that flower was wilting. *C.* ‘Kaweka’ flowers in late February and when seen on 27 February there were many buds. There was a fly, possibly a fungus gnat, on one of the flowers. I’ve compared it with descriptions and photos of *C. chlorostyla* in two books and on the website, but any differences apart from the flowering time are small or inconsistent so I’m cautious about suggesting that it’s a new taxon. That aside, the latest flowering *C. chlorostyla* I’ve recorded is late December so the gap is something in the order of 10 weeks.

Is it just that Mike is out looking rather later in the season than the rest of us? Or is there something special about the Hawke’s Bay environment?

For it was also from Central Hawke’s Bay that William Colenso described *Microtis longifolia*, a flower structurally indistinguishable from *M. unifolia*, yet flowering in autumn, long after *M. unifolia* finishes flowering [see my piece in J108].

Something similar happens with the European “burnt orchid” *Orchis ustulata*, which also has a bipolar flowering.

David Lang (*Wild orchids of Sussex*, 2001) is of “the opinion that it is separating into two taxa, one flowering in the third week of May and the other in July and August. By that time the early version has set seed, shrivelled up and vanished.... There are twelve sites for the late flowering form in Sussex, mainly between Lewes and Eastbourne, with several more in Hampshire and Wiltshire. In Kent, strangely, only May-flowering colonies are known, while those in West Yorkshire, although the plants are often tall, all seem to be the early taxon, both in flowering time and structure.

“European botanists also find that they have two populations, flowering at different times.... They, too, separate the taxa on structural differences, but their criteria do not work in Sussex. I have found flowers exactly like the two forms they describe, but on the same plant.”

He is saying there is within-species (or within-individual) variation at least as great as that claimed between the two forms.

Those who have examined Colenso’s specimens of *Microtis longifolia* at Herb. Colenso in Wellington are unable to distinguish it from *M. unifolia*. Similarly Mike Lusk can discern no structural difference between the early and late forms of *Petalochilus chlorostylus*.

Are we observing the emergence of a new taxon? One that finds a competitive edge by flowering at a different time? Perhaps because a different insect pollinator, or a different soil fungus, thrives at that different time? Or soil moisture is better for its seeds?

Is a separate flowering time enough to designate a new species?

The type locality: Ian St George

Thelymitras of straw: Whangaruru Bay, *Thelymitra colensoi* Hook.f. & *T. intermedia* Berggr.

On 14 February 1840 the young Church Missionary Society printer at Paihia, Bay of Islands, William Colenso, had the temerity to write to the great Sir WJ Hooker, Regius Professor of Botany at the University of Glasgow:

My dear Sir,

An entire stranger, wishing to advance the science of Botany, takes on himself the liberty of addressing you without an introduction and also to send you a few specimens of Plants, among which he hopes you will find at least a few that may prove an acquisition to your Herbarium.

The writer of this had the pleasure of being well-acquainted with your much lamented Botanist Allan Cunningham; we regularly corresponded, and I was enabled to send him several specimens of the Botany of N. Zealand, which notwithstanding his indefatigability in botanical pursuits in this land, were quite new, both to him and to science. Had he lived, I should have continued to send him all that I met with, for he was a valued friend, and his intention was to return to England to arrange his herbaria, and give to science the fruits of his many years of labor as a practical Botanist. Of his death, I dare say you have been made acquainted. Capt. King, R.N., one of his executors, and a Gent. with whom I have the pleasure of corresponding, hearing from him that I was about to open a correspondence with some one of the Botanists of England, suggested in a letter of his to me, that I should do so with Sir W. J. Hooker, which is the cause of my now addressing you.

By this ship I forward you two Boxes: – one, containing several of the Orchideæ of N. Zealand, in diluted Hy. acid: – the other, a few dried specimens. I hope they will arrive safe. They are but a few, it is true, and some of them are but inferior specimens, but my Herbaria have been so culled over by one friend and another that I had not many Duplicates remaining. I have many more by me of Genera not now sent, but the vessel sails tomorrow – and I have not another case ready made by me, &c. &c. Receive these, however, my dear Sir, as a Preface, and if you wish, I will endeavour to send you some others very shortly.

From my situation in this Land, I have very many opportunities of collecting specimens when travelling among the Natives, which a Botanist merely visiting N. Zealand for a short period cannot possibly have. In my last journey I got several plants which are quite new to me, and I would that some of them at least were so to science....

In the Bottles you will find the following Orchideæ: – In the large Bottle; – Thelymitra Forsterii (A. Cunningham) perhaps a 2nd species (W.C.) – Microtis Banksii (A. Cunningham) Pterostylis Banksii (A. Cunningham) Bolbophyllum pygmæum Lindley – and what I believe to be a species of Sarcophilus found in Octr. 39, on Myoporum lætum by W.C. (I very much lament my not having some one of those modern Botanical works which would enable to speak positively. In this instance, as well as in several others, I can only make at least a shrewd guess). In Bottle, numbered 2, Pterostylis collina, n. sp., take a short descript. as given

by my friend A.C. on my finding it in Sept. 1838, during his residence in this place – “Appendix apice diviso, penicillato. Folia radicularia. Scapus bibracteatus aphyllus.” W.C. – In No. 3, *Earina mucronata* Lindley – In No. 4, *Orthoceras strictum* Brown – In No. 5, *Acianthus fornicatus* A.C. – In No. 6, *Thelymitra grandiflora* n. sp. perianthis erectiusculo, cuculli laciniis extrinis cuspidatis eroso-denticulatis imberbibus: intermedia dorso nudo emarginata tuberculata, margine incurvato incrassato, spica multiflora – W.C. in litt., 1838. A very remarkable species; nearly 3 feet high, of a most brilliant Indigo colour &c. &c. – A *Cyrtostylis* – it may be *C. reniformis* Brown, or a new species W.C. – Another, just obtained, a perfect gem, and which I believe to be entirely new – have not time to examine it. In No. 7, an *Orchis*, perhaps a new sp. of *Caladenia*, W.C. – a *Thelymitra* which I have ventured to consider a distinct sp. and have named it in my Herb. as *T. straminea*, W.C. (my emphasis: straminea = made of straw—Ed.). [1]

While we may be tantalised by the identity of several of these orchids, we are here concerned with the last, the *Thelymitra* Colenso was bold enough to suggest Hooker might call “*T. straminea*”. Hooker’s reply is lost, but he didn’t publish a description, and a passage from a letter from Colenso to RC Harding about another plant, explains: “Sir W. Hooker, thanked me for it early, said, I was right—but that, with many others, all looked over by him, were kept for Dr. J.H. to describe, &c, on his return from India.” (i.e. Orchids sent in 1840 by Colenso to WJ Hooker were looked over, but put aside for the return of WJ Hooker’s son JD Hooker, who eventually described some of them in 1853).

JD Hooker’s description of *T. colensoi* = “*T. straminea*”

In his 1853 *Flora* Sir WJ Hooker’s son, Dr JD Hooker included Colenso’s “*T. straminea*” in the already-known Australian species *T. pau-*

ciflora, described by Robert Brown in 1810. He gave a Latin diagnosis, adding

“Hab. Northern Island, Colenso,” and then “I have four specimens of this pretty little plant, which are all of a very slender habit, with narrow ovaria, and lanceolate yellow sepals. Stamina very long, slender, erect, curving, much longer than the column, feathery at the tip. Anther broadly oblong, with an erect stout mucro.—This looks like a drawn-out state of *T. Forsteri*, growing in long grass or shade. Also a native of Australia and Tasmania. [3]

In his 1864 *Handbook* JD Hooker described the same plant as *Thelymitra colensoi*, having realised that it was in fact different from Brown’s *T. pauciflora* [3]:

T. Colensoi, Hook. f.—*T. pauciflora*, Fl. N. Z. i. 244, not Br. Very slender, 8–12 in. high. Leaf very narrow linear, flexuous. Flowers 1–3, yellowish, on slender pedicels, ½ in. broad. Sepals and petals very narrow, linear-oblong, acute. Column very short; appendages very long, subulate, erect, plumose at the tip. Anther with a long point.

The type specimen of *T. colensoi* at Kew is labelled “*Thelymitra straminea*” (Molloy B. pers. comm.), so there can be no doubt this was Colenso’s plant.

Where was *T. colensoi* collected? Colenso twice mentioned “*T. straminea*” in his writing:

(1) in his unpublished *Glossarium Botanicum* (Mitchell Library, Sydney) he writes that he found it on a “ridge of hills between Kawakawa and Oue”. Oue was 1½ hours, about 5 miles, from Kawakawa, and is perhaps near the Owae river about that distance from Kawakawa. He was there on 18 Nov 1838.

(2) in a letter from Napier on Xmas day 1875 to Cheeseman: “You enquire after the local habitats in the Auckland Province of a few scarce plants. Of some of them I well recollect their *old* homes! (35 years ago!) but even if I were *there*, should I find them *now*—denizens of the soil as before? I fear not, judging from what has taken place in *this* Province, even

within the last 10–12 years.” Among them was “*Thelymitra Colensoi* (which I suppose is my *Th. straminea*.) on barren hills among fern inland from Whangaruru Bay, but rather scarce” [5].

Sven Berggren’s description of *T. intermedia*

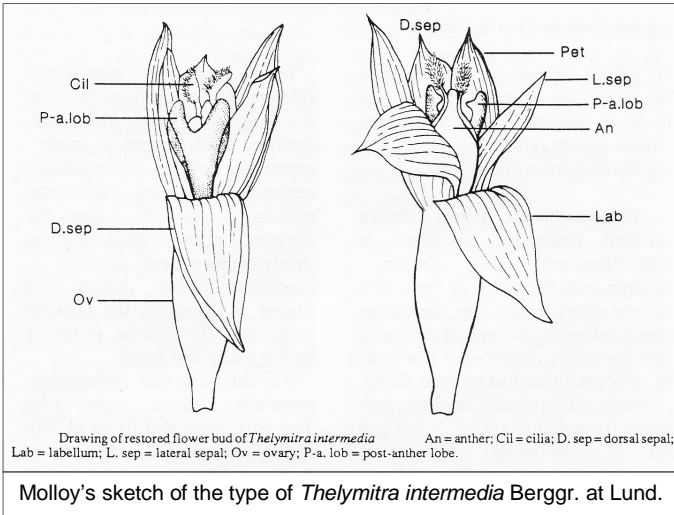
In 1878 the Swedish botanist Sven Berggren described *Thelymitra intermedia* from plants he had collected at the Bay of Islands in 1873; his paper was illustrated by a lithograph containing details of the plant [4, 6]

***Thelymitra intermedia*, n.sp.** (Berggren). Stem rather strict; flowers rose-coloured; columns three-lobed at the top, the middle lobe truncate-bifid entire at the margin with acute incurved lobules, the lateral lobes projecting forward a good way and penicillate at the tip; the apex of the anther exerted.

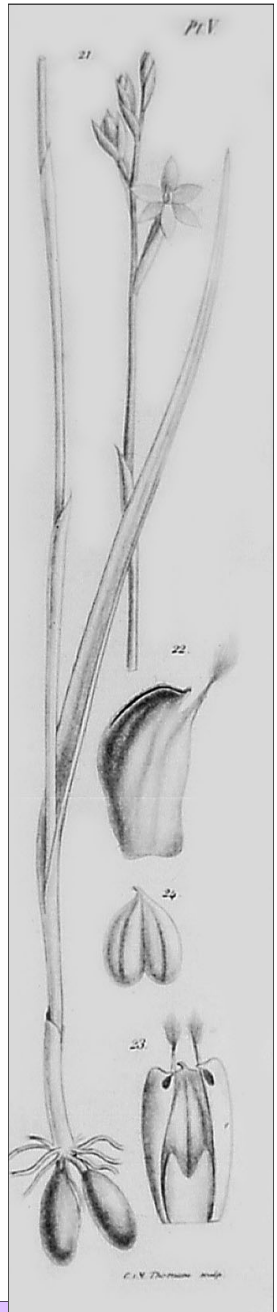
Habitat: Dry places at the Bay of Islands, North Island.

T. longifolia (Forst.) is distinguished from the present species by the middle lobe of the column being hood-shaped and exceeding in length the rounded-plumose lateral lobes.

T. ixioides Smith is distinguished from this species by its spotted perianth and fimbriate, even toothed intermediate lobes of the column.



On 4 November his diary mentions new plant finds, but by the 7 November entry his exasperated translator noted, “The last 4 pages of the diary are more or less impossible. Very crowded text.... only fragments can be translated”. We are thus deprived of a precise type locality for *T. intermedia*.



***Thelymitra intermedia*, lithograph for Sven Berggren’s Minneskr. fisiogr. Sallsk. Lund 1878, Art. 8, 21, t. 5, f. 21-24. Berggren’s key reads “21. Planta nat. magn. 22. Columna a latere visa. 23. Columna a facie antica visa. 24. Anthera.”**



Thelymitra intermedia Berggr. New Zealand. Attributed to FitzGerald, Robert David (1830-1892); 1870 - 1879. National Library of Australia PIC R5887 LOC 3444. This drawing may have been copied from the lithograph that accompanied Berggren's paper (if copied from Berggren's drawing or from the original plant, it should have been a mirror image).



Perhaps Colenso's "barren hills among fern inland from Whangaruru Bay"

A fragment from 9 November reminds us of the hazards of plant-collecting: "Spread out my plants in the sun. At 1 o'clock we were to continue. Calm but a sudden whirlwind came and scattered my plants among the ferns and 2 pieces of paper blew away up into the air and rose to about 1000 feet towards Hokianga...."

Berggren's type for *T. intermedia* is at Lund, and Brian Molloy examined and drew it there, reporting it with ED Hatch [7].

Berggren left New Zealand and visited Australia; there is a pencil drawing attributed to RD FitzGerald in the Australian National Library, Canberra, of *T. intermedia*. It appears FitzGerald copied Berggren's lithograph (if the drawing had been the one on which the lithograph was based it would be a mirror-image).

Later botanists have treated these two *Thelymitras* differently. Cheeseman, without seeing either, thought they might have been the same. Moore included *T. colensoi* in *T. pauciflora* and considered *T. intermedia* to be what we now call *T. tholiformis*. Molloy's examination of *T. intermedia* showed it is a member of the *T. pauciflora* complex, & Irwin identified it with his *T. "pseudopauciflora"* [8]. Molloy then, having examined both *T. colensoi* at Kew and *T. intermedia* at Lund, concluded that they were identical, so that *T. colensoi* would take precedence and *T. intermedia* becomes a synonym.

An issue that has troubled readers is Hooker's description of the flower of *T. pauciflora* and later *T. colensoi* as yellow. Colenso sent his (pickled in acid) specimen to WJ Hooker in

1840 and made no mention of colour in any of his communications. JD Hooker said “yellow” when he was describing “*T. pauciflora*” up to 13 years later, from Colenso’s specimen. Where he got the idea it was yellow is indeed a mystery – there would have been no colour left in Colenso’s pickled “*T. straminea*”. One might surmise wildly that he interpreted Colenso’s tagname “*straminea*” as meaning “straw-coloured” rather than “straw-like” (which would fit the habitus of *T. colensoi*). I don’t know of any modern observation of yellow *Thelymitra* in the *T. pauciflora* complex.

I don’t believe Berggren’s “rose-coloured” should divert us: I have seen “rose” applied to a range of colours, and I have certainly seen pink and blue and in-between colours in *T. colensoi* – as I have with *T. pauciflora*, *T. “roughleaf,” T. pulchella*, *T. cyanea* etc.

Lucy Moore wrote that Berggren’s illustrations of the column were “highly stylised” yet when one examines a postmature column in *T. colensoi*, it is remarkably like his picture.

What’s on the barren hills inland from Whangaruru Bay now?

On the last Saturday in October 2011 Eric Scanlen, Kristy and I walked up a track to-

wards the Russell Walkway from Whangaruru Harbour, a spot that must be close to the type locality. *Thelymitra carnea* in fruit gave way to *T. longifolia*, then further up the track, typical *T. colensoi* (Figs 1, 2) and an odd *T. pauciflora* for contrast.

We tried up the Owae valley a couple of days later, but found none.

References

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The New Zealand Native Orchid Journal

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Notes etc

Mike Lusk sent photographs of an insect visit *Prasophyllum colensoi* (Figs 3, 4). He also observed, “I revisited my Kaweka site on the Lotkow Track on 5 Sept 2011 and was pleased to find more *Nematoceras* “tri red petiole” but only in one small colony with about 10 flowers Fig. 5. There were some other *N. trilobum* agg colonies along the same track with varying degrees of redness, as in Fig. 6. In the Blowhard Bush, on the same day and about 10km south were others with minimal pigmentation Fig. 9. Further similar plants were seen on 26 Sept 2011 on the lower part Sunrise Track (approx 52km SW) Fig. 7, and on 27 Sept 2011 at Smedley Station (approx 46km SW) Fig. 8, both on the Eastern slopes of the Ruahine Range. Further north but still in the Ruahines, were plants on the Yeomans Tk Fig. 10, 1 Oct 2011 and on tracks leaving the Mangleton Rd Fig. 11. 4 Oct 2011.

“As usual with the *N. trilobum* agg, I’ve tended to become more rather than less confused as I contemplate my pix. I wonder, however if I’ve been seeing a series of hybrids, with the most extreme of the range so far being the tagged *N* “tri red petiole” with the redness of both peduncle, petiole and tepals. Other *N. trilobum* spp flowering in the area are *N. aff. trilobum* (at Smedley) others with no red pigmentation including *N. “triwhite”* (on the Sunrise Tk) and a most unusual small form, *N. “tri BSMI”*, which, looks like *N. “pygmy 3”* but flowers three months later than its June/July flowering time and is common in the northern end of the E Ruahines. It does have the claret streaks on the labellum seen in the *N. “tri red petiole”* illustrated in the third colour field guide (CFG3).

“It would be helpful if others could check their files for plants which show any degree of unusual red pigmentation of petiole and/or peduncle bearing in mind that *N. “tricraig”*

and *N trilobum* ss, amongst others, may have a variable degree of red streaking. Flowering is now over for this season, locally at least, but of course it’s still worth looking for the redness on colonies you may be passing. I agree with Eric’s assessment that we may be close to defining a new species.

Fig. 5. 5 Sept 2011 Lotkow Tk E Kaweka Ra. Note Labellum apiculus.

Fig. 6. 5 Sept 2011 Lotkow Track. Minimal pigmentation

Fig. 7 26 Sept 2011 Sunrise Track E Ruahine Ra

Fig. 8. 27 Sept 2011 Smedley Station Central HB

Fig. 9. 5 Sept 2011 Blowhard Bush

Fig. 10. 1 Oct 2011 Yeoman's Tk E Ruahine Ra

Fig. 11. 4 Oct 2011 Sentry Box Tk

Gordon Sylvester reports a **plant list for the NOG AGM and Colenso Trip...**

There were several areas visited under the guise of the AGM Field Trip and a walk to a monument to commemorate William Colenso in the Makaroro River system. Interestingly the trip to Waipatiki and White Pine Bush Reserves entailed areas I last visited in 1951-52 as a young keen Forest and Bird Member. The other area visited was to the Makaroro River especially to view a memorial commemorating William Colenso. All areas had their challenges including a suicidal white slug stopping a narrow bridge to talk with one of our party—without regard for any traffic behind it.

As is now usual whenever a group of “Noggers” get together, exciting things seem to leap out of the vegetation and beg to be recorded; these two trips were no exception.

The first place visited 9 November 2011, was a flying visit to the Puffer Track (E.D.38.01) where Ian and I noted *Thelymitra colensoi*, *Th. cyanea*, *Th. longifolia*, *Singularlybas oblongus* in early bud, and a small *Pterostylis graminea* that looked suspiciously like *Pt. "peninsula"*. We only wanted to record the *Pt. graminea* and didn't proceed any further up the track.

The field trips associated with the AGM were located at Waipatiki Reserve, Waipatiki Domain, White Pine Bush Reserve and Tangoio Falls track (E.D.22.03.)

Plants recorded included: *Microtis unifolia*, *Corybas cheesemani*, *Acianthus sinclairii*, *Nematoceras trilobum* agg, *N. macranthum*, *Pterostylis alobula*, *Pt. graminea* agg, *Pt. banksii*, *Pt. aff. banksii*, *Pt. cardiostigma*, *Pt. emarginata*, *Caladenia chlorostyla*.

The Waipatiki Domain revealed *Pt. banksii*, *Pt. cardiostigma*, *Pt. emarginata*, *Nem. macranthum*.

White Pine Bush and Tangoio Falls Track (E.D.22.03.) *Earina mucronata*, *Earina aestivalis*, *Ichthyostomum pygmaeum*, *Drymoanthus adversus*, *Microtis unifolia*, *Adelopetalum tuberculatum*, *Pterostylis banksii*, *Pt. banksii* agg., *Pt. emarginata*.

The field Trip associated with the Colenso Conference up to the Makaroro River and the cairn commemorating Wm. Colenso and his crossing of the Ruahine Ranges. (E.D. 28.01) disclosed *Microtis unifolia*, *Earina mucronata*, *Pterostylis patens*. At the monument proper *Nematoceras trilobum*, *Earina mucronata*, *E. autumnalis*, *Pt. patens* were noted. Ian St. George found a distressed *Pt. aff. montana* from the plateau track late in the afternoon.

An interesting couple of days.

Alasdair Nicholl of Hamilton recorded several new sites he has visited, including...

Waiwheta Hut in the Kaimai-Mamaku Forest Park (E.D. 10.08) Dec 2010 and Oct–Dec 2011. *Acianthus sinclairii*, *Chiloglottis*

cornuta, *Pterostylis* aff. *montana*, *Thelymitra* sps., *Microtis unifolia*, *Earina mucronata* and *E. autumnalis*, *Nematoceras rivularis* (Kaimai).

Pigeon Island Lake Wakatipu (E.D. 66.03) October 2011? *Microtis unifolia*, *Thelymitra* sps.

Komata Reefs Track Paeroa (E.D. 10.07) Nov 2011. *Pterostylis banksii*, *Nematoceras trilobum*, *Nematoceras acuminatum*, *Earina autumnalis*, *E. mucronata*.

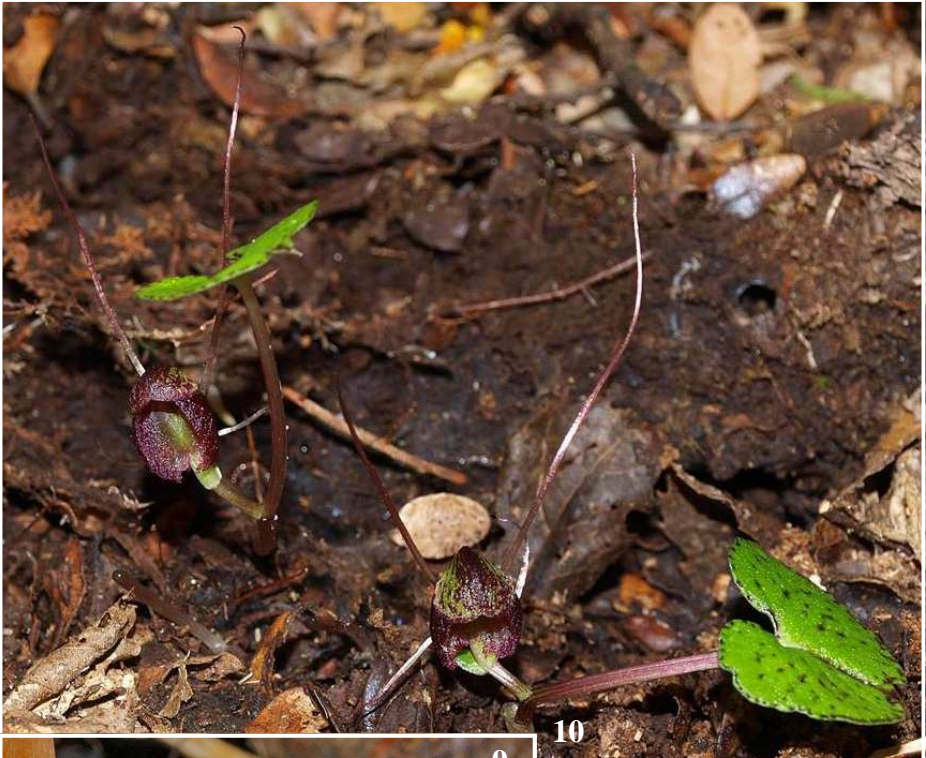
Sue & Jake McManus emailed on 12 December 2011, "Would you be able to **put a name to this *Pterostylis*** with a whitish flower head? We found this one growing on a corner bank covered in moss on West Pirongia Rd (**Fig.12**)....This was the only whitish one growing on the bank.... Height to flat top of dorsal 90mm; dorsal sepal from base to tip 30mm; 5 leaves - 1st leaf from base 6mm x 3mm, 2nd leaf 25mm x 5mm, 3rd leaf 28mm x 4mm, 4th leaf 25mm x 4mm, 5th leaf 22mm x 4mm; ovary 7mm x 2.5mm; lateral sepals 18mm."

Interesting: its one of the Pterostylis aff. montana group. Compare with mine from Kaitoke (Fig.13). Orchids get some of their sugar from photosynthesis via the leaves and some from mycorrhizal transfer via the roots. Thus leafless orchids like Gastrodia, pale-leaved orchids like Epipogium (European) and purple-leaved orchids like Thelymitra purpureofusca may get less from green leaves and more from the roots. Perhaps the same variations apply within species, so some individuals of Thelymitra longifolia (and your red Singularlybas?) for instance, have purple leaves and stems, with less chlorophyll, so are leaning towards reliance on mycorrhiza. So are some individuals within species of Pterostylis: I have seen white forms of P. banksii, P. montana, and others, usually with those rather small leaves; perhaps they survive with relatively little chlorophyll because they are in a fungus-rich site—Ed.



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3 4





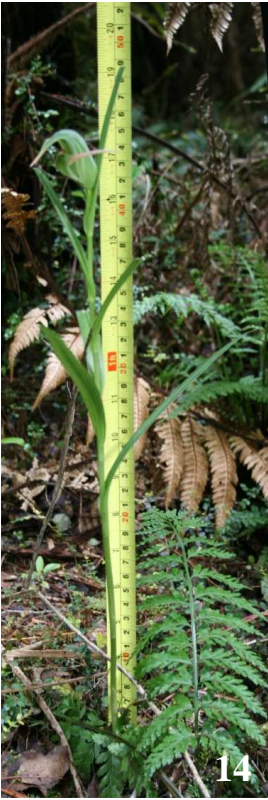
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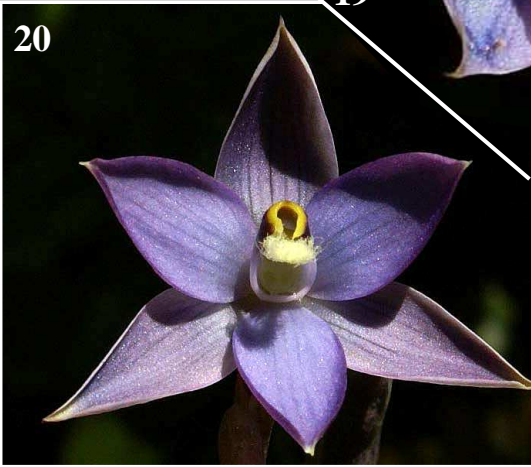
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12



13



Puffer track *Thelymitra*, p.21



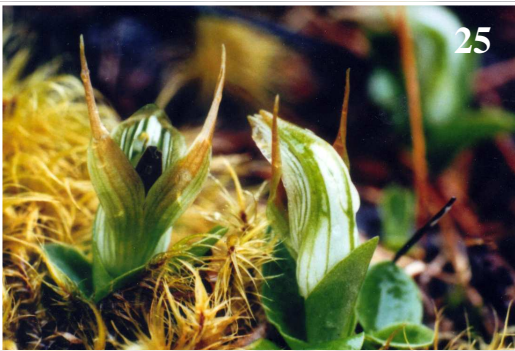




Figure 27: Plastic bag with silica gel and *N. trilobum* leaves on a coffee filter-paper envelop. The silica gel changes colour, from orange to green, when it has absorbed moisture and needs replacing. (Photos: C.A. Lehnebach; Copy right: Te Papa Tongarewa).

See Carlos Lehnebach p. 26.

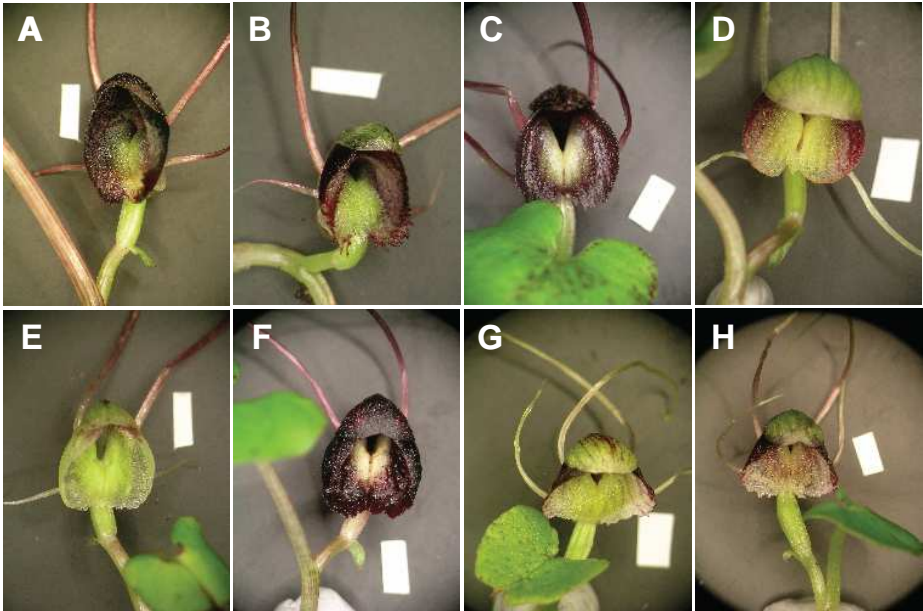


Figure 28: *Nematoceras trilobum*, *N. hypogaeum* and allied forms collected during the flowering season August-early December 2011. A: *Nematoceras trilobum* sensu strictu; B: *N. hypogaeum*; C: "round leaf"; D: "craigielea"; E: "triwhite"; F: "darkie"; G: "avalanche"; H: "pigmy". White bar = 5mm. (Photos: C.A. Lehnebach; Copyright: Te Papa Tongarewa).

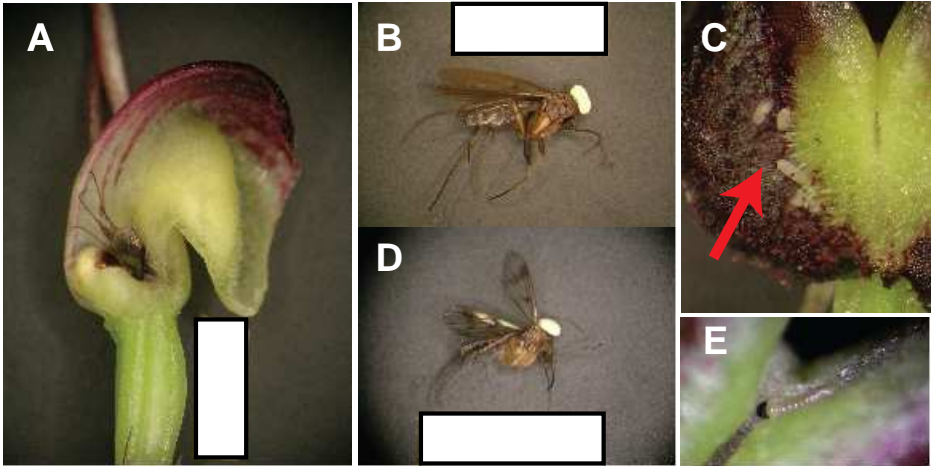


Figure 29: Longitudinal section of a flower of *Nematoceras* "triwhite" with insect stuck in the auricle (A), fungus gnat collected in flowers of "round leaf" (B) and "triwhite" (D), and eggs (C) and larvae (E) found in flowers of *N. hypogaeum* and "round leaf", respectively. White bar = 5mm.

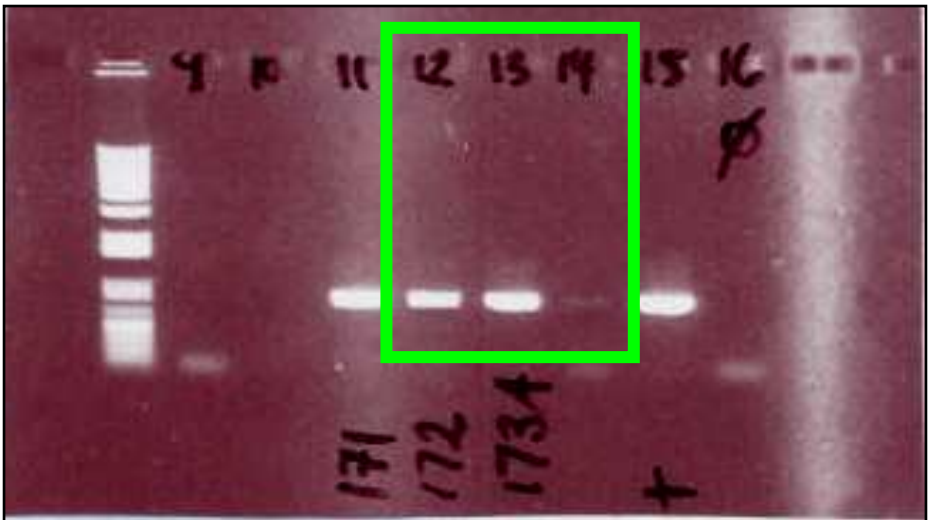


Figure 30: Photograph of an electrophoresis gel showing DNA samples extracted from the eggs of fungus gnats found in several forms of the *N. trilobum* aggregate. (Photo by Mary Morgan-Richards)

See Carlos
Lehnebach p. 26.

Gordon Sylvester emailed about a **giant** *Pterostylis*.

Historically the general description for *Pterostylis banksii* has included a height of between 150 and 450mm (6inches and 18inches)—WJ Hooker, A Cunningham, JD Hooker, Thomas Cheeseman and ED Hatch.

Generally the largest *Pterostylis* is taken to be *P. banksii* and a lot of observations relate to this.

While carrying out a follow-up visit to Lake Mahinapuna in 2008 several plants were noted which were significantly larger than any other form of *Pterostylis* previously seen in a large range of habitats. Unfortunately the plants were at the end of the season and in a bad state. The site was recorded for a follow-up visit next season.

In Nov 2009 the site was revisited and the plants were in full flower with some damage to the upper leaf tips (**Figs 14, 15**). The description is as follows:

Plant 450-500mm. *Stem* 5-6mm in dia. Two bracts in the first 100mm, then 6 leaves rotating up the stem. The topmost leaf hard under the base of the ovary overtops flower. *Leaves* up to 130mm long 6-8mm wide typical shape for *Pterostylis*. *Flower* 40mm long, the dorsal sepal up to 40mm long. Sepals all pale orange/red. Lateral sepals sharply arched away from front of flower at approximately 90 degrees to the dorsal sepal. Labellum blunt with a pale orange/red coloured blunt tip. Stigma long elliptical in middle of column.

The plant is striking in its height and grows in clumps of 10-15 plants in light shaded secondary scrub on weathered dune material, both colonies within 1 km of the sea. About 150 plants in total.

Plants were again observed at both locations in October 2010 and did not exhibit the size they actually grow to.

I have tag named it Pt. “giganteum” because of its large size.

Tricia Aspen emailed, “I must confess that I haven't been to the *Danhatchia australis* site at Matakawau for three years but on 27 December I managed to make a quick visit (it's a pity that this orchid flowers at the busiest time of year). I took the new owners of the property with me hoping to show them this special little orchid as they had no idea what to look for. Fortunately there is a good showing this year with 33 stems presently visible in the first colony and 32 in the second. There were few flowers open but two stems in Colony 1 have three open (**Fig.16**). Most stems had capsules just beginning to swell and there are a lot of stems just beginning to emerge above the taraire and puriri leaves. In comparing my notes I find that the *Danhatchia* season is a little later than usual here (as has been with most plants).”

Mervyn Rodgers sent photographs he had taken in the 1970s in the Tararua of a *Pterostylis* that matches Mike Lusk's probable *P. trifolia* Col. From the Ruahine (**Fig. 25-27**). Mervyn returned to the site in November 2011 and found the colony still there. *I visited the site in late December and could find no trace of the orchid, suggesting it may not set fruit—Ed.*

But nonetheless ISTG spent a delightful afternoon on the Puffer, one of the best for open *Thelymitra* I have ever experienced. *T. X dentata* (**Figs 17, 19**), *T. hatchii* (**20, OBC**) *T. pulchella* (blue, **21**; and white, **22**), an odd *T. formosa* in late flower, *T. longifolia* and *T. cyanea*. *T. colensoi* were fruiting. And there were *Aporostylis*, *Microtis*, *Prasophyllum*, *Petalochilus*, *Chiloglottis*....

Jenny Horne emailed, “I have identified a New Zealand orchid growing in our Napier Hill Historic cemetery, *Gastrodia* (probably aff. *sesamoides*), common name ‘potato orchid’ (**Fig.24**). New Zealand Orchid enthusiast Mike Lusk has confirmed my find based on photographs I sent him. I discovered the orchids in December, growing and flowering in four graves—two of the graves have our marker pegs, and two do not. If anyone wants

to see where they are growing it would be simpler for me to show them on-site, rather than describe their plots (no headstones in three of the plots). The flowering stems were between 300 and 700mm high.”

Ian Townsend emailed, “Firstly, I must thank those writers who contributed to the fine stories of Bruce Irwin's life. I too have spent many happy hours with him in the past and enjoyed his charming company at his home and in the field.

“I must comment about the [J123] cover picture by Sue McManus. Striking leaf colour all right, but I think the answer is in the photo! Those insects are aphids and I would dearly like to turn that leaf over. I would suspect there is a thriving colony on the underside and they are the reason of the unusual colour. The poor plant is struggling to survive. It is a bit hard to tell but it looks like the “debris” on the leaves are caste skins, plus a mature aphid. Certainly those on the flower itself are aphids,—Mum and two daughters above her! Aphids are parthenogenetic and give birth to live young. That is why they can reproduce so rapidly.

“Regarding colour of the labellum in *Earina mucronata*—I have several clumps in the garden, but they always flower true to form and unchanging in my situation. One plant in particular has a bright orange labellum, the others are paler. By the way, the visitors are ants. Ants regularly work my flowers too. I assume they are after nectar.

“I always look forward to receiving the Journal, in spite of the name-changes! It happens with everything biological.

“PS. Don't be too hard on Mike Lusk, what's wrong with a lolly-stick for size comparison!!”

Robyn and Murray Irwin have sent Bruce Irwin's drawings to the Group, at Bruce's request, asking that we make best use of them. They are now being assessed at Te Papa to ensure the collection fits with the museum's acquisitions policy, and we hope

they will reside there, accessible to native orchid researchers.

Mike Lusk emailed, in response to NOJ's rude comment on his measuring stick, “I feel I must spring to the defence of the indecent ruler which appeared in a pic in NZNOJ 123. It has been selected at the end of a long and careful process during which a number of other styles have been trialled.

“Problems which arose were:

1. Pale ones were either reflective or confused the lightmeter of my camera.
2. Some required gluing to a firm backing.
3. Size meant that some would not fit into my camera bag.
4. I was caused no amount of stress when I forgot to pick up an expensive ruler as I left the scene.
5. Leaving non-biodegradable rulers scattered about the landscape is morally indefensible.

“The final choice, as observant readers will have noted, is a recycled stirring stick from our local cafe. It is an ideal length, rigid, can be stained a little using tea or coffee, and if forgotten is unlikely to intrude unduly, or for long, on an orchidiferous landscape. I am most happy for others to copy my discovery without payment or acknowledgement.”

Georgina Upson wrote, “Elizabeth Burton's Milford Track *Nematoceras* “whiskers” [J123: 26, 39] is a *Nematoceras longipetalum* agg. taxon, quite an interesting one at that. It has been found in the Nelson area and it is good to see it reported from the southern regions. It could easily be mistaken for an *N*. “whiskers” as the labellum lamina is moderately whiskered although the flower is larger. This particular taxon is very highly attractive to fungus gnats with mature flowers literally packed full of them.”

NZNOJ 123 was posted to 98 addresses and emailed to a further 43. Membership is currently as high as it has ever been.

Original papers

Archives

A discussion paper for the Executive Committee from Gordon Sylvester

Our constitution makes provision for the dissemination of information, protection of the environment, research into orchids etc. This puts the Incorporated Society in the position of being custodian of the accumulated knowledge stored in a variety of materials being deeded, gifted, or otherwise ceded to our custody. Traditionally this was the province of museums, libraries, research centres, scientific institutions, universities etc.

Books and printed materials

Today's printed material is tomorrow's historical archival resource—the information and materials accumulated over the last 30+ years in addition to materials produced by others and published in all sorts of publications. There may be issues with copyright matters with some of the publications. All are or were subject to copyright legislation.

The types of paper, methods of collating and storage/usage will all contribute to the deterioration of the paper. Sweat, licking of fingers, overstretching of bindings (spine), dog-earing of corners, exposure to sunlight, smoke, atmospheric suspended particles—all contribute to the gradual destruction of the paper.

A common method of collating paper is the use of staples. These rust with time and the rust attacks the fabric of the paper. The use of staples in the centre of the page combined with the acids used in making the paper and those used in the inking process all combine to be quite possibly the most destructive proc-

ess in the life of a book. Case binding is quite possibly the most stable method of collating a book. But occasionally the case of a book is too light for the signatures* and will eventually pull away from the case unless stored horizontally. We have been guilty of this with one of our own publications.

Added to that the effects of artificial lighting, heating, humidity, and temperature can be the final straw as far as the destruction of the book is concerned.

Photographs and slides

Both of these media are, by their very process of manufacture and finishing, literally bathed in chemicals and salts to produce an image. The addition of light, heat and humidity are the bedfellows this medium does not want to be mixed with.

The storage of all of these media require specialist storage facilities. At home a method of storage is the use of an old chest freezer with good seals on it and stored in a clean and dry environment. And the motor turned off permanently.

The next thing to consider is the method of packaging the archival materials. Packages in their turn need to be acid free and dry. Then you need to consider acid free paper to wrap

*Signatures are defined as that group of 4, 8, 16, 32 pages that go into a block of the printed book. These are typically indicated as a block of colour on the middle of the group.

When the book is assembled all of the blocks will line up in a diagonal block of colour usually black across the entire spine of the publication. Any block missing will immediately become obvious as will any block duplicated.

things in. Jewellers' paper is a reasonable substitute for a short term storage say 15 years maximum.

There are specialist suppliers of archival materials available in New Zealand. These are...

- A museum quality supply business located in the Auckland area
info@conservationsupplies.co.nz
- Port Nicholson Paper Ltd. based in Wellington. sales@pnp.co.nz

What now?

Exactly what do we want the future to be as far as "our archival activities" are concerned? Some thoughts are...

- Is it to be a public domain (information, slides, drawings)?
- If closed, to whom? and how is access to be made to competent parties?
- Storage of the archival materials?
- Where?
- How?
- Custodian?
- Are copies to be made for reference purposes?
- Inventory vested in a Committee or a nominated Officer?
- Creating an accession system and numbering to allow a structured sort to be carried out?
- Adding in new materials as and when received?

Numbering system should be a prime, e.g. 1982 (the year the Group was formed); sub, say 2011; an individual successional number. To illustrate this, an original drawing arrives from a donor. The number sequence would look something like 1982.2300.2107.

We should consider at least seven categories of sub numbers

- 1.Slides 2100
- 2.Photographs 2200
- 3.Drawings (Originals) 2300
- 4.Drawings (Copies) 2350
- 5.Books 2400
- 6.Magazines 2500

7.Serials scientific 2600

Also name and contact details of owner/ donor, and any special conditions.

Note: *While copying the Goodger collection, I used a simple index system, firstly labelling each pouch with a unique number (1.) Each slide was identified by its actual position on the sheet reading from left to right Row 1 slide 5 would then be referred to as: 12. 3. 5. A simple spreadsheet was set up with the corresponding numbers as well as providing a cell for recording any numbers Bob Goodger may have written on the slide. The other cells were genus, species, location, and date in the same format as photos are stored Year-Day-Month.*

A spreadsheet or database (relational) would be best suited. However there are industry based programmes available. But they are not particularly suitable for our specific purposes. The information stored should include:— names, date of photograph (if at all possible), collector, photographer, identifier, location of site, accession number, recorder's name, location of original, storage method, and remarks. Ideally there should be a hard copy card index as well as the computer file.

Optimum storage of slides, photographs, and drawings, paper will be essentially the same...

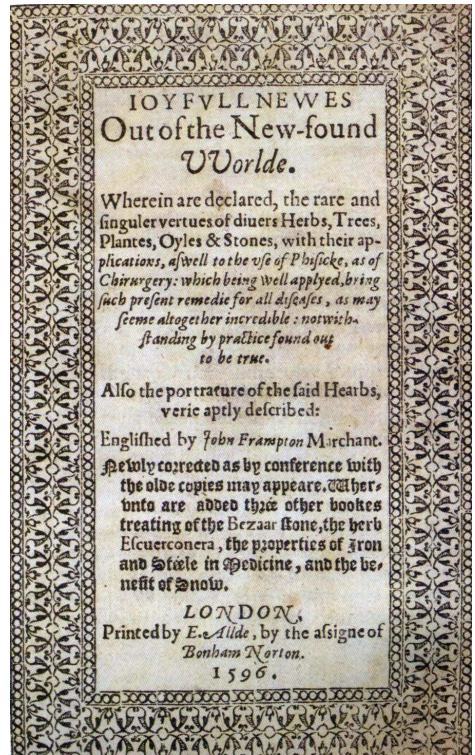
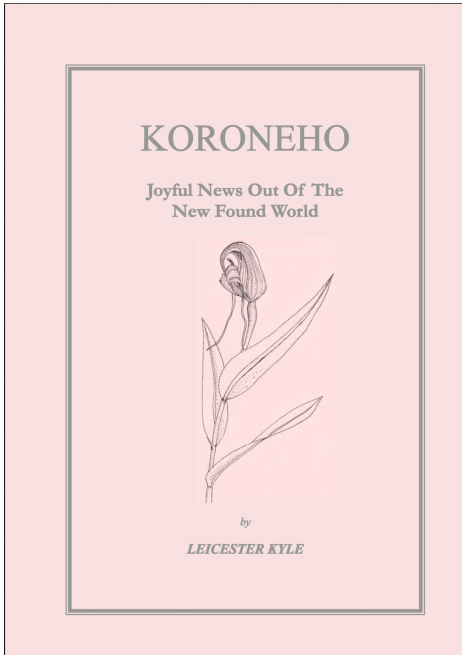
- Constant temperature say 15° C.
- Stable humidity 60%.
- Acid free storage containers.
- Acid free envelopes.
- Controlled light source at recommended lumens.
- Controlled handling techniques.

Slides are liable to deterioration very quickly due to the high light levels and temperature reached during projection. These factors will fade the dyes used in creating the image on the cellulose base. Domestic storage of slides creates an environment conducive to the growth of fungi on the cellulose and dye combination almost always found on the image side of the slide (matte side). Some "professionals" advocate the use of Isopropyl

Alcohol to neutralize this fungal growth. This alcohol can be purchased from a chemical supplier in 100ml lots. The alcohol is applied very sparingly using cotton pads. Before using this it is advisable to test the process out on an unwanted slide to see how much and at what sort of pressure required. Remember too

much pressure will scratch the image which will require some restorative work using an appropriate software programme.

Specific information can be sourced from a kindred organisation like Alexander Turnbull Library or National Archives.



When Leicester Kyle named his long poem *Koroneho: joyful news out of the new found world* it was not only a tribute to fellow botanist, writer and minister of religion the Rev. William Colenso, its 14 sections each devoted to one of Colenso's orchids described 100 years earlier.

It was also a literary and botanical allusion to John Frampton's sixteenth century translation of the Spanish physician Nicolas Monardes' excited discussion of the potential of new-world medicinal plants.

It is now published jointly by the Leicester Kyle Literary Estate and the Colenso Society: \$12 includes postage from Ian St George at istge@yahoo.co.nz.

Does every spider orchid in NZ have its fungus gnat?*

One year later

By Carlos A. Lehnebach.

Museum of New Zealand Te Papa Tongarewa. Wellington. CarlosL@tepapa.govt.nz

It's been already one year since I started my research on the *Nematoceras trilobum* aggregate. This terrestrial orchid is one of the most common orchids in NZ but also one of the most variable, and a number of forms, or varieties, have been recognised over the years. Many of these forms have been given tag names such as "pigmy", "triwhite", "darkie" or "round leaf". Some of them are rather abundant, while others seem to be restricted to only certain parts of the country.

Despite this project started officially in February 2011, the field work component did not begin until early August 2011, when *N. trilobum* started to pop out among the leaf litter in some forested areas around Wellington. From this point onwards, it all went very fast and it wasn't until the end of December that I managed to catch my breath and look back at what was achieved in four months of travelling up and down the country.

During these four months I visited several National Parks, Forest Reserves, Regional parks, roadside banks, etc, both in the North and South Island. In total, over 80 populations of *N. trilobum* agg. were sampled and the measurements of the leaf and flower parts of about 300 plants were taken with a digital calliper. Now I have a very large excel spread sheet with values of "lengths" and "widths" to analyse using statistical programs! After all the leaf measurements were taken, leaves were placed inside a packet made of coffee filter-paper and stored in a small plastic bag with silica-gel beads (**Figure 27**). The silica gel dries the leaf tissue fast and preserves the DNA for future genetic analyses.

This orchid hunt was very successful and

samples of at least eight of the forms included in the species aggregate were collected, measured, photographed and pressed-dried to be incorporated into Te Papa's herbarium for future reference. These forms are illustrated in **Figure 28**.

The success of this first field season was in great part due to the advice and assistance in the field of Mark Moorhouse, Vivienne McGlynn, Mike Lusk, Andreas Zeller, Eric Scanlen, Gordon Sylvester, and Ian St George. Also of great use were the numerous "notes" and "comments" many of the members of the NZNOG have written for the journal indicating when and where they have seen these orchids. Incredibly enough, for such a common orchid, their number of specimens and stored in Te Papa's herbarium is rather small (only 67 vouchers) and about half of them were collected before the 60's. So without the information published in the NZNOG journal, deciding where to go would have been pretty difficult!

By December Jonathan Frericks, a Summer Research Student at Victoria University of Wellington co-supervised with Dr Peter Ritchie, had joined my quest and spent most of his summer in the lab learning techniques that could be used to study the relationship between the different forms of *N. trilobum* using DNA. Jonathan's results were very exciting and suggest one of these forms could be actually segregated and potentially recognised as a different species. However, we still need to analyse the morphological data and try other more sensitive genetic techniques to confirm this finding.

A side-product of this years' field work was

*This project has been supported by the Marsden Fund Council from Government funding, administered by the Royal Society of New Zealand.

the accidental collection of fungus gnats, larvae and eggs inside the flowers of several orchids. This finding is not new and there are many notes in the NZNOG journal reporting such bizarre situation. The presence of fungus gnats and their eggs inside of *Nematoceras* flowers was first reported by Geoff Thompson in 1927.

It has been generally assumed that female fungus gnats are “fooled” by these orchids’ mushroom-like flowers and lured to lay their eggs on them. By doing this, they pollinate the flower. Whether every spider orchid in NZ “fools” a different species of fungus gnat or if they use the same species of fungus gnat is unknown and answering this question is one of the main goals of my project.

I found fungus gnats, larvae and eggs in all the eight forms shown in Figure 28. Some of these gnats were of different size and perhaps they belong to different species? Unfortunately my entomological skills are very limited and I am hoping Richard Toft (Entecol Ltd.) will be able to give them a name. Meanwhile, I can only show you some photographs of these fungus gnats carrying the pollinia of *Nematoceras trilobum* agg. and some of the eggs and larvae inside flowers or the labellum (Figure 29).

—continued from p.29

no one told these two plants that it is too late to flower, or is that too early. Unfortunately, as it was threatening to rain, these sun orchids were firmly closed so we didn’t get to see their flowers open. This species grows exclusively in *Dendrobium kingianum* roots, but again, no one told these two plants as one was growing on the trunk of a small shrub and the other was growing in the ground amongst reeds.

After the end of the Twin Falls circuit, the Kabi members continued to a couple of nearby sites for more orchids between the heavy showers. The *Spiranthes sinensis* were in full flower making a spectacular site with plants up to 600mm tall having a continuous

Larvae and eggs of fungus gnats, on the other hand, are far more difficult to identify and DNA bar-coding seems the most fruitful approach. A fungus gnat can measure easily below 5mm length and their eggs are even smaller than that, less than a millimetre! Dr Mary Morgan-Richards (Massey University) has been testing different techniques to get DNA out of these tiny eggs and she has succeeded! **Figure 30** is the photograph of an electrophoresis gel used to find out whether DNA amplification was successful (bright band) or not (no band). For example, samples 12 and 13 were successful. These bands are the DNA from eggs found in flowers of “trihwhite” and “pigmy”, respectively.

During this flowering season (August–December 2012) I am hoping to gather more information on the pollination system of this orchid. Towards this end, a one-year scholarship for a student willing to cover this topic as a Master’s research project at Massey University has been budgeted in the grant. I am also planning to extend my sampling to other areas and the respective Research Permit Applications to the Department of Conservation have been submitted. Expeditions to collect *N. trilobum* from Stewart Island, the Chatham Islands, Fiordland and some areas around Auckland will hopefully take place this year.

spiral of their tiny pink flowers on the upper half of their stem. These orchids grow in large numbers in moist open areas in full sun. In contrast, the *Acianthus amplexicaulis* are tiny at only 50mm tall for large plants and grow in full shade on the rainforest floor. Their tiny flowers are only 3mm wide and will open progressively until August.

After viewing the *Acianthus amplexicaulis*, one of my favourite terrestrial orchids, we made our way home through the showers. It was one of my more enjoyable orchid talks followed by a great orchid amble enjoying some wonderful orchids with some very lucky people who have Springbrook as their backyard. Thanks to SWAG members for making it a such a great weekend.

Aussie notes: David McConachie

Quick introduction to Brisbane's orchids

Mike Duncan

ANOS (Vic) Bull. Vol. 44 No.8 March 2012

In late August 2010, I spent an all-too-short long weekend in Brisbane being introduced to an array of local species. Thanks to the informed directions and planning of David James and Graham Corbin, and the friendly and knowledgeable guiding of Roger Finn, Len James, and Neville Bone, I managed to see more than 25 species, many in flower.

Hot off the plane from Melbourne, Emma and I met Roger Finn at Mt. Coot-tha for an afternoon stroll. While we were nibbling on some lunch, hungry brush-turkeys quickly appeared from the undergrowth to reinforce that we were a long way from home. We only saw one species in flower (*Dockrillia teretifolia*), but it was great to see species such as *Sarcochilus ceciliae*, *Oberonia titania*, *Sarcochilus dilatatus*, and *Dendrobium linguiforme* growing in the wild for the first time.

The next morning, Roger showed us around the fabulous Mt. Nebo and Mt. Glorious area. Many species were seen during the day, with highlights being a spectacular *D. aemulum* plant growing on the top of a road cutting; seeing *D. tetragonum* in the wild (rather than in the bathroom at home); seeing huge *Cymbidium madidum* and *C. suave plants* in the wild; an amazing tree covered in dozens of flowering *D. aemulum* plants; and a couple of massive *D. speciosum* var. *hillii* plants with multiple spikes in flower.

On Sunday, Len James and I went for a long drive to Queen Mary Falls. Along the way we saw a pair of pheasant coucals fly across the road, *Cymbidium canaliculatum* plants growing in remnant paddock trees, and a row of trees covered in *Sarcochilus falcatus* (and a

few other species). It was a brisk 10°C or so at this spot, and while Len was showing off his 'Tassie jacket', my southern constitution meant that I was comfortable in a T-shirt. At the falls, satin bowerbirds were a dime a dozen around the picnic ground, but we couldn't spot the regent bowerbird Len had seen in its bower the last time he was there (this was probably for the best, as Emma would have killed me if I saw a regent bowerbird). Many orchids were spotted, including *Dendrobium kingianum* (first time I'd seen it in the wild), *Liparis swenssonii* hanging off the cliff edge (as they seem to love to do), and heaps of *Pterostylis hildae* along the trackside. Nearby we were able to get up close to *Dockrillia*, *Sarcochilus* and *Plectorrhiza* plants, but they were all still in bud.

Len and I were then joined by Neville Bone for a trip up to Mt. Mee on Monday, where *D. kingianum* was in flower (yeah!), and a carpet python (somewhere between two and three metres long) was sunning itself on the rocks. *Calochilus campestris* was in bud, but persistence paid off when one flowering plant was eventually spotted. From here, we continued north to Stony Creek where *Caladenia catenata* and *C. carnea* were in flower, but *Pterostylis grandiflora* had finished. Finally, we ended the day with the 'Bellthorpe loop' where the last of the *P. erecta* were spotted, along with lots of *Diuris sulphurea* in a recently burnt area, and a beautiful flowering *Sarcochilus falcatus* plant at eye level. After a patient wait for the school bus, we descended to the coastal plain and parted ways. I headed to Coolool to meet Emma, and the fellas headed home.

Our final day involved a morning exploring the wallum heaths of Noosa National Park in the Emu Mountain and Marcoola areas. Unfortunately, *Glossodia minor* and *Caladenia fuscata* had just finished flowering, but *Lyperanthus suaveolens*, *Cryptostylis subulata* and

Prasophyllum elatum were in flower, as were the last of the distinctive *Diuris chrysantha* plants. A striking male red-backed fairy-wren and another pheasant coucal were delightful surprises as we explored the wallum. Later in the morning the sun orchids opened, and the *Thelymitra malvina* and *T. purpurata* flowers made a lovely finale to our trip.

Thanks again to David, Graham, Roger, Len and Neville for making my trip so enjoyable and successful.

February orchid amble

Report Graham Corbin.

The Kalhari March 2012 pp13-14

The February bushwalk was a bit different as it actually occurred in March. It was also a bit different to normal as it was a dual purpose walk. I had been invited to speak on Saturday afternoon to the Springbrook Wildlife Appreciation Group (SWAG), a group dedicated to educating people about the flora and fauna of Springbrook. I spoke to a group of 32 Springbrook residents about the orchids of Springbrook. This talk went a lot longer than planned at just over a marathon 80 minutes, but no one went to sleep and those present were clearly interested due to the continuous stream of questions. The group provided complementary overnight accommodation at Springbrook Canyon Cottages (www.springbrookcanyoncottages.com.au) to allow Marilyn and I to stay overnight for the combined Kabi orchid amble and showing SWAG members their local orchids in the wild. I must really say a big thank you to Sandra and John for allowing us to stay in their luxury accommodation. We stayed in the Echidna Cottage which is a luxury fully contained house sleeping six in two bedrooms with two king sized beds plus two single beds. It has everything, even toys for the kids. I can highly recommend Echidna Cottage or the equally luxurious Eagle's Nest for accommodation at Springbrook.

The weather didn't look good for the walk on

Sunday as it rained continuously all Saturday and all throughout the night. Sunday dawned to a brief period of blue sky before clouding over again promising even more rain. Four Kabi members plus about 15 SWAG members started on the walk with many of the SWAG members apologising that they could only stay for part of the walk.

There was only five species of orchid in flower on the Twin Falls Circuit but SWAG members were amazed by the number of terrestrial orchids along the tracks which they had not noticed nor realised were orchids. Species like *Cryptostylis erecta* lined the track edges almost continuously along the top of the cliffs to their amazement. They were also surprised by the tiny size of the *Chiloglottis sylvestris* flowers and the even smaller *Taeniophyllum muelleri* plants. Interestingly, the number one comment from the SWAG members after 'I didn't know orchids were so common' was 'I can go a bit longer, so and so can wait a bit'. This excuse only lasted for so long as more and more SWAG members said their good byes until only four SWAG members remained at the end of the amble, the four kilometres taking just on four hours to amble. As we all departed, the rain started again. The rain god had smiled on our walk and had stayed away for the entire walk, but only just.

We had seen the last few *Chiloglottis sylvestris* in flower. This species has been flowering since November and the flowering season is at its end. The *Cryptostylis erecta* are also at the end of their flowering season but we still managed to find plenty of plants in flower. The *Liparis swenssonii* have only just started flowering but every rock in the rainforest was covered in flowering plants, but unfortunately, we did not find any plants close enough to touch for a really good look at their flowers.

Interestingly, we found two *Thelymitra fragrans* in flower. This species is supposed to flower in August to September, but obviously,

—continued on page 27

The Column: Eric Scanlen

Thelymitra “blinkers” at Whangaruru

Ian St George and the Column agreed to meet on 29 Oct 2011, in the hills behind Whangaruru where William Colenso had found what he wanted to call *Thelymitra straminea* (straw-like). J.D. Hooker, back at Kew, nonetheless described it from Colenso's bleached specimen in spirits of salts, as *T. colensoi* and he upset most by saying it was yellowish. The Editor and the Column were intent upon finding this sun-orchid in the type locality for possible proof and headed for the Russell Walkway accessed via a private vehicle track from the end of Papakauri Rd. The orchid had to be open for best identifying and the weather was not inclined to be hot enough so the Column went up a day early to reconnoitre on a partly cloudy Friday 28 Oct. The private owner of the track, lived at the end of Papakauri Rd. and was happy for the Column to head up for the Russell Walkway which however he failed to reach that day.

Why? About 150m up the track, a form of white *Thelymitra* aff. *longifolia*, **Fig. 31**, in a small cluster, immediately took centre stage. The sepal outsides were a yellowish green, unusual for *T. aff. longifolia*. Could it be *T. colensoi*? Well no, it couldn't, because nothing much else agreed with the description. You see, Brian Molloy had seen Colenso's specimens at Kew and he'd also seen Berggren's later specimen from the Bay of Islands, of *T. intermedia*, residing at Lund, Sweden and Brian declared them unofficially, after close examination, to be one and the same. But *T. intermedia* was lilac blue, not yellowish so doubts remained. This form of *T. aff. longifolia* had the post anther lobe closed at the front with a brown nose-like feature having lugs either side reminiscent of blinkers on a horse as per **Fig. 32**. Hence the Column's tag, *T. “blinkers”* rather than lump this unique form as another in the grab-bag of *T. aff. longifolia* forms. The Column could detect no perfume,

nor can he from any *T. aff. longifolia* so that proved nothing. There were a number of less showy specimens of the same taxon around within ± 15 metres but, further afield, a few other *T. aff. longifolia* were all closed and had pink backs to the sepals; at least one different taxon.

So we have a pesky new form for you to assimilate, like it or not. It stands up to 400mm tall with five or more flowers all open at once on a warm, cloudy-fine day. It favours the poor soil of weathered greywacke on track-side, amongst kanuka and scrub species. On Saturday 29 October, Ian found several of the lilac blue flowered *Thelymitra* in the same vicinity, as described in his Type Locality column, all tightly shut and refusing to open under any stimulus except brute force. These were what we had known as the variable *T. intermedia*. The stems were slender and straw-like but the colour was the familiar lilac blue of *T. intermedia*, not at all yellowish except perhaps for the outer faces of the sepals. So there is now more evidence that *T. intermedia* could be dropped in favour of the earlier named *T. colensoi*, once someone has shown clear pix of the type specimens and published a substantive paper giving revised descriptions.

Figures (inside back cover)

Fig. 31. The showiest cluster of flowers on *Thelymitra* “blinkers” after disentanglement from another showy stem. Lesser stems were in evidence in the damp, weathered greywacke residuals along a vehicle track leading on from Papakauri Rd, Whangaruru.

Fig. 32. Close up to the column, showing the post-anther lobe closed by the brown nose-like feature with little blinkers either sided. The black orb on the stigma, going by the brown staining around, maybe what a visiting pollinator deposited. It was not seen during photography.



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The Column p.30: *Thelymitra* "blinkers" at Papakauri Rd, Whangaruru



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Thelymitra hatchii at the Puffer Track, with its unstriped, but grooved tepals (see p. 21)

