

The New Zealand Native Orchid Journal



August 2016 Number 141

Orchids in 3D: Eric Scanlen



C. bartlettii



C. aff. pusilla



C. variegata



C. chlorostyla



C. nothofagei



C. alata

A few Caladenias...
use your 3D glasses.

The Type Locality: Ian St George

Thelymitra formosa in Waipawa County

William Colenso described *Thelymitra formosa* in 1883 [1]. His description reads,

Thelymitra formosa, sp. nov.

Stem erect, very stout, 12–14 inches high, 3 lines diameter, tinged red with leaf bracts and bracteoles; two sheaths below leaf, scarious, truncate obtuse pointed and 2-nerved; 1–2 foliaceous bracts above leaf, 2½ lines long very acuminate, acute; *leaf* very thick fleshy, linear-ovate, 10 inches long, reaching to lowest flower on scape, 4-nerved, broadly keeled, deeply channelled, edges incurved, 6–8 lines wide near base, purple-brown densely covered with minute red raised dots. *Flowers* 5–10, erect on stout pedicels ½–¾ inch long; a bracteole at base of each, ovate-acuminate very acute, sub-clasping ½–¾ inch long reaching to base of perianth, obscurely 6–8 nerved; *perianth* 1–1¼ inches diameter. *Sepals* ovate-acuminate, nerved, a little longer than the petals, brownish-purple with white margins; *petals* light bluish-purple, broadly oblong-lanceolate, very obtuse, or elliptic with a mucro, obscurely nerved. *Column* with pointed tip; *appendages* (*staminodia*) long, much longer than the column each bifid, anterior arm densely fimbriated with yellow fimbriæ, posterior ditto with long subulate erect points at top, and crenulated fleshy pink edges on back slope running down to a deep notch at the back, exposing top of column. *Ovary* obovate, 9 lines long, 3 lines wide, broadly ribbed. *Tubers* 2, large, sub-obovoid, obtuse, 1 inch long, ½ inch broad.

Hab. In clayey ground, *Fagus* woods, high land between Norsewood and Danneverke,

Waipawa County, 1882; flowering in December: *W.C.*

The sheet of specimens (WELT 22571 next page) in Herb. Colenso has seven *thelymitra* plants on it and they are not all *T. formosa*.

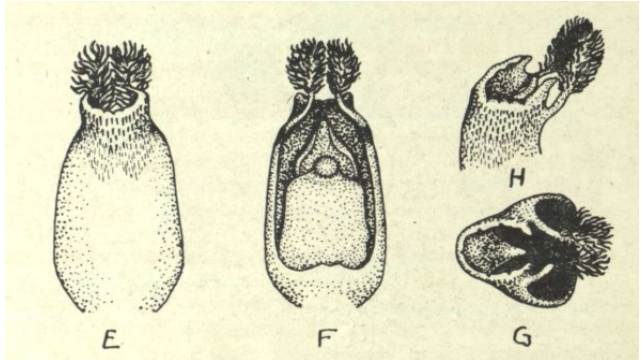
In about 1900 Cheeseman, tasked with identifying Colenso's specimens, exasperatedly dubbed most of the *thelymitras* *T. longifolia*, including all seven on this sheet.

In 1970 Lucy Moore chose specimen B as the lectotype of *T. formosa*. In 1990 JZ Weber dubbed specimens A, E and F as isolectotypes, and specimens C, D and G as *Thelymitra decora*. In 1995 Brian Molloy identified plant A as *T. hatchii*, plant B as *T. formosa* and plants E and F isolectotypes. The NZPCN website says, "There is some uncertainty over the application of the name *T. formosa*—the type suite is largely another species *T. hatchii* L.B. Moore so further work on the status of plants referred to by the New Zealand Flora Series, Vol. II as *T. formosa* is needed."

Could Colenso really have thought all of these were the same species? This was 1883: the only NZ *thelymitras* described by then were *Tt. carnea*, *colensoi*, *cyanea*, *longifolia*, *pauciflora* and *pulchella*. What Colenso had found were different from these—we now know them as *Tt. formosa*, *hatchii* and *nervosa* but they are all firm, stout, erect-leaved plants with stripeless and often spotless blue-mauve flowers with more or less horse-shoe shaped post-anther lobes. We know too that *T. hatchii* is a variable hybrid of *T. longifolia* and *T. formosa*; *T. nervosa* similarly of *T. ixioides* and *T. longifolia*.



Colenso's Type Sheet in WELT: In 1970 Lucy Moore chose specimen B on this sheet as the lectotype of *T. formosa*. In 1990 JZ Weber dubbed specimens A, E and F as isolectotypes, and specimens C, D and G as *Thelymitra decora*. In 1995 Brian Molloy identified plant A as *T. hatchii*, plant B as *T. formosa* and plants E and F isolectotypes.



Drawings by ED Hatch 2 (the father of ED Hatch 3, orchidologist) showing “C: *Thelymitra pulchella*” (but now *T. formosa*), and “E, F, G, H: *T. pachyphylla*” but clearly *T. hatchii*.

Colenso’s description of the column could only fit *T. formosa*. (Colenso would later describe the pink-ciliated form of *T. hatchii* (see cover)—as *T. concinna*—and *T. nervosa* as *T. nervosa* in 1888.)

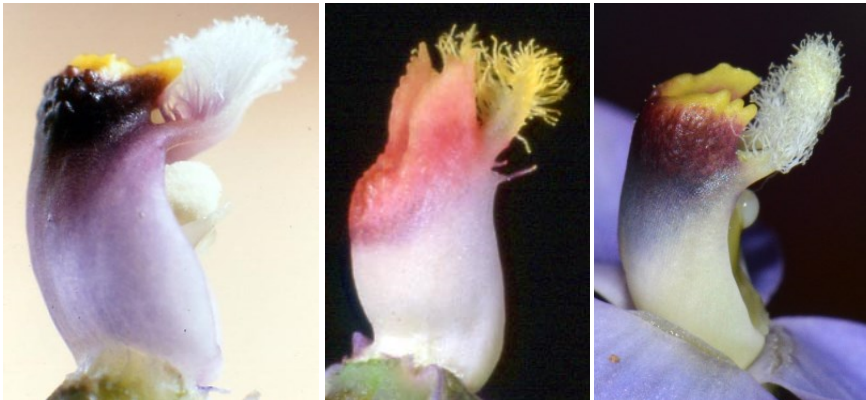
Te Papa has HB Matthews glass negatives, recently printed and available online [[http://collections.tepapa.govt.nz/Person/958?state=c0:\(ent:Party.In.60.sub:115\)](http://collections.tepapa.govt.nz/Person/958?state=c0:(ent:Party.In.60.sub:115))], of a plant he called “*Thelymitra acuta*”: it is *T. formosa*, collected in 1922 at Erua, where it is still.

Matthews was clearly unaware of Colenso’s

description of *T. formosa*, as was Dan Hatch, who never mentioned it in his *Trans* papers.

Hatch’s descriptions and his father’s drawings show that he named plants matching our concept of *T. formosa* as *T. pulchella*, and our concept of *T. hatchii* as *T. pachyphylla* (see figs above).

Cheeseman missed *T. formosa* too. He later admitted in his Appendix that he was “unable to identify” it. (Nor, he wrote, could he identify *T. nervosa*—so he redescribed it as *T. decora*).



Columns of *T. nervosa* (left), *T. formosa* (centre), & *T. hatchii* (right) by Pat Enright & cover by Don Pittham). Colenso described the column of *T. formosa*: “Column with pointed tip; appendages (staminodia) long, much longer than the column each bifid, anterior arm (column arm) densely fimbriated with yellow fimbriae, posterior (side lobule) ditto with long subulate erect points at top, and crenulated fleshy pink edges on back slope running down to a deep notch at the back, exposing top of column.”



Te Papa print ▲ (and detail opposite ►) from HB Matthews's 1922 cracked glass negative of what he called "Thelymitra acuta".

He did not recognise this as Colenso's *T. formosa*, found 40 years earlier.

Lucy Moore identified the type for *T. formosa* as specimen B, second from left on Colenso's sheet. She noted how it differed from the plant she would describe as *T. hatchii*.

I think she was right, and the NZPCN unduly pessimistic when it suggests "further work is needed".

But a great deal of confusion between *T. hatchii* and *T. formosa* persists, if the images labelled *T. formosa* that I accessed by Google are anything to go by. It must be remembered that *T. hatchii* is an amphidiploid hybrid with *T. formosa* as one parent, so *T. hatchii* will be very variable, at times resembling one parent, at other times the other.

December *Thelymitra* on the Apiti track

Colenso found these specimens himself "in

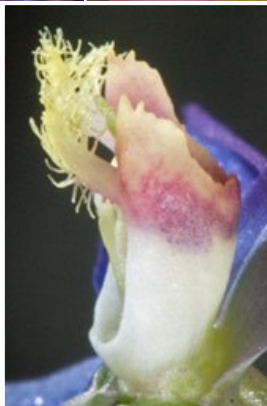
clayey ground, *Fagus* woods, high land between Norsewood and Dannevirke, Waipawa County, 1882; flowering in December"—presumably meaning he found *T. formosa*, *T. hatchii* and *T. nervosa* there.

There are only scattered beech trees between Dannevirke and Norsewood now—nothing you would call "woods"—but the Apiti track from Ngamoto road end west of Norsewood winds up through regenerating bush to the present edge of the Ruahine beech forest.

On 7 December 2013 we walked up the track. We encountered *Pterostylis graminea*, *banksii*, *montana*, *subsimilis*; *Prasophyllum colensoi*, *Microtis unifolia*, *Corybas macranthus*, *Orthoceras*, *Chiloglottis cornuta*, *Caladenia chlorostyla* (red and green stems together), *Thelymitra longifolia*, *pur-*

▼ Detail from HB Matthews's photograph p6





All of these have been labelled *T. formosa*, and in my opinion all are except the one at middle left which has fine cilia—not the coarse fimbria of *T. formosa*; it appears closer to *T. hatchii*—a back cross?

THANKS TO ALL PHOTOGRAPHERS....

Guest editorial: Eric Scanlen

Taggers beware; 8 names for one orchid are too many

Henry Blencowe Matthews, (Blen) in the Waitakeres in Sept.1922, found a greenish orchid by the Nihotupu Stream and called it—

1, *Corysanthes* “viridis”. Blen put specimens in the AK herbarium and wrote it up in detail for publication but failed to publish when he went blind with cataracts [1].

Bruce Irwin, unaware of Blen’s find, got the same orchid near Waverly on 23 Sept 1991 tagging it—

2, *Corybas* “whiskers”, [2 p336] for the short hairs covering its labellum lip, J55:23.

Maurine Young found a small specimen of the same orchid near Warkworth (J113:19) and sent it to Bruce on 5 Sept 1993, [2 p339] Bruce didn’t make the connection then, so tagged it—

3, *Corybas* “ratty” perhaps ironically, but later realised it was his *C.* “whiskers”, J55:23.

In 2002, JD Hooker’s genus, *Nematoceras* was reintroduced [3] after DNA evidence led to splitting the *Corybas* genus several ways, so *C.* “whiskers” became—

4, *Nematoceras* “whiskers” for the next 13 years anyway.

The Column chided Bruce for having two tags for one orchid so Bruce published the demise of—

5, *Nematoceras* “ratty” in August 2009, J113:19, complete with its drawing, with those limp petals.

The Column wrote up Blen’s manuscripts in 2006 [1] discovering only then that Blen had named the vexed orchid, *Corysanthes*

“viridis”, so naturally, adopting the revised genus, it became—

6, *Nematoceras* “viridis” on the assumption that all would adopt the primary tag under its new genus. Nothing of the sort; Bruce in particular, just carried on with *C.* “whiskers”, perhaps in accord with Dr Moore once telling him to ignore all of HB Matthews’ unpublished work (pers. comm.) Bruce was not swayed by the Column’s note that the great majority of the NZNOG members should then also have their work ignored, for not having published it in the Proceedings. No response.

In 2015, the genus *Nematoceras* was dropped by the Australasian Plant Census, in favour of the previous *Corybas*, so the Column bravely (?) insists that the orchid now be called—

7, *Corybas* “viridis”, in respect of Blen Matthews’ original and dedicated work on the taxon and despite Bruce’s interpretation of Lucy Moore’s words.

C. “viridis”, a robust and widespread NZ native orchid, first reported 94 years ago, remains undescribed. Undoubtedly it will be botanically described sometime in the future. Whoever describes it is unlikely to use Blen’s or anyone else’s tag for it, so perhaps it will get named—

8, “*Corybas octonomen*”(?) for its eight names by then.

The Column is upgrading the Journal’s index, subsequent to the 2015 genus revisions, by adopting Bruce Irwin’s ideal, that *the written*

word should be indexed, not the indexer's interpretation of it. The whiskers/viridis stand-off may have triggered Bruce's statement. But his ideal appealed because any future genus changes wouldn't then require another wholesale revision of the index, would they?

But, oh dear; in the event, the likes of *C. "viridis"*, should now have seven entries in the index with six cross references attached to each entry!

But there are other lesser index headaches, for instance, *Corybas* "Waiouru" is another with five names finally, as detailed below.

Dan Hatch's original:—

- 1) *Corybas macranthus* var. *longipetalus*, 1947, got revised in error, by Dan to:—
 - 2) *C. longipetalum*, J47:6, Sept 1993, but was shown to be a nom. illeg., a duplicate name, by Dr Molloy in J48:6. So it reverted to 1) *C. macranthus* var. *longipetalus*. Bruce, the authority on the *Corybas* genus, had been sure it wasn't any form of *C. macranthus* so had tagged it, in J47:6-8 as—
 - 3) *Corybas* "Waiouru". Then the 2002 revision went back to Dan's original species epithet as—
 - 4) *Nematoceras longipetalum*. But the further 2015 revision couldn't revert it to the nom. illeg. *C. longipetalus* so the Pocket Guide, for one, reverted it to 3) *Corybas* "Waiouru".
- Carlos Lehnebach saved the day by finally settling on—
- 5) *Corybas hatchii* (J 139:4) in honour of Dan Hatch's dedicated work on NZ native orchids.

The abstract of a recently published paper (EJ Bodley, JR Beggs, R Toft & AC Gaskett (2016): Flowers, phenology and pollination of the endemic New Zealand greenhood orchid *Pterostylis brumalis*, New Zealand Journal of Botany, DOI: 10.1080/0028825X.2016.1147470 [http://dx.doi.org/10.1080/0028825X.2016.1147470]) includes—

Greenhood orchids are most diverse in New Zealand and Australia, with at least some species pollinated by sexual deception of male fungus gnats. Preliminary investigation of endemic New Zealand *Pterostylis brumalis* via field phenology, hand-pollination and insect trapping revealed *P. brumalis* is self-compatible but relies on insects for cross pollination. Natural fruit-set was low, averaging 2.6% across two populations. High fruit-set in handpollinated flowers (66.7%) indicates severe pollinator limitation.... Potential pollinator attractants (colour and scent) were analysed. UV reflectance may enhance pollinator detection of the flower against the background.... identification of the pollinator is required to understand their visual system further. Scanning electron microscopy (SEM) revealed putative scent-releasing osmophores (lateral sepals) and uniform papillate trichomes (labellum) that may mechanically direct pollinators into the floral trap. The trap is a pressure sensitive labellum that temporarily traps the visitor inside the flower.

A natural fruit-set of 2.6% is alarmingly low and may suggest a disastrous reduction in the population of the specific pollinator, perhaps for natural reasons, but perhaps, as Rudie Kuiter has warned in

Editorial: Ian St George

With photographs also by several others....

1. The variability of amphidiploid thelymitras

You know all of this, but I found it useful to go over it again with pictures.

An **amphidiploid** is a hybrid between plant species. Its chromosome number is the sum of the chromosome numbers of the parents (a hybrid usually has half that sum). It behaves as an independent species, but individuals may vary widely. Several NZ thelymitras are amphidiploids.

Thelymitra pulchella ($2n = 66$) is an amphidiploid hybrid of *Thelymitra longifolia* ($2n = 26$) and *Thelymitra cyanea* ($2n = 40$) and is therefore variable: *T. caesia*, *T. fimbriata*, *T. pachyphylla*, *T. "sansfimbria"* (see next page) and no doubt other tagged entities, all appear to be forms of *T. pulchella*. Some, like the parent *T. cyanea*, have bare column arms, others have variably coarse fimbria. They may be white, light blue, pink or lilac—with blue stripes. Is the variability simply a feature of amphidiploidy or does it reflect parentage by different forms of *T. longifolia* or *T. cyanea*?



Thelymitra longifolia

X

T. cyanea

→

T. pulchella

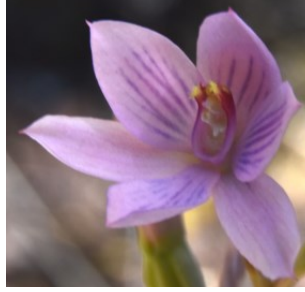


X

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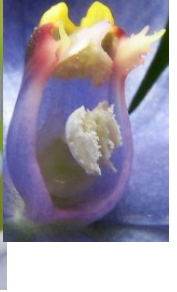
T. pulchella s.s. ▼



T. fimbriata ▼



T. "sansfimbria" ▼▼ *T. pachyphylla* ▲▲▲



Thelymitra Xdentata ($2n = 46$) is a back cross between *Thelymitra pulchella* ($2n = 66$) and *Thelymitra longifolia* ($2n = 26$) and has features of both parents. It isn't an amphidiploid.



T. longifolia



T. pulchella



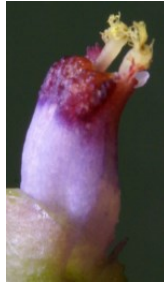
T. Xdentata

X

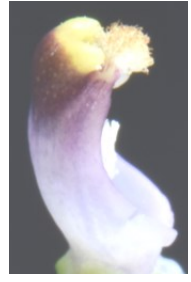
→



X



→



Thelymitra hatchii ($2n = 66$) is an amphidiploid hybrid of *Thelymitra longifolia* ($2n = 26$) and *Thelymitra formosa* ($2n = 40$) and is therefore variable: *T. concinna* is the pink ciliated form (cover); the top of the column is normally an open, even horse shoe shape but the lateral lobes may be more or less prominent and may be large enough to resemble those of *T. formosa* or curve inward so the column approaches that of *T. tholiformis*. All seem to have the cotton ball of fine cilia inherited from *T. longifolia*.



T. longifolia



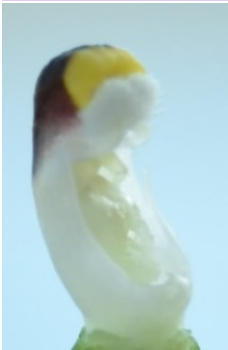
T. formosa



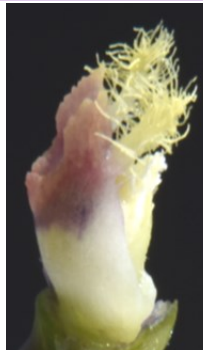
T. hatchii

X

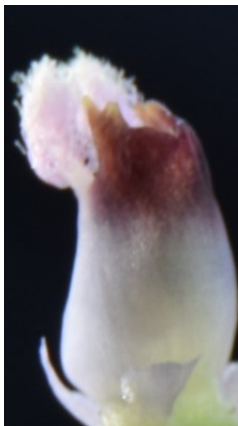
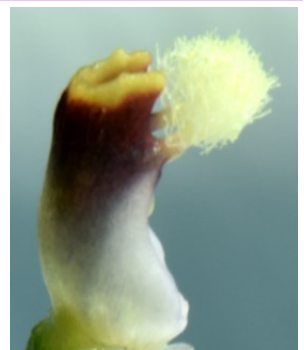
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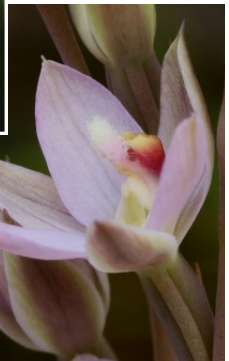


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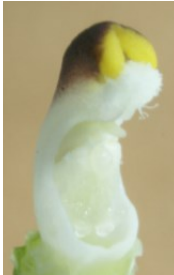


*Thelymitra
hatchii*
variations

Thelymitra nervosa ($2n = 54$) is an amphidiploid hybrid of *Thelymitra longifolia* ($2n = 26$) and *Thelymitra* aff. *ixioides* ($2n = 28$) and is therefore variable: the back of the column may have lumps or ridges; the petals may or may not be spotted; *T. decora* is a synonym.



T. longifolia X *T. aff. ixioides* → *T. nervosa*



X



→



Thelymitra tholiformis ($2n = 66$) is said to be an amphidiploid hybrid of *T. aemula* ($2n = 40$) and *T. pauciflora* ($2n = 26$), but varies little except in colour. That is surprising in view of its being amphidiploid and in view of the variability in the *T. pauciflora* group.

Eric Scanlen suggests the low variability could be because *T. tholiformis* grows only in the north where *T. pauciflora* is also less variable, added to the fact that *T. aemula* itself varies little.



T. aemula?

X

T. pauciflora? →

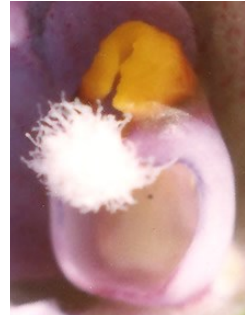
T. tholiformis



?X?



→



Thelymitra tholiformis
colour variant



2. Variability of their parents

The parents of the variable amphidiploids *T. pulchella*, *T. nervosa* and *T. hatchii* are *T. longifolia*, *T. cyanea* and *T. formosa*. *T. longifolia* and *T. cyanea* are themselves so variable each has in the past been split into several species (correctly or not).

The “Type locality” in this issue shows some variations in *T. formosa*, which can have different colours and some minor differences in shapes of the column, but is generally fairly consistent.

T. cyanea was described as *T. unifolia*, later identified with the Australian *T. venosa*, and then split by Hatch into three varieties:

- *T. venosa* var. *typica*: lateral lobes—ie, column arms—sharp, spirally rolled inwards, erect, not notched, higher than the anther; labellum edge scalloped and wavy;
- *T. venosa* var. *cedricsmithii*: lateral lobes sharp, spirally rolled inwards, erect, not notched, shorter than the anther; labellum shaped like a sepal;
- *T. venosa* var. *cyanea*: lateral lobes sharp, hardly rolled inwards, lying down, bifid, higher than the anther;
- A fourth variety he considered endemic to Australia (var. *magnifica*).

Our plants were eventually lumped and then identified with the Australian *T. cyanea*.

T. longifolia varies around the country. As I see it in this region, they are mostly white flowered, often with green/mauve in the sepal backs. Often they don’t open. We have

- *T. longifolia* s.s.: wide lax leaf, many white flowers with non-notched column.
- *T. purpureofusca*: narrow leaf, notched column, grows in clumps, associated with

beech. Green plants common.

- A tiny beech forest, southern, purple-brown plant.
- *T. nemoralis*: just like *T. longifolia* except column notched and stem & leaves often purple-brown. This would be included in *T. longifolia* only if we allow that Forster was looking at too small a sample to be sure the front of the column was always entire, and that *T. longifolia* s.s should include plants whose flowers have notched—even deeply notched—columns.
- *T. alba*: a very small, robust and upright plant with a narrow leaf.

There are at least three taxa in Northland [Bill Campbell *in email*], there is *T.*

“Whakapapa”, and Eric Scanlen lists more. We know one parent of the amphidiploids *T. pulchella*, *T. nervosa* and *T. hatchii* was *T. longifolia*—but which of the many forms of *T. longifolia* was it? Or does the variability of the amphidiploids reflect parentage at different times by different forms of *T. longifolia*? If, in addition, different forms of *T. cyanea* have at different times parented *T. pulchella*, the possibilities for variation are further increased.

We do perhaps have a clue to this. The form of *T. pulchella* that has bare column arms was the one accepted by Cheeseman as true *T. pulchella*. I have the impression that unlike other forms it is a tall, usually solitary plant. (Other forms are colony forming and are much shorter). But, as Cheeseman noted, it grows only north of Waikato and that hints that one parent has a similarly restricted range, or simply that its habitat requirements differ from the others.

In a future scenario, when we recognise half a dozen different species in the *T. longifolia* group, we may also recognise that different

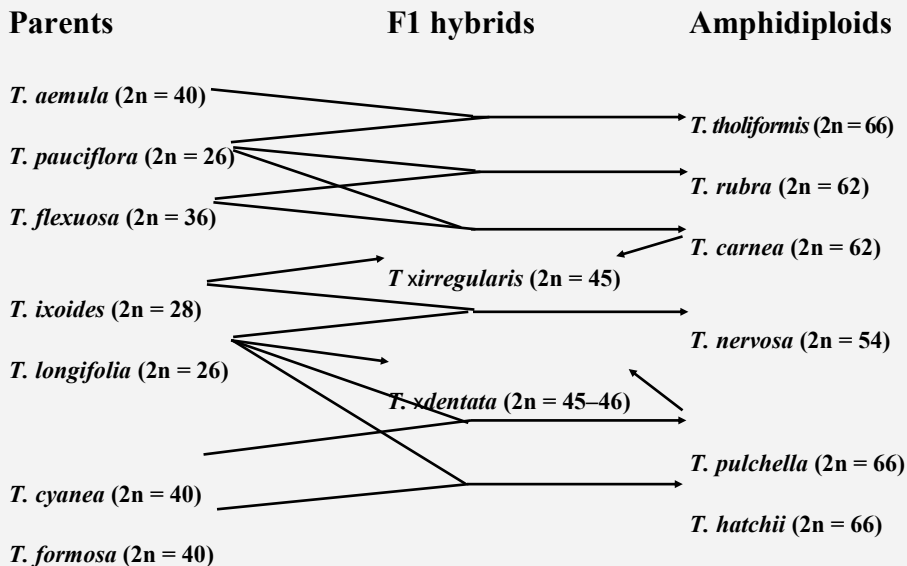
forms of *T. pulchella*, *T. nervosa* and *T. hatchii* are the progeny of different parents and so warrant the status of different species. Meantime we can do no more than accept the advice—that amphidiploids are by their nature variable—and live in hope of clarification.

Various forms of *T. cyanea*.





Are they all *T. longifolia*?
(Photographs by
Eric Scanlen, Bill Campbell
& the editor).



After Molloy BPJ, Dawson M (1998). Speciation in *Thelymitra* (Orchidaceae) by

The New Zealand Native Orchid Journal

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Notes

Pat Enright sent these photographs of *Gastrodia* “long column” from Riverton Southland, taken 20 February ▼▶





◀ and Alasdair Nicoll sent his shot of the same entity from Tahakopa, Catlins, taken on 25 February.



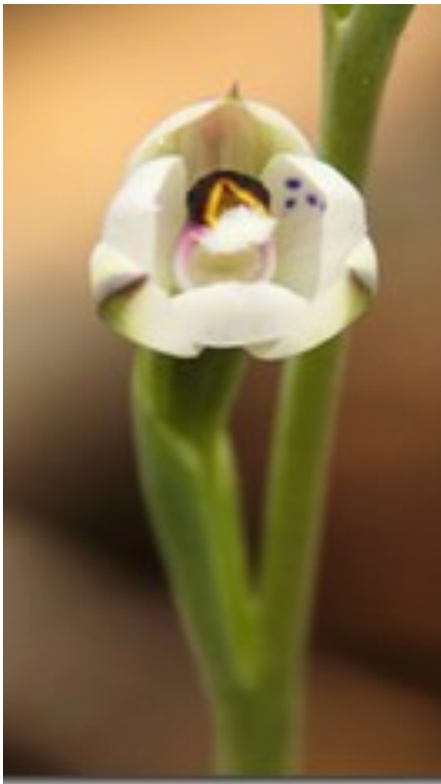
The NZ polymath: Colenso and his contemporaries

Conference, Wellington,
17–19 November 2016

email istge@yahoo.co.nz

Mike Lusk (18 May) “was recently in the far north and hoped to see *Genoplesium pumilum*. Eric told me of a spot near Tahuna (Waikato) so we went there on the way. His directions were so precise that I was able to use the steps which I presume were cut by Eric and Bruce years ago to climb up a small bank—I felt I was treading in the footsteps of the great. While there they had pulled out a lot of hakea, so allowing the natives to flourish and I was able to find only one flower spike, in early bud. So to Spirits Bay Road as advised by Bill and on one of the tracks the group visited 2 yr ago I found a good number of plants in flower.”

Bill Liddy sent this shot taken by Cheryl Hindle at Iwitahi. *I had not seen a white form of *Thelymitra nervosa* until now—Ed.*



Robbie and Sue Graham were “Clearing out our cupboards, we have a stack of the wonderful NZNOG magazines from days gone by and wondered whether any of your members would enjoy having them to peruse. It goes back to 1995, although there will be some copies missing that we are keeping for fond memories. Please let us know if you think you'd know of somebody who'd like to have them, thanks.”

07 377 0469 Home/Gallery;
027 237 8173 Robbie;



On 14 June Rebecca Bowater took this lovely shot of *Aci-anthus sinclairii* near Nelson.



The Column: Eric Scanlen

Corybas “round leaf” imbroglio

Orbicular leaved *Corybas trilobus* aggregate plants are unusual, so finders have tended to tag them “round leaf”. As a result, several distinct *C. trilobus* taxa with round leaves have been found and tagged by dedicated NZNOG members then the tags got mangled by inclusion, at times, of the technically correct, “*trilobus*” or “aff. *trilobus*” so that few if any members could be clear as to which are which or how many round leaf taxa there are. The following should clarify the situation for all members—including the Column.



1—*Corybas* “round leaf” (Moorhouse)

Fig. 1, was first mentioned in the Journals by Mark, in J85:24, Dec 2002 on the Mt Arthur Tablelands, as “...a round leaved *Nematoceras* I’d seen some years back at the edge of a pothole”. Mark didn’t want to disclose

this find prematurely, because he’d sent specimens to Dr Brian Molloy for formal description. Events have prevented Brian from describing this species but Dr Carlos Lehnebach is now onto it with new specimens. Its first Journal pic, was by Carlos, in J124:19, Fig. C, prior to incorporation into Te Papa’s herbarium. This is a distinct taxon, having an orbicu-



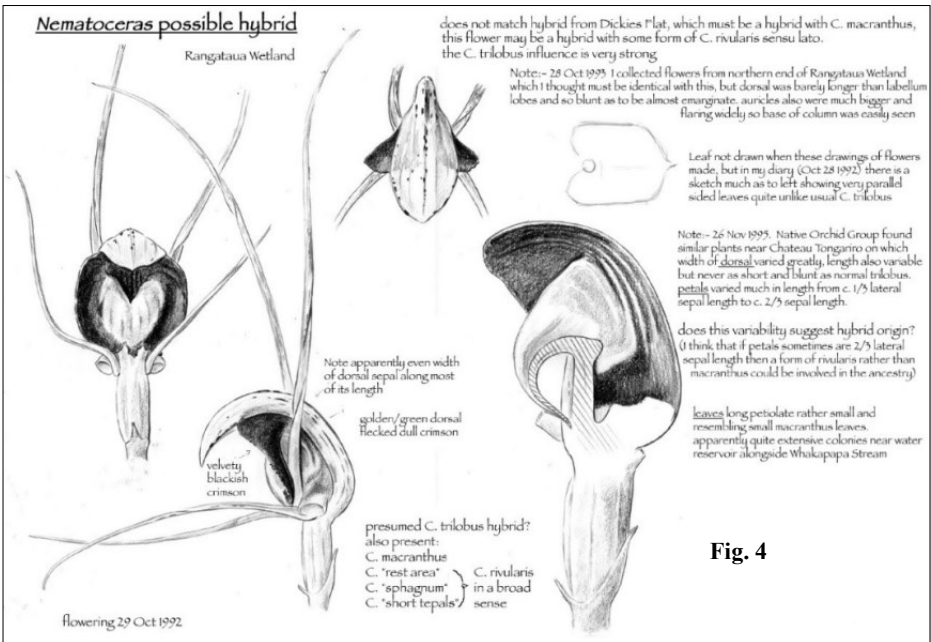
lar leaf as a juvenile but more elongated when mature, as in **Fig. 2**. In J134:14 & J135:34, Mark and Carlos announced that *C.* “round leaf” (Moorhouse) has proven to be distinct. Hopefully its specific name, yet to be announced, will include neither the “round leaf” epithet which set off the imbroglio nor the Latin equivalents, “*rotundifolius*, *orbiculatus*, *orbiculatum*, *orbiculata*” which have dogged other species with somewhat similar imbroglios.

2—*Corybas* “round leaf” (Ducker) **Fig. 3**, got first mention in J54:4, June 1995, for Allan Ducker’s find, on 19 Feb 1995, of this round leaved *Corybas* along the Whakapapa water pipe line. It was not in flower then but



was well remembered by both Allan and the Column for future reference, being an unexpected taxon at this 1,280m altitude.

John Dodunski found flowers on *C.* “round leaf” (Ducker), on 26 Nov 1995, J59:18, on the left bank of the Whakapapanui river. The field party rejoiced about this, Allan’s original find, but rejoicing became muted when Bruce Irwin reminded us about his 1992 Rangataua find, of what he felt sure was the same taxon. In J44:12, Fig. 4 herein, Bruce drew his “*C. trilobus* hybrid” from Rangataua wetland, 680m elevation, from Nov 1992. This became, in error as it transpired, *C.* “round leaf” (Irwin) but didn’t get tagged as such at that time. In 1992, Bruce had listed four possible hybrid partners from the *C. rivularis* agg, with *C. trilobus*. In fact, the Rangataua specimen lacked the trade mark of the *C. trilobus* aggregate, that labellum pocket where pollinating fungus gnats sometimes lay their eggs. Bruce could have been right with



his earlier thoughts; that the Rangataua specimen was a hybrid with a *C. rivularis* agg. specimen, all of which lack an egg pocket. But 24 years later, in March 2016, the Column was amazed, to find the lack of an egg pocket in the Rangataua specimen. The lack is evident on Fig 4 from p406 in the book/ DVD of Bruce's drawings. The excellent reproduction by Brian Tyler, showed the non-round leaf (drawn by Bruce from notebook sketch) and his centreline section, drawn with no sign or mention of a labellum egg pocket. Bruce usually drew some thickening for the egg pocket, if present, and noted it as the mystery "...channel above floor entrance to column, the upper margins of which are inflated so that right and left side meet forming a channel..." quoting from his *C. trilobus x macranthus* Dickey Flat drawing of 6 Sept 1991, J41:7. The *sectioned* drawing of the Rangataua specimen was omitted from Bruce's J44:12 drawing of Fig. 4, hence the 24 year hiatus. Compare **Fig. 5** of the Column's sectioned view of *C.* "round leaf" (Ducker) from the Whakapapa water

tanks, 6 Nov 1997, with Bruce's 1992 Fig. 3. But beware, Bruce's drawings of centreline sections never show the pocket that photography does, yet he never failed to mention the "labellum thickening" or "channel" or "pit" if present, which had everyone mystified for many years. Even so, two different taxa are indicated, wouldn't you say?

Getting, back to 1995, there being no *C. macranthus* at the Whakapapa site, Bruce, (our Mr *Corybas*) decided that the round leafed one was the same as the Rangataua taxon so was not a hybrid, and tagged it *C. trilobus* "round leaf", that is, according to the Column's second draft of his J63:8-12 article, still on file. Back at the Pokaka Lodge, Bruce rang Brian Molloy and said that he had herbarium specimens of *C. trilobus* "round leaf" from Whakapapa, ready to send for formal description. But, Brian said not to bother, because he was quite conversant with *C.* "round leaf"—and seriously confused Bruce, as he later admitted to the field party. Mark's lodged specimens with Brian, of his different *Corybas* "round leaf" (J131:26), had Brian



and Bruce completely at cross-purposes, neither aware of the developing round leaf imbroglío. However, Bruce wrote to the Column, on 5 Jan 1996 “Brian also says (and I think he is about to describe it) there is an orbicular leaved *C. trilobus* in the South Island.”

The Column had been tentatively indexing Bruce Irwin’s drawing in J41:7, March 1992, as *C. “round leaf”* because of similarities, but he now regards that as unlikely because Bruce found it on 6 Sept 1991 at Dickey Flat, upper Kaimais, at $\pm 150\text{m}$ a.s.l., whereas *C. “round leaf”* (Ducker) prefers 1,200 to 1,300m, two months later in the season, so Bruce’s hybrid possibility of *C. trilobus* x *C. macranthus*, remains a more likely source of the Dickey Flat specimen.

Allan’s other “round leaf” find, near

Ongarue (not Pureora), 14 Oct 1995, J58:5, photographed by Ian

St George from behind, because the labellum had been damaged. **Fig. 6** herein, also by Ian of the same plant, is at $\pm 300\text{m}$ a.s.l., and is also unlikely to be *C. “round leaf”* (Ducker), so far below its 1,200-1300m preferred altitude and over a month early. It resembles *C. “trisept”*, but flowers a month later and no more has been heard of this singleton with the lengthy dorsal sepal.

J63:12, (June 1977) has a 10 Nov 1996 pic of the Whakapapa *C. “round leaf”* (Ducker), **Fig. 7**, herein, by the Column, still faithfully entitled *C. trilobus* “round leaf”. But J64:6, Sept 1977, records Bruce and the Column finding *C. “round leaf”* (Ducker) at 1,280m by the Waitonga Falls on Ruapehu. Note, the “*trilobus*” epithet had been dropped from the tag. In J66:19, March 1998, Graham and David Dickson with the Column, mounted a search on 23 April 1997, for *C. “round leaf”* (Ducker), on a number of tributaries to the Whakapapanui, where its favourite habitat, was found to be, by the cataracts where these tributaries discharge into the river. These finds showed it to be well established at this altitude around the mountain. Note that stream-bed formation occurs mostly during high floods when the Whakapapanui may be 3m deeper, thus at low flow there is a $\pm 3\text{m}$ cataract from the tributaries into the



river.

Five years later, on 21 Dec 2002, the Column struck *C.* “round leaf” (Ducker) during Mark Moorhouse’s and Gordon Sylvester’s celebrated field trip to Rainbow Skifield, J87:6,7,11. Where the access road fords a stream, there was a colony with identical flowers, sitting just below the orbicular leaves, **Fig. 8**. Variable petiole length doesn’t vary the species, does it? Mark examined it but was understandably, not forthcoming about its difference from his *C.* “round leaf” (Moorhouse) due to formal description still pending.

May 2005, J95:4 has the Editor’s thesis on *Nematoceras* (*Corybas*) hybrids, but includes the “round leaf” group as hybrids; whereas they had long been established, if confusingly, as distinct taxa. So please note, that despite the captions, *C.* “round leaf” (Ducker) pix are in Figs. 14 only. *C. trilobus* “round leaf Horo-

pito” (see, below) is Bruce’s Fig. 15 drawing therein (Fig. 12 herein).

J115:22,29,30, has *C.* “round leaf” (Ducker) from Whakapapa at Fig. 25, as *Nematoceras* aff. *trilobum* “round leaf” by Ian St George. Mark does the same in J131:26. Imbroglia-errors no doubt, neither realising the import, but adding to this “round leaf” muddle.

☞—*Corybas trilobus* “round leaf

Horopito”, Fig. 9, is one that Bruce Irwin kindly showed the field party, on 9 Nov 1996 at the end of Matapuna Rd, Horopito, in swampy ground. The Column recognised it as a possibly new taxon, so asked the forgetful Bruce for a tag name, and got it, exactly the same as Bruce had originally tagged the quite different Whakapapa taxon. The also forgetful Column, accepted it with-



out too much ado but has since devised his own tags with an aim for clear, succinct distinctions between taxa. Bruce later added that “Horopito” label on his drawing.

Four days later, 13 Nov 1996, J63:9,10, Catherine Beard, showed the field party a very similar taxon, **Fig. 10**, in a colony near Erua, in the bush on the west bank of the Waimarino Stream. It differed slightly from the Horopito form mainly in the emarginate tip to the dorsal sepal.

Bruce had another site for a *C. trilobus* “round leaf”, **Fig. 11**, in the Umutoatoa Reserve off Kokakoroa Rd., 13km west of Wai-tomo, where he took a field party on 20 Sept 1997 as recorded in the Column’s diary. Bruce did go out of his way to show as many people as possible, just where he’d found distinct taxa. We are indebted to Bruce for this most generous and long standing endeavour. The Column’s Fig. 11 pic, sec-

tioned off centreline to leave the ovary intact, missed any egg pocket. Bruce may not have collected a specimen either, because it doesn’t appear in his drawings and he was taciturn about tagging it. The Umutoatoa specimen was small and had an orbicular leaf but differed from the Horopito form in having the node down in the sheathing bract. The Column wasted time photographing tedious *C. iridescens* so ran out of time to get more pix on film of the Fig. 11 specimen. No more has been heard of this taxon either.

In J90:27, Bruce confirms his *C. trilobus* “round leaf” tag name, for the Horopito taxon and how it was a different taxon from the Whakapapa and Rangataua plants. He too was obviously concerned about the erroneous cross referencing of the names in previous issues of the Journal and he still hadn’t seen *C. “round leaf”* (Moorhouse) but doesn’t mention the imbroglio. J90:29 has Bruce’s

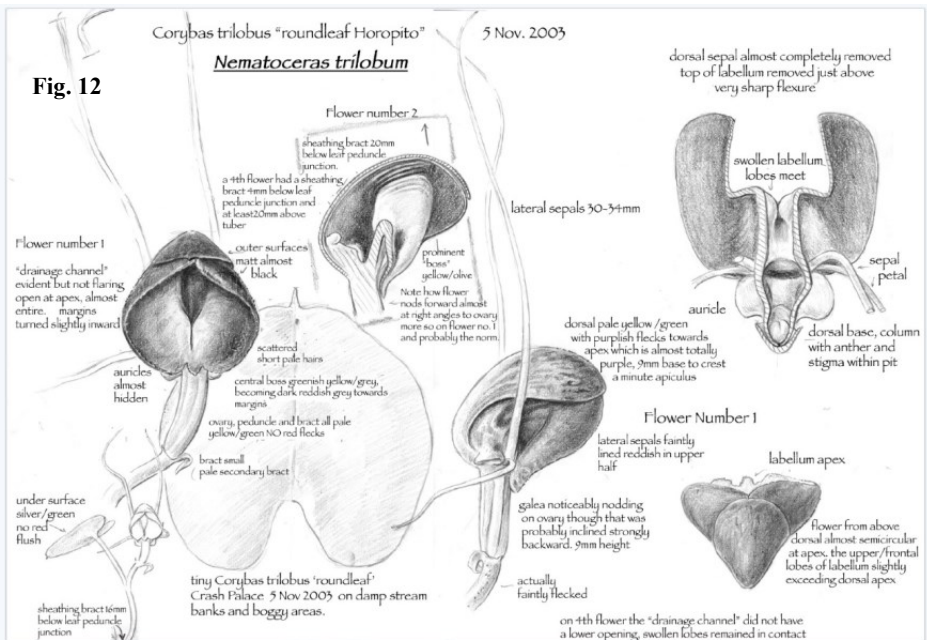




Fig. 13: *Corybas* "trinichols" by Kathy Warburton.

immaculate drawings and description, **Fig. 12**, of *C. trilobus* "round leaf Horopito". Note his mention of "swollen labellum nodes meet". The purpose of the channel formed by these swellings, as a receptacle for pollinating gnats' eggs, wasn't suspected until the Column fortuitously photographed gnat's eggs in *C. "tricraig"* on 16 July 2005, J98:35.

The Column led a field party to the Horopito

site on 12 Dec 2015 BUT, masses of manuka were all over the site, ostensibly for the beehives nearby. Prized manuka honey may have taken over here from the quite rare *C. trilobus* "round leaf Horopito" which could not be found there at that time.

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