



*The  
New Zealand  
Native Orchid  
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November  
2014  
No.134*

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*Pterostylis, sp.*

a tough job last week in a sp. of  
*Rearia*, (a pretty & rather curious  
shrub) I received from Woodville,  
the first of it came <sup>10</sup> 12 months ago,  
but only leaves: - last month some  
flowering buds, but these were smashed  
up, partly by had sacking, partly  
by the carriage, &c. So I had to seek

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Watercolour of Orchid, William Colenso (b. 1811 d. 1899)  
from Letters, David Balfour (b. 1841 d. 1894) William Colenso,  
collection of Hawke's Bay Museums Trust, Ruawhāro Tā-ū-rangi, 67865.

# Guest editorial: Graeme Jane

In August we received notice that a campaign had been launched to raise funds to save Victorian native orchids (see <http://www.theage.com.au/victoria/crowdfunding-bid-to-save-victorian-orchids-20140808-1024d3.html>).

*“The Orchid Conservation Program focuses on the ex-situ growth and reintroduction of many of south eastern Australia’s threatened orchids. The program is currently leasing laboratory facilities and equipment but needs to set up its own laboratory facilities including tissue culture capability to ensure the long term future for the conservation program. By donating towards this cause you will directly contribute to the purchasing of tissue culture equipment, growth rooms, microscopes and incubators that will be used to continue this invaluable orchid conservation work. Help make this dream a reality.”*

*This looked like something we should discuss in New Zealand, and an email exchange of widely differing views began among our Executive members. Graeme Jane’s wise response is recorded here.*

I am rather late to the discussion and many points have been covered but we seem to have fallen back to the failures at Iwitahi, the result of a desire to create a “Botanical Garden” for New Zealand orchids. To some extent we seem to be focussed on growing and replanting the species, ie doing something directly.

There are other issues and approaches. The first issue is to identify what species you have and which warrant special attention. Then to identify what the causes of the rarity or need for attention are. There is often a well meaning group who want to plant species without understanding the issues behind successful plantings or the need for such plantings. In many cases in New Zealand there is no need for planting as the species are widespread and successful and will arrive in their own time when conditions are suitable. This is especially true of widespread species when the seed source is not too distant.

Orchids are often seen along tracks or in disturbed areas well away from their natural habitats and even some significant orchid habitats (kanuka scrub) are actually the result of earlier

clearance or burning and are often undergoing rapid change back to forest which may be unsuitable for the species currently found there. Hence the species are locally more apparent and abundant than they would otherwise be.

To do the job properly there are a few key considerations. We need to identify:

1. What species we have
2. Which require some form of intervention
3. What are the factors that mark them for attention
4. What can we do to ameliorate those factors

The first real issue is identifying what species we have or what is a significant variation that requires attention. In this there seems no agreement between the taxonomic experts and some members of this group. A comparison between Ian’s 2013 list and that of DOC reveals relatively few additional taxa in his list, with the most discrepancies in *Thelymitra* and *Corybas*. However there is some belief

that any variation warrants species status without looking at the variation in the species as a whole locally and over a wide area and understanding its biology. *Corybas* for instance (and several other genera) propagate vegetatively forming large patches of genetically identical material so variation at one locality may be entirely related to variation in site factors. Different patches in the same locality will not necessarily be different from one another at a taxonomic level either and it is only by propagation from seed or analytically through DNA this can be sorted out.

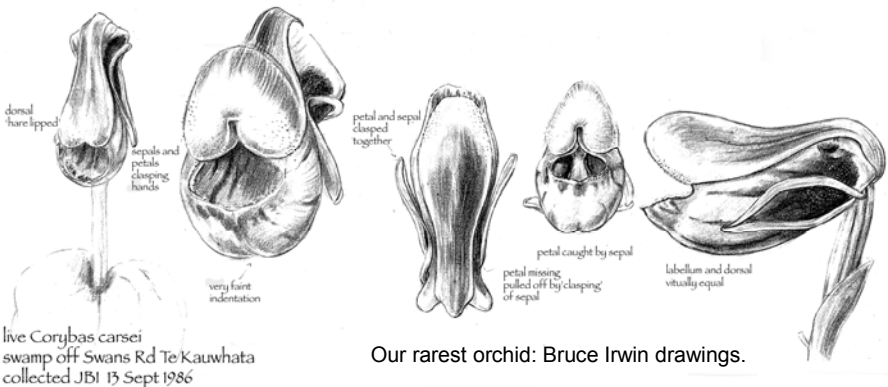
The second step is identifying which taxa require intervention. New Zealand species as a whole (of which orchids as a whole) are evaluated for their threat status on a regular basis (bi or triannual) by a panel of experts who seek input from us. This is a branched assessment. The species may be at risk because it has very limited distribution, or it may be widespread but threatened by factors such as destruction of habitat, disease, or ecological change.

As a starting point DOC through *Conservation Status plants of New Zealand* (deLange et al 2013) has recognised 122 orchid species of which 72 (60%) are widespread and common. Of the remainder (50), four are “Range Restricted”; 30 “Sparse”; and 20 at risk in some way. Even of this 20, seven are regarded as recent arrivals and a baker's dozen seriously threatened.

Perhaps at the stage when we know what we have, what the habitat requirements are and what the threats are, some key factors can be changed to assist their survival. It may be simply habitat protection or recreating suitable habitat. Or it may be that growing plants in cultivation (or transplanting) and planting them out may be desirable. But even then we may still need basic ecological information.

Already the ability to transfer and replant various species (or more generally species within a genus) is reasonably well documented (see NZPCN or St George & McCrae 1990) and laboratory cultivation techniques are well established. Where we usually fall down is in replanting the species in inappropriate habitat. And that really brings me back to the second point above. You need to know quite a bit about the habitat requirements before you charge ahead and plant them out in some spare piece of ground. This includes cover species preferred, ecosystem dynamics, soils, site moisture regime, light levels etc. Otherwise you are likely to be disappointed in the outcome.

A different issue is that, at least in Tauranga, large areas are being replanted in native species but of course orchids are not included. I have been tempted to introduce a few of the common species from around the area, even if they are likely to be lost later as the vegetation changes.



# The Type locality: Jan St George

## *Pterostylis rubella* Col. from Mangonui

**1840:** William Colenso sent specimens of *Pterostylis trullifolia* from Northland to WJ Hooker, writing, “*Pterostylis collina*, n. sp., take a short descript. as given by my friend A.C. (Alan Cunningham) on my finding it in Sept. 1838, during his residence in this place – ‘*Appendix* apice diviso, penicillato. *Folia* radícula. *Scapus* bibracteatus aphyllus.’ W.C.” [1]

**1853:** JD Hooker, having returned from the Himalaya, had finally got round to the New Zealand flora, and (dismissing Colenso’s suggested name of *P. collina*) described the plant as *Pterostylis trullifolia* (Fig.1). [2]

**1872:** TF Cheeseman published his celebrated *Pterostylis* fertilisation paper, with a Buchanan lithograph of his sister Emily’s watercolour of what he thought was *P. trullifolia*, but we now know as *P. alobula* (Fig.2, 3) [3]. The NZ species in what we now call *Diplodium* are shown in Fig.4.

**1884:** Colenso received specimens of real *P. trullifolia* from RW Rowson\* from Mangonui in Northland. At the time he was in correspondence about different forms of *Pterostylis* with David Balfour at Glenross Station in Hawke’s Bay. Keen to obtain further specimens, he wrote to Balfour, on 12 March 1884,

*I have been making another coloured drawing of another specimen... but Pt. emarginata and Pt. Banksii are very much larger than this drawing, & with longer & finer tails.... I was led to make the drawing partly on account of your little son, who, when the season comes round again, with his sharp eyes... will be sure to detect & recognise it.*

\*Rev Rowson collected plants for Colenso and Cheeseman at Mangonui & Whangaroa 1884–5.

The “drawing” (Fig.5, inside front cover) is a watercolour, with the Colenso letters to Balfour in MTG Hawke’s Bay—and has been reproduced in Georgina White’s book, *Take these with you when you leave—treasures of the archive* (Napier, MTG Hawke’s Bay, 2013, p.112). It is the only surviving watercolour of an orchid by Colenso.

Colenso then wrote to Cheeseman as follows [4]:

Napier, Sept.22/84

T. F. Cheeseman, Esq  
Auckland.

Dear Sir

*A short time back I received a few spns. of a small sp. of Pterostylis from a Correspondent, and I have lately been examining them. Apparently they seem to be near to Pt. trullifolia, Hook.f., but his descriptn. of that plant is not full; and, unfortunately, my recollection of that sp. of Pt. in particular (which I had also first detected) does not accord with it.*

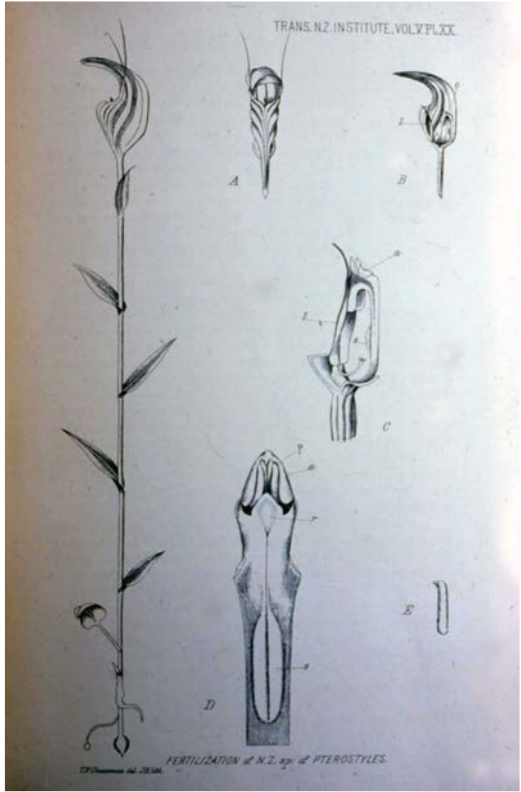
*Suddenly yesterday, I remembered that you had written fully about it some years ago; and so today I have been again reading what you have said, (“Trans. N.Z. Inst.,” Vol.V.)—and now I wish to ask a few questions relative to your dissections (or Buchanan’s lith.) that accompany your paper.*

- 1. Is the tip of the lip always as shown, in the plant full sized; and again in fig.B.?*
- 2. Is the upper part of the lip filiform, as shown in fig.C.?*
- 3. Is the perianth bulging out in front, and with an angle at back, as shown in plant full size?*
- 4. Is the column—wings—as shown in fig.C.,—horned upwards, and rounded entire downwards?*
- 5. Is the appendage to column exactly as*

Fig. 1: *P. trullifolia* lectotype at Kew.



**Fig. 2 right.** John Buchanan's lithograph for TF Cheeseman's paper on the fertilisation of New Zealand orchids (*Transactions* 5: plate 20) attributes the drawing to Cheeseman himself, but it is taken from an original (in the Auckland Museum collection) by Cheeseman's sister, Emily (**Fig.3 below**)....



... The scientific work of women often went unacknowledged, or had to be attributed to men in order to be published.

Cheeseman thought this was Hooker's *Pterostylis trullifolia*. It is the plant we know as *P. alobula*.



**Fig.4 left to right:**  
*Diplodidum alobulum*,  
*D. trullifolium*,  
*D. alveatum*,  
*D. brumale*.

shown in fig. C.—i.e. with 4 points? (Hooker says, “villous”).

6. Is the lowest (or only) leaf near the base, correctly given?

As you know this species so very well, I have not hesitated making these enquiries—hoping you may be conveniently able to answer them early.

*Pt. trullifolia*. was one of my dearest little plants of the north, one of a dozen pleasant associations!—

I am, Dr. Sir,

Yours truly,

W. Colenso.

Cheeseman’s response to Colenso’s letter is lost but Colenso’s deeply sarcastic reply [5] refers to its contents:

Napier,  
October 17<sup>th</sup>, 1884

My Dear Sir

Last Saturday (11<sup>th</sup>) I received your kind and full reply (dated 2<sup>nd</sup>) to my enquiries re *Pterostylis trullifolia*, and I thank you for it.

I note what you tell me in the close of your letter: viz.—

“I am sorry that I find it impossible to accept as distinct species most of the plants you have described in the recent volumes of the “Handbook”. (Trans. N.Z. Inst., intended)

—  
I may remark, that I have long known this, such having been repeatedly told me: and while, to a certain degree, I regretted it, still it makes little or no difference,—that is, to me. Of one thing I am pretty certain, that if you knew those plants I have laboured to describe, you would, I think, alter your judgment concerning, at least, some of them: and further, that even in those instances in which I may be wrong, (although I am not conscious of any,) I shall not have laboured in vain; because I have brought forward in every case certain characters that had not been noticed in the descriptions originally given of the species to which such may belong, and therefore will be of service to working Botanists in assessing

their specific descriptions hereafter.—

I have more than once thought that you were not fully conversant with some of our flora, especially of the Crypts. Probably you lack the opportunities of observing them in their habitats and of getting them, and of time for that purpose, (and such does require much time,) seeing your ever-growing official duties must be both heavy and constant.

However, this may be, my dear Sir,—continue to make what remarks you please on my work—it shan’t break squares between us: only don’t use a rusty lancet.

I propose leaving Napier on Tuesday 21<sup>st</sup>, for the woods, a 3 weeks sojourn, my usual annual spring visit. I ought to have gone last week, but was hindered.—

Believe me to be,

Yours truly,

W. Colenso.

Cheeseman must have been flustered to write “Handbook” instead of “Trans”, and he presumably gave his opinion, that what we now know as *P. alobula* was what Hooker had described as *P. trullifolia*.

**1885: Colenso** must have accepted Cheeseman’s contention, that *P. alobula* was Hooker’s *P. trullifolia*, so he came to the conclusion that the plant Rowson had sent from Mangonui, the plant we now know is the real *P. trullifolia*, must still be undescribed; so he decided to describe it as *P. rubella*. [6]

### *P. rubella*, sp. nov.

Small, erect, slender, glabrous, 3–4 inches high. Leaves 2–3 at base, cordate, 3 lines long, petioles same length; cauline bracts 4, ovate-lanceolate, the lowest petiolate, the upper 3 sessile, half-clasping. Flower solitary, erect, 6–7 lines long; dorsal sepal arched, convex, striate, very acuminate, 9 lines long; lateral sepals (lower lip) connate, emarginate, with two long slender green tails, erect and spreading, 10 lines long, rising much above galea; petals,



lanceolate-acuminate, acute, of same length as dorsal sepal; lip glabrous, dark-red, linear-lanceolate, acuminate, 4 lines long, under 1 line wide, grooved, tip thickened, obtuse; appendage curved, red, trifid-laciniate and minutely fimbriate or sub-penicillate, not villous; column, wings red, rounded above, not horned, largely produced and slightly fimbriate below.

*Hab.* Whangaroa, County of Mangonui; 1884: *Mr. R. W. Rowson.*

*Obs.* A species having some affinity with *P. trullifolia*, Hook. fil.

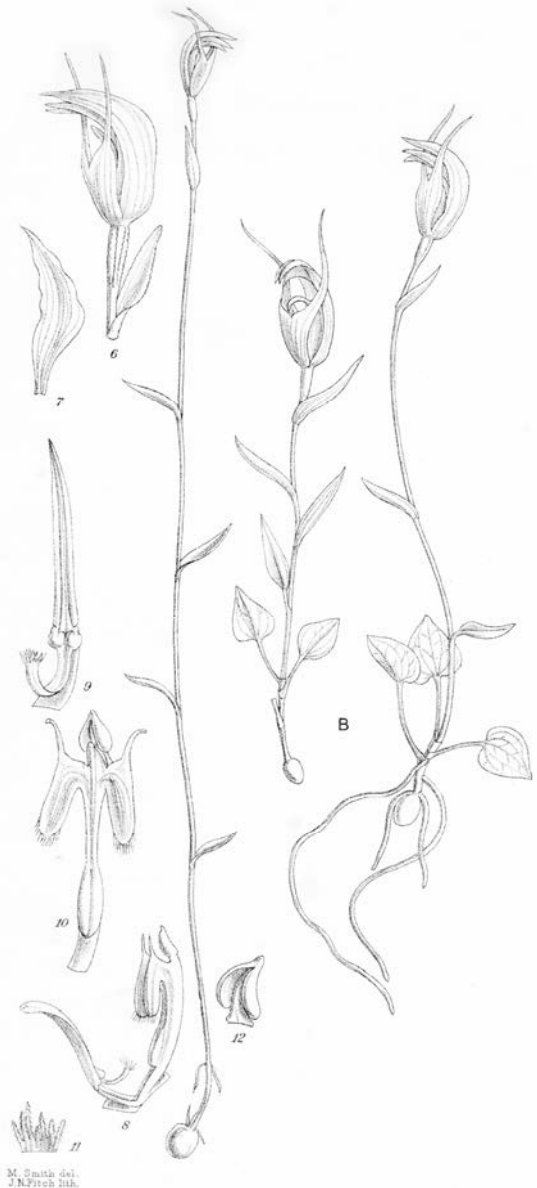
The syntype of *P. rubella* Col. is in the Te Papa collection (Registration Number SP024283 if you are searching online) and is certainly what we now know as *P. trullifolia*.

**1906: Cheeseman** lumped *P. rubella* Col. back into *P. trullifolia*, but eventually did notice the difference—though he still regarded *P. alobula* as the original *P. trullifolia*—so (dismissing Colenso’s *P. rubella*) described the real one as *P. trullifolia* var. *gracilis* in 1914. [7]

His illustration (Plate 194 of his *Illustrations of the New Zealand flora*, drawn by Matilda Smith and engraved by JN Fitch: “Both varieties are figured in the accompanying plate” [Fig.6]) does not show the “jugspout” (“the perianth bulging out in front,” in Colenso’s words), the characteristic prominence of the region of separation of the lateral sepals. [8]

**1917–1928: HB Mathews** too seems to have assumed *P. alobula* was *P. trullifolia*—or why would he have labelled his photograph of *P. trullifolia* as “*Pterostylis gracilis*” [J131: 20]?

**1953: ED Hatch** regarded *P. trullifolia* as “a compound species of 3 closely related jordanons. The original description gives no indication as to which of the forms was the specific type.” He had *P. trullifolia* as *P. trullifolia* var. *gracilis*; *P. brumalis* as *P. trullifolia* var. *rubella*;



**Fig.6:** *Pterostylis trullifolia* and *P. trullifolia* var. *gracilis* (Plate 194 of Cheeseman’s *Illustrations of the New Zealand flora*) drawn by Matilda Smith and engraved by JN Fitch.

and *P. alobula* as *P. trullifolia* var. *alobula*. [9]

**1970: Lucy Moore** made three separate species, *Pp. alobula*, *brumalis* and *trullifolia* [10] and (with the recent addition of *P. alveata*) that is how the specific names remain.

Now the generic name should of course be *Diploidium*—though even that is again in doubt.

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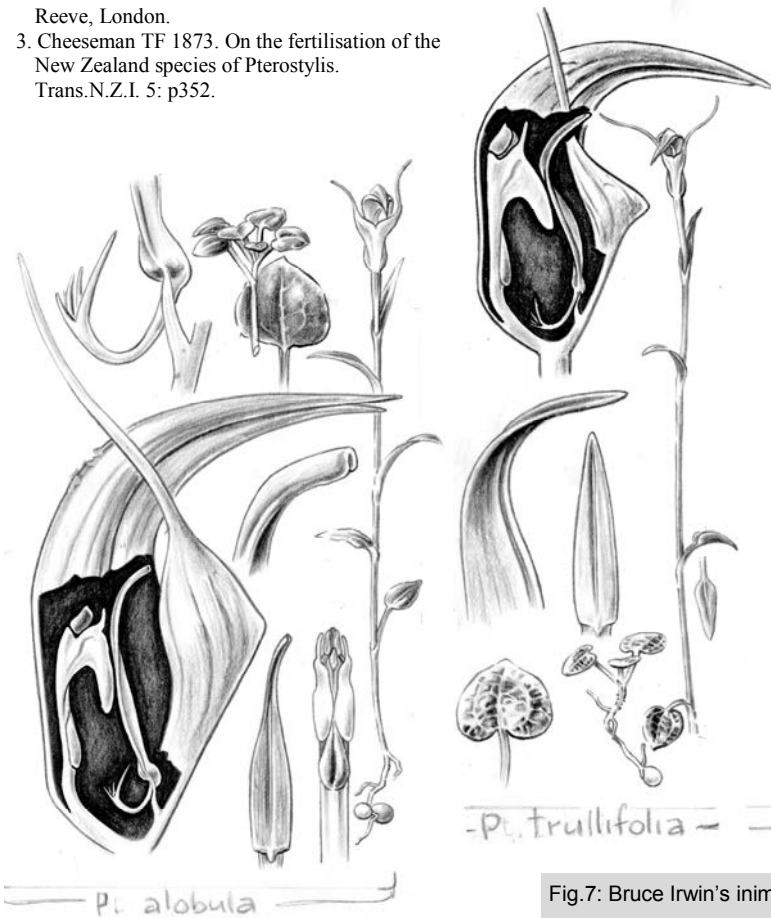


Fig.7: Bruce Irwin's inimitable drawings

# Australian notes: David McConachie

## *Let's get serious about making endangered orchids common: the Dunmoochin story*

By Randall Robinson.

Reprinted from the ANOS (Victorian Group) Inc. *Bulletin* August 2014 Volume 47 Issue 2 pp6–7.

In 1951 the artist, Clifton Pugh, and friends purchased 160 hectares of bushland near Cottles Bridge, 50 kilometres northeast of Melbourne, and named it Dunmoochin.

Pugh achieved national and international recognition during his lifetime and in 1989, he established the Dunmoochin Foundation. Upon his death in 1990, he left an art collection and extensive properties within the Dunmoochin area, to be developed and maintained by the Dunmoochin Foundation.

The key focus of the Dunmoochin Foundation is to promote arts practice and research and environmental study, by making the Foundation residential facilities accessible to a broad range of international and Australian practitioners and researchers working in artistic, educational and environmental fields. Foundation residents can access the Foundation's art collection, the majority of which is held at La Trobe University under an affiliation agreement.

Dunmoochin derives its cultural and artistic heritage from the collaborative efforts of a group of artists who pioneered one of the first artistic communes in Australia. They created a lasting vision of how a community can gain knowledge and inspiration from living in a close relationship with nature.

The habitat at Dunmoochin consists of grassy woodlands and box woodlands. On its 160 hectares, there are 380 native plant species, seven of which are rare and/or threatened. Amongst that number there are 59 orchid species, including the rare *Caladenia rosella*.

While Dunmoochin sounds idyllic, the terrain had become degraded prior to being purchased by Pugh. Damage had been inflicted by gold mining, timber getting, bushfires, grazing, housing and benign neglect.

Residents at Dunmoochin asked themselves:

- Is this area worth saving?
- What am I managing for?
- What is my overall plan?
- Do I have clear goals?
- Do I have clear priorities?
- Have I set clear time lines? Resources? and, most importantly,
- How do I know I am being effective?

With the aid of Trust for Nature and Landcare Australia, the aim was to secure the land and to develop strategies. Thus the Dunmoochin Biodiversity Study was formulated.

The plan was to retain and protect the quality areas, and it was those areas that proved to be the easiest to keep clean. In moderately degraded areas, members set about identifying the causes of degradation and used their moderate resources and time to improve it. In badly degraded areas, the aim was to completely replace the existing flora ... both time consuming and costly.

A vegetation assessment was made for the site. Weed populations, significant vegetation, utilities, animal distributions and physical disturbance were all noted. It was also imperative that

the spread of environmental weeds be contained and, eventually, eradicated. Another important aim was to stop (or minimise) the reproduction of environmental weeds.

On purchase of the Dunmoochin site, the bush margins were irregular in shape. Over many years, residents have gradually extended the natural vegetation of the area and, today, Dunmoochin is a more-or-less regular rectangle of bushland.

Residents have identified the weak points in the life cycle of a weed species and, with intervention at the critical time, weeds are gradually being eradicated from Dunmoochin. Follow-up management is essential.

Instead of tackling all the weeds in the worst affected areas, residents worked from the good areas to the bad ones. Practical techniques for weed removal include burning, which stimulates regeneration of the natural flora. Timing is, however, critical and burning has proved to be best on annual weeds and for biomass reduction.

While chemical removal has been used, residents would prefer not to use chemicals. However, it has been an effective strategy where there is a thick cover of weed species. Timing is, again, critical, and residents have selected their chemicals wisely.

Smothering weeds is a popular removal technique, but weed mats provided refuge for pests such as snails, slugs and slaters, so their use was limited.

Rabbits and choughs (a native bird) are pests (vermin). Rabbits graze the vegetation to bare earth, and choughs harvest orchid tubers by digging them out of the ground.

*Caladenia rosella* was a critically endangered orchid that occurred in a few scattered locations in Victoria with a few plants located at Dunmoochin. As the plants never set seed, it was thought its specific pollinator must have been absent from the area.

*Leioproctus* species (stingless native bees) pollinate some species of native flora. The female bees make food balls for their larvae from native acacias and the adults are believed to feed on *Daviesia*, *Dillwynia* and *Pultenaea*.

As the natural flora re-established following weed removal, the pollinators also returned.

The return of native animals is vital to the area's health.

### Is it working?

Regeneration strategies are continuing. Native plant regeneration - just add plants. Fungi regeneration. And mosses and ferns.

*Caladenia rosella*:

1991 = 20 adult plants.

2013 = 180+ adult plants.

No hand pollination in 8 years.

Seedling recruitment 2 out of the past 5 years.



### The future?

- Encourage recruitment of pollinator food plants.
- Investigate disturbances, and their relation to ecosystem health and recruitment.
- Massively expand restoration area.
- Move into "revegetated" areas.

### Acknowledgements

Thank you to Cam Beardsell, Trust for Nature and the Dunmoochin Foundation.

## Obituary

**Gary Pennial** passed away on 7 June 2014 aged 70 years. Ernie Corbett wrote this tribute...

He was well travelled in his younger days, working for the B.N.Z. in Fiji, then to England from where he did many trips throughout Europe. He returned to New Zealand in 1988 to look after his mother and then his aunt. His last job was manager of Ross Poultry's quarantine farm at Urenui in North Taranaki. At this time he developed an interest in native orchids.

He will be well remembered as a keen native orchid enthusiast among his many other interests. His photography was top class and he always had his camera with him. Three years ago he was secretary for the Native Orchid Group until his health stopped him. He had battled cancer for about 10 years but it never stopped him attending AGMs or field trips until recently. While having treatment in Australia he went on field trips with the local native orchid groups.

He was awarded a "Certificate of Appreciation" by the NZ Native Orchid Group.

**Ina McLellan.** Margaret Menzies wrote...

We lost Gary last month and last night I got the sad news that Ina had passed away.

We met up with Ina by orchiding with her and Gary up the Moki Road. They also used to come out and go up the road to Omoana as well as other areas, such as Mt Egmont.

Ina had an amazing memory of where a particular orchid was found, even 2 or 3 years later and was very good at spotting plants, fossils or insects. She was also great company to go with on NZNOG group trips; nothing was ever a problem to her except those legs of hers. She couldn't afford to bump or scratch them as they would ulcerate.

Glyn and I whenever in New Plymouth would visit Ina for a cup of tea and she quite often was looking after a friend's mother that was in a wheelchair while her friend did her shopping—either that or somebody's little dog needed babysitting.

Ina was never idle, her house and garden immaculate and she was a staunch member of the NP Rock and Mineral club.

She will be sadly missed by all Taranaki Members.

**M**ark Moorhouse wrote,

Georgina Upson and I were privileged to hear **Carlos Lehnebach address the Nelson Botanical Society** on the subject of New Zealand spider orchids and in particular of *Nematoceras trilobum* and Te Papa and Massey students' studies on various tagged taxa of this species.

It was particularly interesting to see that our group's personal studies and observations of these plants were in agreement with scientific analyses in most cases and that was without taking into consideration the factor of colour, the most obvious difference to the naked eye.

Charts and graphs were presented in which it became obvious, even to the layman, that within our *N. trilobum* aggregate there were clearly some well defined entities, and some surprising results that showed some of our tagged plants are simply part of natural variation, including *N. hypogaeum*. The genetic trees indicate that *N. hypogaeum* is actually identical to other members of the *N. trilobum* aggregate but we know it is morphologically different and Carlos believes it is a different species so he is not suggesting it should be lumped into *N. trilobum*.

What this is actually telling us is that morphology has evolved faster in this orchid than the parts of the DNA studied and that if we accept *N. hypogaeum* as different (even though it is genetically similar to other members of the aggregate) the same criterion should apply to the other tag named entities "trisept" or "triwhite". (Moral of the story, DNA is not always the answer, especially in groups of plants that have a recent origin such as those in the NZ flora).

Studies were carried out to compare pollinators and although this is still a work in progress, there is clear evidence that two colonies of differently tagged *Nematoceras trilobum* can happily grow together in close proximity with little or no risk of cross pollination because each separate colony has their own per-

sonal pollinator and individual flowers were defended from intruders by male fungus gnats of each species that danced the dance to attract their respective females. Real footage was shown of this fascinating process, extracted from hours of filming individual flowers.

The whole process was caused by the flowers mimicking the scent of a fungus and it was interesting to find that it may be the hairs on the outside of the labellum which exude this deceptive scent, though this has not as yet been fully established. One question by the audience is yet unanswered, ie "Does the *Nematoceras* 'borrow' its scent from its mycorrhizal partner to deceive its respective fungus gnat?" So the plot thickens and the study of these plants become even more fascinating.

Without intentionally stealing any of Carlos' thunder, I'm happy to say that *N.* "tri-white", *N.* "tri-sept" (strictly a *Hunua* species), *N.* "Eastern Hills" and the South island form of *N.* "roundleaf" (if there is in fact a difference with North Island plants) have proved to be significantly enough different to warrant separation, while surprising results are that *N.* "darkie" is genetically most closely related to *N.* "triwhite". Who would ever have guessed that by simple observation?! Carlos is currently working on formal descriptions for these tagnamed plants.

(They have a new aroma testing machine available which could prove as much as any DNA analysis ever did).

Carlos also spent a few minutes at the end of his address showing us the great work his students were doing on the threatened *Spiranthes* in producing seedlings to "re-seed" areas suitable or those that once had this species but have been subsequently drained and destroyed by man's interference and drainage systems.

It was good to see that great care was being taken to avoid contamination by "surrogate" fungi, and that genuine pelotons of the correct fungi for this species were extracted and were grown on first before seeds of *Spiranthes* were introduced to the growing medium.

# From NZNOG@yahoo.com

Join by emailing [nznog-subscribe@yahoo.com](mailto:nznog-subscribe@yahoo.com)

**A**lasdair Nicholl, 26 June: Attached is a photo of *Diplodinium alobulum* with 2 flower heads as seen at Islington Bay Rangitoto Island last Saturday.



Mark Moorhouse replied, the *D. alobulum* pic's interesting from my point of view because our local plants differ markedly in two features. 1. The leaves on your plant are long and almost acicular, down here leaves are often not far off equilateral triangles and rarely acicular. 2. The dorsal sepal and petals of your plant are amazingly long in proportion to the whole galea. Never seen any like that in Nel-

son or Marlborough. Perhaps it's just some volcanic soil mineral. eg manganese influences plant growth dramatically. In pines it inhibits limb diameter. Other minerals may have opposite effects. Or influenced by another species like *D. brumalis*?? or simply in-bred?

Or are we witnessing subsp. "*Diplodinium alobulum rangitotoensis*" for the first time? Suggestions made "tongue in cheek" but not out of the bounds of possibility.

On 29 June Alasdair attached a photo of *Diplodinium alobulum* taken at Te Kauri Park Scenic Reserve...





**M**ark Moorhouse:  
During my visit to

Marsden Valley Reserve I couldn't help noticing the close proximity of some fruiting bodies of bright yellow coral fungi to colonies of *Diplodinium alobulum*.

Just wondered if the associated micorrhizal fungus was this one, and whether it is consistent in all colonies. I noticed a smoky grey coral fungus near others, so perhaps it's a more general association to this type of fungus.

It's something, we as a group could make a study of very easily. ie. photographing fungi in very close proximity to our orchid species to see if we can find any consistencies.



*Alasdair Nicholl:* The yellow fungi shown in your picture we saw growing amongst colonies of *Acianthus* in some places and not others.

*Mark Moorhouse:* In our neck of the woods it's not at all uncommon to find *Diplodinium alobulum*, *Acianthus sinclairii* and *Cyrtostylis* (both spp.) all growing in close association. So your report could well be useful in adding to our knowledge of why these species do actually associate. I've always supposed that the soil conditions, acidity, shade, etc were what made them grow together, and that is still likely to be an influential factor, but is there a hitherto unnoticed association, those little coral fungi? To date my observations have this fungus growing mainly under Kanuka and gorse, but there's a long way to go with investigations.

*Mike Lusk:* white coral fungus growing in association with *Nematoceras* "pygmy". ▶







**M**ike Lusk then sent in these photographs of fungi in close proximity to *Diplodidum trullifolium* and *Cyrtostylis oblonga*.

*Is there a real mycorrhizal relationship? Or do they all just grow in winter? Or do they all grow in winter because there is a real mycorrhizal relationship?—Ed.*

*A*lasdair  
Nicholl:

Karen and I were out at Te Kauri Park Scenic Reserve (July) and spied this tiny *Nematocerus* growing amongst a colony of *N. acuminatum* that were in bud. Can someone identify it? The plant was no more than 1.5cm high and the leaf was about 1cm across. The flower was about 6mm.



*K*athy Warburton: I have these *Nematocerus* orchids which are consistently beating all the rest for coming up in the Spring and flowering first. Usually I find them with fruiting bodies in place when other *N. iridescens* nearby are just starting to flower. Finally, in 2012, I managed to catch them in flower in early August. I thought that the location where they were growing had something to do with them being so early, and I potted up a couple for home. These plants did not flower in 2013 but I checked my pots 3 July, and they are already up, with buds in place! None of my other *Nematocerus* here at home show any sign of new growth yet, even a plant from Williamsons Creek which was early last year, flowering at the end of August. I had identified these orchids from Finnerty's (Lower Nichols Creek on the North side) as *N. iridescens*, do you agree with my ID? Has anyone else reported finding early flowering *N. iridescens*?

**Left:** 31 August 2013  
**Right:** 4 July 2014

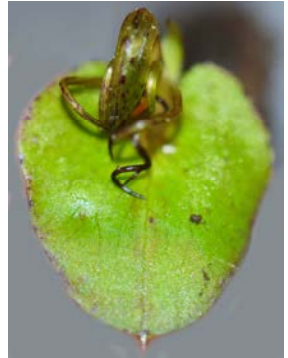




**C**heryl Dawson  
 8 July: ... it has been a bit slow on the orchid scene—but we have seen some amazing fungi on our travels—but on Monday while walking the Waiopehu loop track (Levin) we came across a large colony of *Nematoceras*—200 plus plants many of which were in flower; there were two smaller colonies further along the track. ◀

**P**at Enright sent further evidence of early flowering *Nematoceras longipetalum* this year: plants in late bud on 6 July at Sulphur Wells, Wairarapa. ▶

**T**he lower right photograph on the last page shows how *N. iridescens* emerges from the ground—a leaf curled like an ice-cream cone, then a cup with early bud, then saucer with flower. Had anyone had observed this in other species? Mark Moorhouse asked Kendyll who sent this photograph of *Singularibus* which clearly has this habit. Others sent similar photographs, leading us to the conclusion that this is standard for many of the *Corybas* alliance. ▼





**A**llan Ducker sent these photographs of dead insects caught on the stigmas of *Diplodium trullifolium*. TF Cheeseman wrote in 1872 that he had decided

“... to examine a considerable number of flowers which had commenced to wither, and in which the sepals and petals had closed together.... Out of 110 specimens examined seventeen contained dead insects, and nine of these insects bore traces of having had pollen attached to them. Some had followed the passage between the wings of the column until they had reached the anther, and then becoming glued to the pollen-masses had not been able to drag them out of their cells, thus perishing on the threshold of their prison. Many of the flowers which did not inclose insects exhibited signs, besides the removal of the pollinia, of having been visited by them, from the presence of hairs, etc., adhering to the stigma and rostellum; and in one instance the antenna of some insect was found glued to the rostellum, proving that its owner had escaped by crawling through the passage in front of that organ.

“All the insects proved to be Diptera, and all are probably referable to one species. I am not, however, entomologist enough to be able to indicate its name. What inducement there is to visit the plants I cannot conjecture, for even with the most careful examination. I have not been able to detect the presence of any nectar, or nectar-secreting organs.”

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Cheeseman TF 1872. On the Fertilization of the New Zealand Species of *Pterostylis*. *Trans N.Z. Inst.* 5: 352–357.

**A**lasdair Nicholl spotted this member of the *Nematoceras trilobum* aggregate at Mt Messenger on 15 August. Eric Scanlen emailed, “Your Mt Messenger orchid looks like *Nematoceras* ‘tricraig’. Had there been a notch in the front of the dorsal sepal it could have been *N.* ‘tri E. Hills’. They are close if not the same.” Mark Moorhouse agreed: “I concur with Eric's comments. The only thing that seems to commonly separate ‘Tricraig’ and ‘Eastern Hills’ is that Eastern Hills in its ‘normal’ state has an emarginate dorsal but like nearly all floral features there are always a small percentage of rule breakers and I'm sure I could find plants without the notch in small numbers. Given the distance across the known range of *N.* ‘Eastern Hills,’ it is not surprising that the extreme fringes start to show minor differences to the main-stream colonies. That gets back to genetic selection and inbreeding by isolation issues. Yours for example have wonderful almost transparent bibs to the labellum. We only see that occasionally here. Yours has tell-tale Eastern Hills features of partial stripes and the large broad dorsal, but it is atypically (for Eastern Hills) lightly speckled in purples so perhaps favours tricraig there. It would be handy to start identifying pollinators in areas like this to see if it matches *Mycetophila vulgaris* which pollinates Eastern Hills.”



## The New Zealand Native Orchid Group

The **New Zealand Native Orchid Group's** main aim is informing people about native orchids, so we permit others to copy material published here, provided the source and author are acknowledged. The *Journal* is published quarterly from February, and deadline for copy is the first of the month beforehand. We like copy to be typed or sent on disk or by email.

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**P**at Enright sent photographs of this plant in the *Nematoceras trilobum* aggregate, growing in beech above Wainuiomata in mid-August. The tall dark flower with its long oval labellar opening, the habitat, flowering time and the narrow, high-arched and finely apiculate dorsal sepal place it as *N. trilobum* “rimutaka”



▲  
IStG sketch from  
2001 *Field guide*

**O**n the same day Cheryl Dawson was up the coppermine Wharite track and photographed typical *N. trilobum* “Eastern Hills”, with its oblong labellar opening and wide notched curved-back dorsal sepal. ▼ ▼



In late August Mike Lusk washed the surface soil away from an emerging *Nematoceras macranthum* bud and took this photograph... ►



◀... and Alasdair Nicholl visited Bridal Veil falls where he photographed *N. trilobum* “tribrive”.

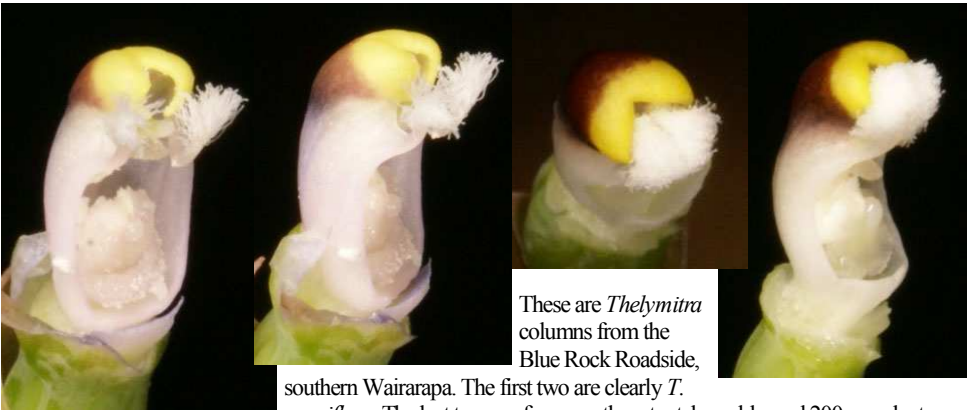
*I don't think the lack of slight notching of the dorsal sepal is sufficient to separate it from N. trilobum “Eastern Hills”—Ed.*

At Rewanui reserve on the Masterton–Riverton road a colony of *N. trilobum* agg. plants with 15mm tall flowers hooded by wide green ridged dorsal sepals flowers in late August—Ed.





*Nematoceras trilobum* “Eastern Hills” from Tauherenikau, Wairarapa—Ed.



These are *Thelymitra* columns from the Blue Rock Roadside,

southern Wairarapa. The first two are clearly *T. pauciflora*. The last two are from a rather stout, broad-leaved 200mm plant whose stem, bracts, and the backs of the sepals are purple; it has cottonwoolball cilia (as opposed to the thready cilia of *T. pauciflora*). It isn't *T. pupureofusca*, which is a much more slender clumping plant under beech (albeit with a rather similar column), and it has until now been included in *T. longifolia*, but the original description and lithography of *T. longifolia* describe and show a truncate (not notched) column.

I wonder if we have too readily included all broad-leaved, cottonwool-ciliated plants in *T. longifolia*?



**A**llan Ducker, in response, sent this collection of *Thelymitra longifolia* columns from plants in Waikumete Cemetery.



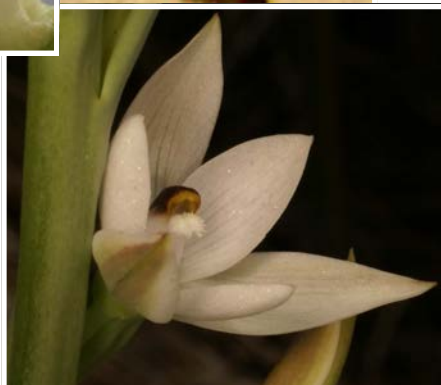
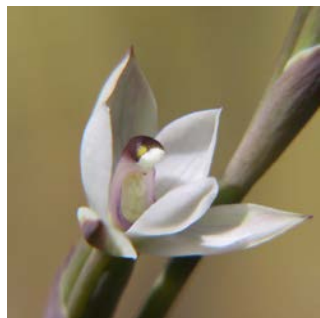
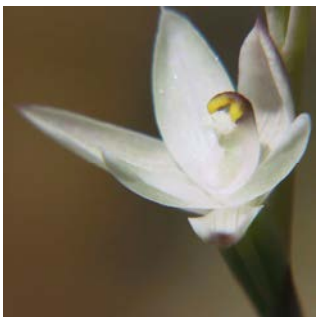
**G**ordon Sylvester made the point that “plant appearance changes with ageing. (Just like humans). The shots Allan has posted to my mind clearly show at least part of the aging process with the changing in coloration (Blue rinse?). When someone is close to a population of plants and observes those plants on a regular basis you will definitely see changes to the flowers as well as the foliage. All too often we visit a site and like the fungus gnat, stop, sample, and move on never to return.”

And...

**B**ill Campbell then sent these *Thelymitra longifolia* shots from the north ▼.



**M**ark Moorhouse emailed, “just thought I would post a few Nelson variations of broad-strap leaved *Thelymitra* so that you have some South Is flowers to compare. Of the 5 only one could be called truncate. Shape and colours of column top vary like Allan's.”



**T***helymitra longifolia* in its type locality, Long Island, Marlborough Sounds. The drawing is Forster's, the photographs the editor's. The midlobe of the column is truncate. Is this different from those similar plants with a notched column?

# The Column: Eric Scanlen

## 1. *Thelymitra pulchella* with red column arms

Steve Reekie, from Greymouth, specialises in fungus photography but keeps finding other interesting native species including orchids. Here is his unique form of *Thelymitra pulchella* sporting red tips to the petals and labellum plus red column arms and post anther lobe. Steve found this in mid-January 2014 in the Paparoa Range north-west of Westport, ER 48, by the Trustpower road to Sewell Peak, at elevation 700m, 42° 24' 50", 171° 20' 09". For a key to the gate, phone farmer Andrew Robb, at either 0274858253 or 03 762 5282. He keeps the key in his milking shed. Otherwise, a track up to the spot begins near the Brunner Mine, but it's a good two to four hours walk, depending on one's fitness.



Many white *T. longifolia* were in the vicinity but were not open at the time. Whilst Steve had the camera set up on the flower, the fly, below, which he identified as *Melangyna novaeseelandiae*, landed on the orchid, and no doubt, proceeded to feed on the white pollinia. The fly would have finished up with pollen stuck to its mouth parts, making it a likely pollinator. But would it select only this *T. pulchella* or more likely, flit randomly from *T. longifolia* to *T. pulchella*? Is there any *T. cyanea* in the vicinity to explain how this amphidiploid hybrid of *T. cyanea* and *T. longifolia* happens to be here?



If you are in the vicinity in January, do keep your eyes peeled for these species and perhaps a new form of *T. x dentata*, the sterile back-cross of *T. pulchella* back to parent *T. longifolia*.

Have a look at Steve's website at <https://www.flickr.com/photos/nzwild/sets/72157645819694601/> for more inspirational photos of native orchids, geckos, fungi, insects and etc.

*Melangyna novaeseelandiae* is a native hoverfly which pollinates many native and exotic plants. It forages with rapid movements followed by stationary periods. *M. novaeseelandiae* is widespread throughout the country but this is the first record of it as a possible orchid pollinator—Ed.

## 2. *Prasophyllum* "debile" = *P.* "B" (not *P. colensoi*)



The Column had previously lumped *Pr.* "debile" (H.B. Matthews) and *Pr.* "B" (J.B. Irwin) as one undescribed taxon, and that remains. Then, in his hard-won article, *Prasophyllum roundup 2014*, J133:26, he lumped them, in error, both into *Pr. colensoi*, during month-long, tumultuous research. The tumult was due to several photos of new, unheard-of taxa, that members had kindly sent, plus having to change his ingrained mental type specimen of *Pr. colensoi* from the little alpine taxon (now *Pr.* "Tongariro") to the tall specimens on type sheet K000827768 at Kew (see J133:27). They lined up well with HBM's 1922 photo of *Pr.* "debile" on J133:26 but both lacked important finer details in the flowers which got overlooked in the tumult.

Then, whilst indexing J133, on his own article—and thus having to check every tedious entry under all the *Prasophyllum* taxa, in 133 Journals and News Letters—the Column came to a grinding halt on Bruce Irwin's J79:9 draw-



ing, where he (Bruce) had drawn both *Pr. colensoi* and *Pr.* "B". The floral bracts, in *Pr.* "B", were ovate, and apiculated, but truncate on *Pr. colensoi*. Other details differed considerably too, such as conjoining of lateral sepals' none on *Pr.* "B" but some 50% on *Pr. colensoi*: *Pr.* "B"'s dorsal sepal acuminate, lateral sepals twice the length of the labellum, etc.

So HBM's description of *Pr.* "debile" was again scrutinised [1] and it agrees well with *Pr.* "B". See **Fig. 1**, the Column's 28 Jan 1998 photo of a specimen from the colony at Middle Rd, Horopito which Bruce used as inspiration for *Pr.* "B" in J79. The flower colour, given by HBM as "coppery brown with yellow and green shadings" agrees well. The Column had not highlighted this previously, in keeping with the old convention that colour-isn't-important.

Note that Fig. 3, J133:28 from Karioi Forest, is not the stated *Pr. colensoi* but *Pr. debile*. However the colouring here is more subdued than in Fig. 1.

HBM found his 1922 specimen in the Waimarino district, now known as National Park, only some 19km from the Horopito site. Lucy Moore, had cautioned Bruce not to consider any of HBM's descriptions because they hadn't been published; so Bruce had tagged this taxon separately. This conservative treatment thus continued to neglect HBM's extensive work on NZ native orchids.

Please accept the Column's apologies for lumping and do consider *Pr.* "debile" (= *Pr.* "B") as distinct from *Pr. colensoi*.

### Reference

Scanlen, E.A. Matthews & son on orchids, *NZNOG Historical Series* No. 14, 2006.

### 3. *Pterostylis banksii*, *P. australis* & *P. "Bluff"*

Proof reading and indexing recent Journal articles on these vexed green hoods, from Ian St George, Mark Moorhouse and others, brought out some points of difference which the Column wishes to clarify, once-and-for-all (?) with illustrations, just what constitutes these taxa and what sort of variants and/or hybrids there are around, to make things difficult for us.

*Pterostylis banksii* R. Br. ex A. Cunn. was first published by Robert Brown in 1832 [1, pps 7-10] when he said that he had not seen this "extremely rare" plant (not so, it is common in the north) so he could not describe it but he quoted Allan Cunningham, that his specimen from the Bay of Islands was over a foot high which is unusually tall for the species. AC had the tuber sent to W.J. Hooker at Kew where it was grown on, throwing up a perfect(?) flower stem which Francis Bauer drew in detail. The drawing, **Fig. 1**, is fine in most respects but the dorsal sepal does not curl under some 270°! No self-respecting *Pt. banksii*, in its home turf, would do a thing like that, at any stage of growth. Francis' flower was misshapen maybe due to a lack of its mycorrhizal fungus in the Kew soil or withering? Brown did do a four line Latin description from AC's plant, in Bot. Mag 1832, but leaving out the atypical curl of the dorsal sepal in FB's drawing.

**Fig. 2** is a quintessential *Pt. banksii* from ±300m a.s.l. by Webbs Track in the Coromandels, on 10 Nov 2000. The Column has seen many hundreds of these plants. This one stood alone so the camera refused to go by without capturing it. Note the standard, upturned, 25mm extension to the dorsal sepal. The red-dish labellum here has a slightly emarginate tip which is normal in fully open flowers. Just-opened flowers, with the dorsal sepal still drooping slightly, have an entire lip-tip; no arch. The emarginate tip develops with age, as a result no doubt, of being at the tip of the arch-ribbed labellum. This is a new deduction for

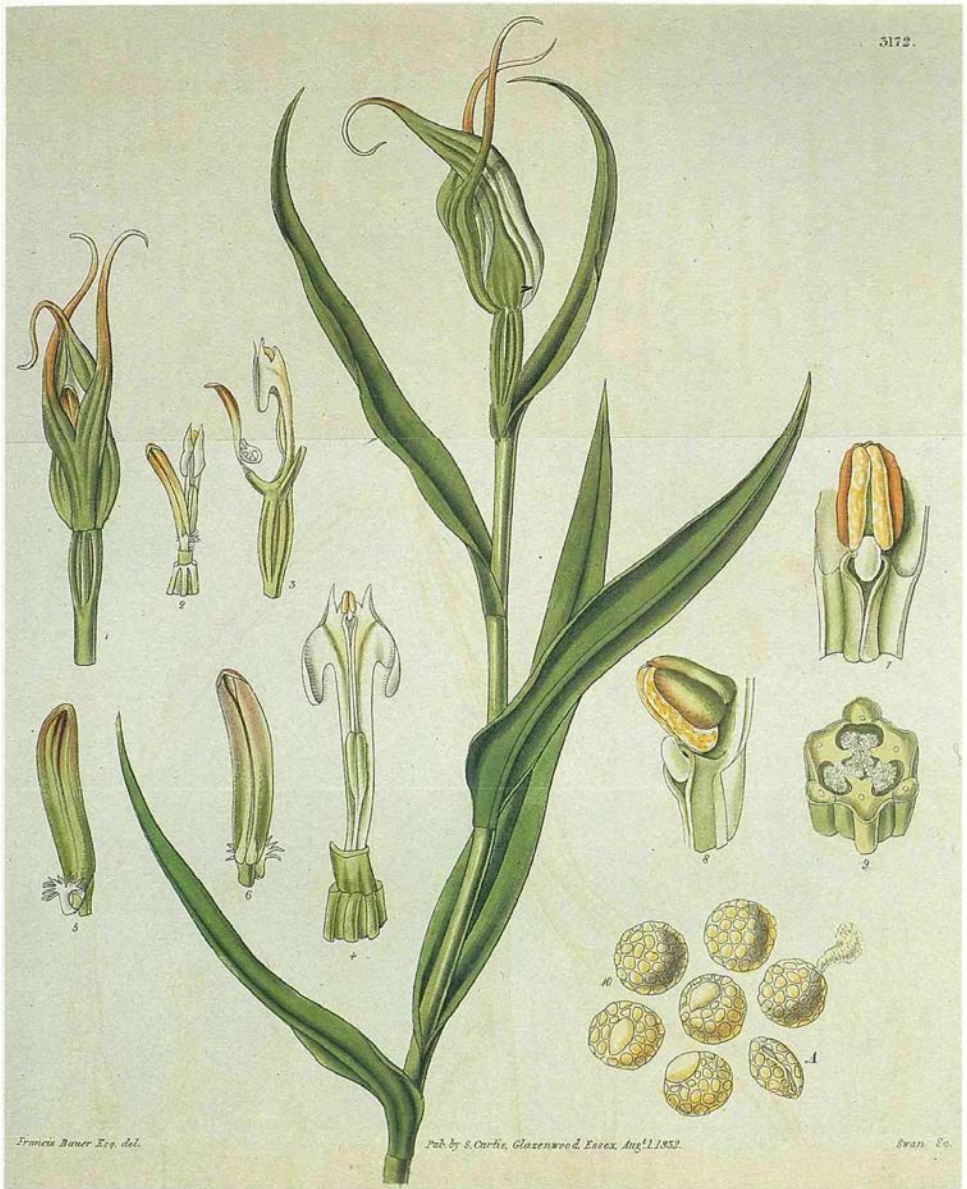


the Column, from numerous photos, after 58 years of observing this species and after Mark Moorhouse's J133:11 reminder about time/maturity development.

**Fig. 3**, from 700m a.s.l. on the Coromandel Pinnacles, 26 Nov 1990, shows a colony in early stages of opening. The lower left specimen is still erect in bud-form; centre and far right specimens have lowered their clustered sepals; most have spread their lateral sepals but have dorsal sepals drooping from the unaccustomed lack of support. Only the uppermost flower has stiffened its dorsal sepal somewhat but none here has fully opened.

**Fig. 4**, is a rare double flowered specimen where the prime flower has just fully developed with barely detectable emarginate labellum just peeping over the synsepalum. But the still opening second flower shows the three, tightly clustered sepals, with a slight tilt at the tip, portending the up-tilted dorsal and the normal curve to the tips of the lateral sepals.

J.D. Hooker, in 1853 (1, p 26) mentioned nei-



Francis Bauer Scg. del.

Pub. by S. Curtis, Glazenwood, Essex, Aug<sup>o</sup> 11. 1832.

Swan. Sc.

Plate 15

*Pterostylis banksii* A. Cunn. in Hook.

Francis Bauer  
(in *Curtis's Botanical Magazine*, 1832)



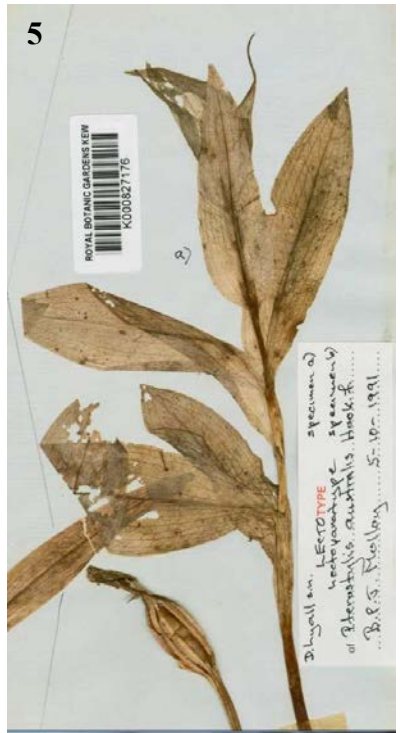
ther Bauer's curled dorsal sepal nor the emarginate labellum tip, up-tilted dorsal sepal, curved tips to the lateral sepals nor the labellum just peeping out of the galea of *Pt. banksii*. These traits are often missed from its descriptions, perhaps as too trivial, yet all are essential to the identity of this species.

T.F. Cheeseman, in 1925, (3, p349) didn't mention Bauer's curled dorsal sepal, in his detailed description. TFC would have been quite conversant with *Pt. banksii* but didn't mention its up-turned dorsal sepal and he had the lateral sepals with "erect tails 1-2 in. long." "Erect" is too brief, for lateral sepals which rise, spread and slope back, all at  $\pm 45^\circ$  as in Fig. 2.

*Pterostylis australis* (in 1, p28) was described by J.D. Hooker in 1853 from David Lyall's specimens (see J133:3) but JDH revised it in 1864 (1, p87) to *Pt. banksii*

Var.  $\beta$  with "Sepals less produced into long tails." as per the Column's J116:34 which Mark doubted in J133:10. However, this species has other variations which could be the result of either hybridisation or rare beneficial mutations or just movement of retrotransposon in the ovary DNA. In the event, several varieties or separate species may be involved. Dan Hatch II's drawing (J133:11) does show an atypical, uneven tip to the labellum which indicates likely hybridisation with *Pt. montana* agg. for the specimen being drawn. Otherwise the specimen is a good example of *Pt. australis* s.s.

Brian Molloy solved much of the difficulty by designating David Lyall's flowering specimen as a lectotype, Fig. 5, detailing the best specimen on the type sheet. The whole





sheet, (J132:8) shows three other, very tall plants in seed which may have extended their peduncles for seed dispersion and/or have grown through debris and/or be hybrids, but for whatever reason, they are atypical of *Pt. australis* in the Column's experience. Just such tall plants in seed, still showed up, at type locality, Deas Cove, when the Editor stepped ashore after a momentous journey, on 8 Feb 2014 (J132:11), so we still don't know what the flowers looked like, 164 years after Lyall selected the three, tall, type specimens.

Brian's lectotypification however comes close to the in-flower specimens up and down the South Island although the labellum and reproductive parts are not represented. Figs. 6-8 show some variants that comply with the designated lectotype, as below:—

**Fig. 6.** *Pt. australis* from Dolamore Park, ER76, NW of Gore, by Patrick Enright. It lines up well with the Column's from ER72 Borland Burn, 101km away (see J91:12 & CFG3 No. 116) with labellum and its black mid-ridge, also its trapped fungus gnat, of genus *Allocotocera*; thank you Georgina Upson for the ID.

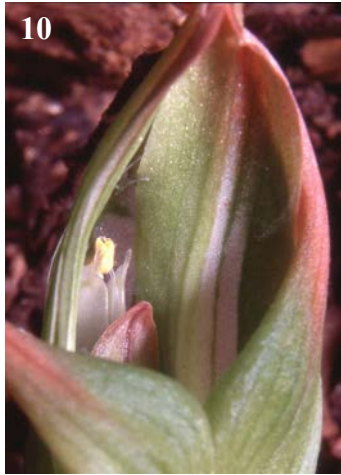
**Fig. 7.** from further north, Lake Gunn, ER72, on 27 Dec 1979. Note the mid-ridge on the labellum—also triggered!—has rounded out somewhat but leaves and flower are still all *Pt. australis* as per lectotype.

**Fig. 8.** much further north, in Nelson's Canaan Rd, ER46, on 12 Nov 1998, the labellum tip is still black but rounded.

**Fig. 9.** at Hawkes Lookout, off nearby Takaka Hill, on 27 Nov 2002, was this specimen; is it *Pt. australis*? Not really. The foliage is right but the dorsal sepal points skywards and has a reddish (triggered again!) labellum. This is just one example of numerous variants, scattered through the forest. These oddities often get photographed in favour of the "boring" common species. Beware these mutants which may be sterile and are often doomed to disappear. Publishing their photos can, and does, only cause confusion.

**Fig. 10** is a detail of the labellum and column top of Fig. 9. Detail of the various columns and labellar appendices could have been instructive but didn't happen on this lonely specimen.





The Column has yet to see *Pt australis* in the North Island but he is assured that they do exist there. Bruce’s drawing of *Pt. “Goodgerii”* and Bob Goodger’s photo (J123:28) from Ohakune Mountain Rd. come close but neither Bruce nor Bob mentioned *Pt. australis* as a possibility, maybe due to the much shorter leaves.

*Pterostylis “Bluff”*, as in Colour Field Guide 3, (CFG3) has never sat easily with either the Editor or the Column. Kathleen Shepherd originally tagged it in J114:20 in reference to Phil Norton’s Fig. 12 specimen, J103:25,40, from 30 Dec 2006, by Kepler Track, north of Lake Manapouri. Kelly Rennell’s specimen from Bluff Hill, ER78 (see J90 32) has strong similarities as does the Column’s photo of it in CFG3, No. 118, but the wide variability of this taxon, noted by Ian in J90:32, has always been a concern which earlier ruled it out of CFG2. However, reports kept coming in from the West Coast and up into the North Island’s Aorangi Range, of these large green-hoods with outstretched lateral sepals (see also J91:11). So

**Fig. 11** shows longer sepalled plants at Hackett Track, out of Hope, ER47, on 11 Nov 1998. Note the drooping dorsals, erect laterals and *Pt. banksii*-like labella, complete with reddish and emarginate tips and midribs arched in cross-section. Bruce Irwin, who was with the field party, wouldn’t allow these Hackett specimens as *Pt. australis* s.s. Similar plants showed up elsewhere in Nelson and in Stewart Island, i.e. in Ian St George’s J127:3. That Stewart Is. colony had lateral sepals too near upright to be taken for *Pt. “Bluff”*. These may be *Pt. australis* X *banksii* X “Bluff” hybrids. Who knows? Both the first two have  $2n=44$  chromosomes—the commonest count for the genus—so it would be no surprise if *Pt. “Bluff”* had the same, thus fertile hybrids can happen when the fungus gnat pollinators get as bewildered as we do.

it's entry into CFG3 was really just to foster more interest and to get more people observing and reporting it. However Phil Norton's Fig 12, plant could just be the parent form. It has the short broad leaves of *Pt. australis* and the reddish labellum of mature *Pt. banksii* but it has those long, outstretched lateral sepals which are the hall-mark of *Pt. "Bluff"*.

Jörg Hempel also found Phil's taxon somewhere, complete with outstretched lateral sepals, reddish emarginate tip to the labellum and short broad leaves with undulate margins. The Column has their photos on file but has been unable to track down either Phil or Jörg for more info.

All of you photographers that frequent the Kepler Track and surrounding areas, do please observe populations of this plant and help us stabilise the basic form, habitat and any host species of this elusive taxon.

**Post-script.** Fig. 13 needs identification. These plants were growing by the iconic Four Sisters kauri trees in the Waipoua Forest on 13 Nov 2011. Photo by Ross Donald, forwarded by Mary Watson who was also in the field party. Note the pale pink, very long sepals, wide-spread lateral sepals such that one flower has extended a lateral sepal right through the galea of its buddy alongside. The labellum seems not to be emarginate at the tip. This colony is some 650km north of the most northerly reported (and disputed) *Pt. "Bluff"* also, both its leaves and its sepals are too long for *Pt. "Bluff"* anyway. The Column has filed it as *Pt. aff. banksii* only for want of more info. What do you think?



**References:**

1. St George, I.M. *The Hookers on the NZ Orchids* NZNOG Historic Series , No. 7, 1989.
2. Hooker, J.D. *Flora Novae Zelandiae* Part 1, illustrations by W.H. Fitch, 1853.
3. Cheeseman, T.F, *Manual of the NZ Flora*, 1925.
4. Hooker, J.D, *Handbook of the NZ Flora* 1864.

**Cover** *Diplodinium trullifolium*: photograph, the editor.

**Guest editorial: Graeme Jane**

**3** Issues of orchid conservation.

**The type locality: Ian St George**

**5** *Pterostylis rubella* Col. from Mangonui.

**Australian notes: David McConachie**

**11** Let's get serious about making endangered orchids common: the Dunmoochin story. Rabdall Robinson.

**Notes**

**13** **Obituary.** Gary Penniall. Ina McLellan.

**14** Mark Moorhouse reports on Carlos Lehnebach's address in Nelson.

**From NZNOG@yahoogroups.com**

**15** Alasdair Nicholl's *Diplodinium alobulum*.

**16** Mark, Alasdair, Mike Lusk: fungi growing close to orchids.

**18** Alasdair: *Nematoceras* "pygmy". Kathy Warburton, southern *N. iridescens*.

**19** Cheryl Dawson, Pat Enright, early *N. longipetalum* this year?

Kendyll Moorhouse: *Singularybas* leaves & buds emerging.

**20** Allan Ducker photographs pollinators of *Diplodinium trullifolium*.

**21** Alasdair's *Nematoceras* "Eastern Hills". Advice for contributors.

**22** Pat Enright's *Nematoceras* "rimutaka", Cheryl Dawson's *N.* "Eastern Hills".

**23** Mike Lusk's emerging *N. macranthum*. Alasdair Nicholl's *N. trilobum* "Bridal Veil". The Editor's large *N. aff. trilobum* from Rewanui, Masterton...

**24** ... and *N.* "Eastern hills" from Tauherenikau and *Thelymitra* from Blue Rock Rd.

**25** Allan Ducker's *Thelymitra longifolia* columns from Waikumete Cemetery.

**26** Gordon Sylvester warns *Thelymitra* columns may change with age.

Bill Campbell's *Thelymitra longifolia* columns from the north.

**27** Mark Moorhouse's *Thelymitra longifolia* columns from Nelson.

Forster's drawing and the Editor's photographs from Long Island.

**The column: Eric Scanlen**

**28** 1. *Thelymitra pulchella* with red column arms.

**29** 2. *Prasophyllum* "debile" = *P.* "B" (not *P. colensoi*)

**30** 3. *Pterostylis banksii*, *P. australis* & *P.* "Bluff".

