

The New Zealand Native
Orchid Journal





Contents: No. 115

February 2010 ISSN 1177-4401

Cover:

Petalochilus sp. Photograph Georgina Upson: see p.15.

The Type Locality: Ian St George

4 8: Te Ruahine, *Pterostylis subsimilis* and *P. speciosa*.

Eponymous orchids: Val Smith

10 David Lyall and *Stegastyla lyallii*.

Australian notes: David McConachie

12 Field trip report 21-23 August Mt Gibson. John Ewing.

12 Bushwalk Report 29 August. David James.

Far North Diary: Kevin Matthews

14 *Caladenia alata* variations. *Nematoceras rivularis*. *Stegastyla atradenia* sans calli.
A big *Caladenia*.

Nelson news: Mark Moorhouse

15 *Stegastyla* "minor" and other orchids.

Notes, notices, letters, questions, comments

9 NZNOG: Notes to contributors

17 A Colenso Society

18 *Nematoceras trilobum* agg. leaf shapes. *Caladenia* issue of the *Aus.J.Bot.*

27 Slide collection in "World Orchid Iconography". Gary Little's *Singularlybas*.

28 Peter de Lange finds *Linguella* and other orchids at North Cape. Pat Enright in China.

North American Native Orchid Journal online. Oops! Mike Lusk and insects on *Earina*.

29 Gordon Sylvester at Mananui Reserve. Gary Little and *Microtis unifolia*.

Apologies to Val Smith. Farewell to Charles Darwin. The editor at Kaitoke track.

30 Margaret Menzies, *Molloybas* and others. *Pterostylis papuana*. Turkish orchid book.

Erich Nelson's orchid paintings online.

40 Books and electronic media on the NZ orchids for sale.

42 WANTED: local guides and regional reporters.

The NZ orchids

31 The editor's annual list.

The column: Eric Scanlen

41 *Thelymitra* "puriri" in Diggers Valley.



The type locality: Ian St George

8. Te Ruahine, *Pterostylis subsimilis* and *P. speciosa*

A. *Pterostylis subsimilis* Col.



Colenso

William Colenso described *Pterostylis subsimilis* in 1896. Cheeseman included it in *P. banksii*, but later Hatch separated *P. patens* as a distinct variety, and Moore agreed, then Molloy re-established its specific rank. *P. subsimilis* seems to have gone with *P. patens*, so now it is included as a

synonym of *P. patens* rather than of *P. banksii*. But is that correct? or is *P. subsimilis* something else entirely?

Colenso's description of *P. subsimilis*

(From *Trans. N.Z. Inst.* 1896; 28: 611)

Plant 8in. high. Leaves, radical 0; stem-leaves 5, distant, lanceolate, much acuminate, the 4 uppermost 4in. long 1/2 in. wide, the lowest leaf small and narrow 2in. long, sessile, half-clasping, very membranous; midrib slight; veins distantly reticulated, forming long areoles; near base of the stem 3 short sheathing-bracts. Scape slender, 1-flowered. Galea erect, curved; dorsal sepal 2in. long, very acuminate; petals linear-lanceolate, 1¼ in. long, acute; lower lip deltoid, 2in. long, its two lobes long and slender with filiform red tails embracing galea; labellum red, ¾in. long, lanceolate, veined; veins parallel; midrib stout, minutely papillose, tip truncate; appendage broadly cuneate, curved, trifid, tips fimbriate; column erect, wings large 3½ lines long; lower lobes much produced, obtuse, rounded; upper lobes or teeth very narrow, erect, shorter than column; the uppermost dorsal margin of wings rounded and free from column; anther-hood

large, erect, concave, apicular, reddish; stigma long, wider than column. Ovary 7 lines long, very slender.

Hab. Ruahine Mountain-range, east side: Mr. A. Olsen; 1894.

Obs. A species *prima facie* resembling *P. speciosa*, Col. (*Trans. N.Z. Inst.*, vol. xxii., p. 488).

The type of *P. subsimilis*

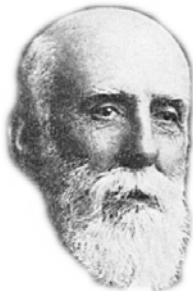
The type of *Pterostylis subsimilis* is in Herb. Colenso at WELT. The specimen is #24282 at Te Papa, and carries a label saying, in Colenso's hand, "(Orchid) *Pterostylis subsimilis*, Col. (from Ruahine, flower cut open for dissection)". In about 1905 Cheeseman wrote

on the label "Ruahine Range. Type of *P. subsimilis*, Col.", and in 1937 Victor Zotov wrote, "Only spn VDZ 26-4-37".

Sadly, this specimen (photographed page 6 and able to be viewed at <http://collections.tepapa.govt.nz/search.aspx?advanced=colOrder%3A%22Orchidales%22>)

does appear to be the only one. I can find no record in Colenso's letters or plant lists of his having sent a duplicate to Kew (though he did so for many of the plants he described in his later years).

Colenso wrote that it was similar to his *P. speciosa*. I presume that by "subsimilis" Colenso meant it was *smaller* but otherwise similar.



Cheeseman



Zotov

B. *Pterostylis speciosa* Col.

Colenso described *P. speciosa* in 1890. Cheeseman lumped it with *P. banksii*, but later, with the recognition of *P. patens* as a distinct species, *P. speciosa* is now generally regarded as a synonym of *P. patens*. Colenso clearly saw *P. speciosa* as different from *P. patens*, which he had described 4 years earlier.

Colenso's description of *P. speciosa*

(From *Trans. N.Z. Inst.* 1890; 22: 488)

Plant stoutish, erect, 9in.-10in. high; stem and leaves of a reddish hue. Leaves: basal 0, but 2-4 small ovate pale scales, distant on lower stem; cauline 4, nearly equidistant, much longer than flower, 5in.-8in. long, $\frac{3}{4}$ in. broad at middle, linear-lanceolate, acute very thin, sessile, clasping, much and reticulately veined, light-green. Perianth large sub 2in.; segments rather loosely spreading, richly variegated with bright-red dark-green and fawn colours, the upper portions of segments brilliant red; largely veined; veins very prominent. Dorsal sepal large, acuminate, slightly tailed; lateral sepals connate, erect, largely spreading above and behind dorsal, tails long; sinus very broad, base emarginate; lateral petals loose from dorsal sepal, their tips very acute, not tailed; tongue linear-lanceolate, 2 lines wide, veined, reddish, minutely and thickly papillose; tip obtuse, thickish and slightly knobbed; appendage long, curved, fimbriate. Column long, wings broad, auricles long wide rounded, two subulate horns arising from outer angles shorter than the column, the margin between them slightly erose; stigma large, wider than column.



Hill

Hab. - Near Mount Tongariro, County of East Taupo; 1889: *Mr. H. Hill.*

The type of *P. speciosa*

No. SP024279 at WELT at Te Papa is labelled in Cheeseman's hand, "*Pterostylis banksii* R.

Br. Tongariro H. Hill, type of *P. speciosa*, Col." A further note initialed by Viktor Zotov dated 26 April 1937, reads, "Only spn." It can be seen at the Te Papa website, and is shown on p.8 (pp. 6 & 8 reproduced with permission)

There is a sheet at Kew, labelled in Colenso's hand, "*Pterostylis speciosa* Col.", lectotypified by Brian Molloy (photographed p. 7).

The type localities

The type specimen of *P. speciosa* was collected by Henry Hill from the National Park region, where he had a holiday home.

P. subsimilis was collected by Andreas Olsen from the Ruahines. Olsen had a property just southwest of Norsewood on the north side of Garfield Road (aka Friberg Line), near the railway at Makotuku, but his collections were all made on excursions to the Ruahine ranges. His nearest access to the Ruahines would have been via Gundries road or Ngamoko road from Norsewood [see J110 for a map and more detail].

The Ngamoko road ends where the so-called Apiti track begins. Years ago a road following the old Maori track from Norsewood to Apiti was planned, but the plans were never realised, and the walking track (called the Apiti track on the Norsewood side, and the Norsewood track on the Apiti side) is now popular.

What's there now?

I have occasionally walked in the National Park, but I have never seen plants like the Kew sheet of *P. speciosa*.

I have walked the Apiti track in mid-november and early December, and the *Pterostylis* there include *P. montana* sensu Hatch, *P. patens*, *P. graminea*, and large and small forms of the taxa with the curved dorsal sepal and deflexed (but short) lateral sepals that Mike Lusk showed us on the Sunrise track at Wakarara in December 2008, (a group is photographed on the outside back cover of J111).

The plant identified by Colenso as *Pterostylis subsimilis* and by Cheeseman as the type of *P. subsimilis*, in Herb. Colenso at WELT. Reproduced with permission from the Museum of New Zealand Te Papa Tongarewa.



HERB. W. COLENSO
 DOMINION MUSEUM
 WELLINGTON
 24282
 NEW ZEALAND
 HERBARIUM

Pterostylis
Bankii
 R. Br.
 Rushmore Range.
 Type of *P. subsimilis*, Col.

Only you
 H.C./21-4-37

(orchid)
Pterostylis subsimilis, Col.
 from Rushmore,
 (flowers cut open for dissection)

Poison
 HgCl2



The plant identified by Colenso as *Pterostylis speciosa* and sent by him to Hooker at Kew

Pterostylis speciosa. fol.
col. W. Colenso, 5/1/500,
Trans. N.Z. Inst., vol. XXII (1889)
p. 488.

New Zealand.

ROYAL BOTANIC GARDENS
KEW
11/1874/71
4

Type Specimen.
HERB. KEW.
BOTANY DIVISION, D.S.I.R., CHRISTCHURCH, N.Z.
No. *Pterostylis speciosa*
lectotype
DETERMINAVIT B.P.S. Molloy 21-2-95



The plant identified by
Cheeseman as the
type of *Pterostylis
speciosa* in Herb.
Colenso at WELT.
Reproduced with per-
mission from the Mu-
seum of New Zealand
Te Papa Tongarewa.



HERB. W. COLENZO
DOMINION MUSEUM
WELLINGTON
24279
NEW ZEALAND
HERBARIUM

only you
183/26-11-37

Pterostylis
Banksii
R. Br.
Tongarewa M. M. M.
Type of *P. speciosa*, Col.

Poison
HgC12

What, then, are *Pterostylis subsimilis* and *P. speciosa*?

Both are currently identified with *P. patens*, but clearly Colenso (who had described *P. patens* in 1886 thought (in his 86th year) otherwise, and despite the damage done to the type specimen when he dissected the *P. subsimilis* flower, the sepals are much too short for what we have been calling *P. patens*.

The type specimen of *P. patens* (I will discuss that species in more detail later in this series) can be viewed at the same website, but it is a crumbled, moth-eaten and fragmented mess; nonetheless, Colenso's description of *P. patens* quite clearly describes the lateral sepals "suddenly and completely *reflexed below base of perianth, and extending downwards and horizontally beyond base of upper bract* (or floral leaf), tapering into stoutish points more than 1 inch long." (My emphasis) That description could not be applied to *P. subsimilis*, whose lateral sepals "embrace the galea", nor *P. speciosa*, whose "long tails" were "erect, largely spreading above and behind dorsal".

In my opinion, *P. patens* has the long, deflexed lateral sepals as its distinguishing feature (Figs.1, 2). The large, wide and thick leaved form from the Apiti and Sunrise tracks (Fig.3), would fit his "flowers) large... and gaping" and "(leaves) not narrowed at base... thickish", so it may have been a mixed collection he was describing as *P. patens*.

Or possibly that large taxon is undescribed—though its hard to imagine Colenso did not see it.

P. subsimilis (Fig.4) is in my view the smaller form from the Apiti and Sunrise tracks, rather like the southern species, *P. areolata*. There are larger plants in the Aorangi range in southern Wairarapa, and above the Powell Hut on Mt Holdsworth. I have in the past referred them to *P. australis* and *P. areolata*, but now I am not so certain. Their taxonomic status now needs sorting, but they appear to me to match *P. speciosa* from the Ruapehu region.

There is more work to be done on these yet.

The New Zealand Native Orchid Journal

Although the **New Zealand Native Orchid Group** owns copyright of this material, because our main aim is informing people about native orchids, we do not guard our *Journals* as exclusive intellectual property. We permit other botanical publications to copy material, provided the source and author are acknowledged. Authors should note this as a condition of acceptance of their work. The *Journal* is normally 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. The Group's website publishes *Journals* six months after publication.

Chair: David McConachie, 42 Titiro Moana Rd, Korokoro, Lower Hutt, pleione@orcon.net.nz.

Secretary: Gary Penniall, 637 Otaraoa Rd, RD 43, Waitara, Taranaki gary.p@clear.net.nz.

Treasurer: Judith Tyler, 4 Byrd St, Levin, bandj.tyler@xtra.co.nz: subscription NZ\$42 + post overseas.

Books and publications: Brian Tyler, 4 Byrd St, Levin, bandj.tyler@xtra.co.nz.

Webmaster: Michael Pratt, www.nativeorchids.co.nz, Michael@nativeorchids.co.nz.

Editor: Ian St George, 22 Orchard St, Wadestown, Wellington 6012 ian.stgeorge@rnzcgp.org.nz.

THE EDITOR, THE EDITORIAL BOARD
AND THE GROUP MAY NOT SHARE
AUTHORS' OPINIONS .

Eponymous orchids: Val Smith

David Lyall (1817-1895) and *Stegastyla lyallii*

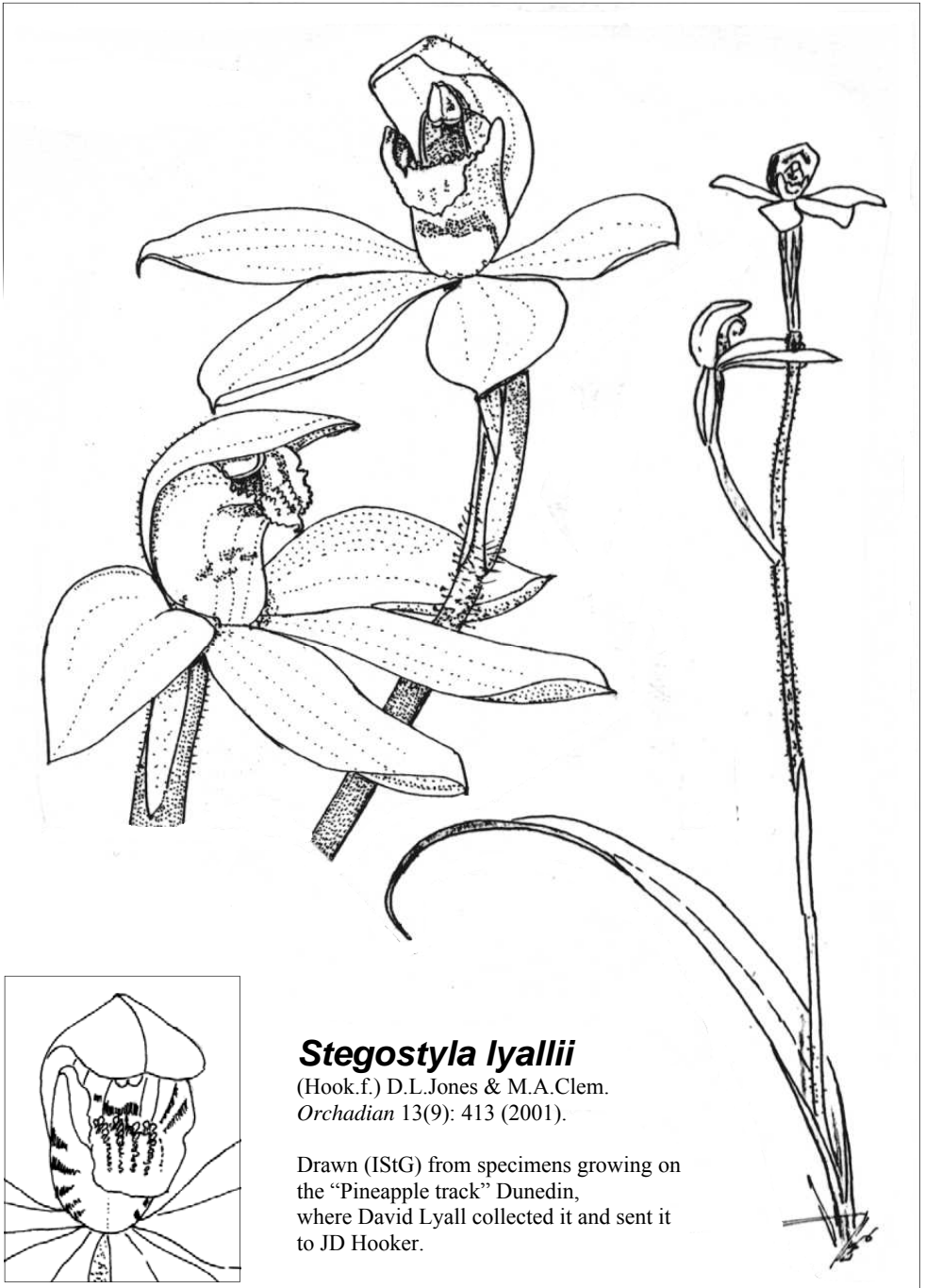
David Lyall, one of a number of Scottish surgeons whose names were to become well known in New Zealand botany, was born on 1 June 1817 in Auchenblae, Aberdeenshire. He studied medicine at the University of Aberdeen, having previously been admitted to the Royal College of Surgeons in Edinburgh, and began his career as ship's surgeon on a whaling ship bound for Greenland.

In 1839 he joined the Royal Navy and was appointed assistant surgeon on *HMS Terror*, companion ship to *Erebus*, on Captain James Ross's scientific expedition to the Antarctic. During the three weeks spent at the Auckland Islands in November 1840 and at Campbell Island 150 miles to the southeast, Lyall and Joseph Hooker, the surgeon and naturalist on *Erebus*, devoted themselves to observing the wildlife, studying the seashore and collecting specimens of the unique plants they found. Lyall was responsible for the botanical collection, and by their return in 1842 had a herbarium of about 1500 species, including a collection of algae, described by Hooker as "an important addition to Antarctic botany".

Lyall served in the Mediterranean until 1847, when he was appointed surgeon and naturalist on *HMS Acheron*, an early steamship under the command of Captain Stokes, on a detailed survey of the New Zealand coast. Botanising mainly in the south of the South Island, Stewart Island and the Snares, Lyall amassed an extensive collection of the lower groups of plants, in which he was particularly interested, and made other important discoveries, including the beautiful white-flowered buttercup *Ranunculus lyallii*. He also wrote a scientific paper on the habits of the flightless New Zealand parrot, the now endangered kakapo (*Strigops habroptilus*).

After serving on an 1852 Arctic expedition to search for Sir John Franklin, and in the Baltic during the Crimean War, he joined surveying ships in the Pacific. His transfer to the Land Boundary Commission, surveying the border between British Columbia and USA, enabled him to collect plants again. On his return to Britain he took up an appointment at Kew Gardens, where he wrote the first account of the vegetation zones of the West Coast of North America. He was elected a Fellow of the Linnean Society in 1862, and in 1866 he married Miss F A Rowe, daughter of Dr Rowe of Haverfordwest. He retired from the Navy in 1873. Never fully recovering from a broken arm, he died at Cheltenham in 1895, survived by his three children.

David Lyall is remembered in the names of a Wellington suburb, and a group of islands in Victoria Land, Antarctica. Sir Joseph Hooker named the genus *Lyallia*, a cushion plant found on Kerguelen Island in the Southern Ocean, and several New Zealand plant species, including trees, herbs, an orchid and a lichen, for him. He also dedicated his large illustrated *Handbook of New Zealand flora* (1853) to William Colenso, Andrew Sinclair and David Lyall, noting that the work owed much to their enthusiasm and energy.



Stegostyla lyallii
(Hook.f.) D.L.Jones & M.A.Clem.
Orchadian 13(9): 413 (2001).

Drawn (ISTG) from specimens growing on the "Pineapple track" Dunedin, where David Lyall collected it and sent it to JD Hooker.

Australian notes: David McConachie

Field trip report 21-23 August Mt Gibson

John Ewing WANOSCG Sept 09

17 members made their way to Mt Gibson station during Friday. Most arrived during the latter part of the afternoon having made multiple stops along the way. The early scouting was done by trip leader Wayne Merritt. Friday evening saw a gathering at the accommodation area where we met Bush Australia representatives and laid out plans for the next day. It was early to bed for a VERY cold night in either the dongas, the shearing shed or camper trailers that some had brought.

Saturday morning saw the convoy head out to the first location where a range of white spider orchids were seen. The first part of a lengthy (and mostly unresolved) discussion ensued. Maybe they were the Outback Spider Orchid (*Caladenia remota* subsp *remota*) or the Glistening Spider Orchid (*Caladenia incensa*) or the Common Spider Orchid (*Caladenia vulgata*). The flowers seemed to provide features of all three species and distinguishing them was difficult for those present. At this location there were also Purple-veined Spider Orchids (*Caladenia douthiae*) and many Dainty Blue Orchids (*Cyanicula amplexans*), including some that were pure white. Blue Fairy Orchids (*Pheladenia deformis*) were also in huge profusion.

The group moved on down the tracks to Mushroom Rocks for an exploratory exercise. Despite a wide search, little was found in an apparently promising spot. On the return trip towards the homestead, a number of stops revealed more 'white spiders', 'dainty blues' and also plenty of the northern form of the Ant Orchid (*Caladenia roei*).

After lunch, the group headed off along another track to a site where the Narrow-lipped Dragon Orchid (*Drakonorchis* [now renamed *Caladenia*] *mesocera*) was found in a number of locations. Around the granite rocks there were also Little Laughing Leek Orchids (*Prasophyllum gracile*) and in a number of places, the Northern Granite Donkey Orchid (*Diuris* sp 'northern granite').

Saturday evening saw the debate about the 'white spiders' continuing over the barbeque that was kindly provided for us. Despite having samples that were picked for pressing that allowed comparisons definitive answers were still not forthcoming. We did agree that there were different species!!!!

Sunday morning saw us out on yet another track and we stopped at 'Orchid Flat'. It didn't look too promising at first, but there were more spiders, some with a strong cream, even up to pale yellow colouring – the Outback Spider???. We moved on to another granite outcrop and found more of the previously seen species and a rufa that was almost out. One of the narrow-lipped Dragons was almost pure white. A little further along the track was the Kalbarri Cowslip (*Caladenia flava* subsp *maculata*).

Altogether some 20 plus species were recorded, which meant this doubled the number of known species. The survey was thus viewed as successful.

Bushwalk Report 29 August

David James The Kalhari Sept 09

Eight Kabi Group members met at 9:00 am on the morning of Saturday 29 August 2009 at the bus shelter at the intersection of Bellbird, Borgan and School Roads in Jimna. For those that drove from Brisbane the drive up included

fog from D'Aguilar to Jinker Hill. The group then drove in convoy to the day use area towards the northern end of the Peach Trees camping area via School, Kilcoy Murgon and Peach Trees Road. The Peach trees that the camping area takes its name from were in flower. The camping area was picturesque and had at least ten to fifteen campers in occupation even by 9:00 am on a non long weekend Saturday morning. The group set out from the start of the Yabba Creek circuit walk at the north-western corner of the camping area. This walk passed through the riverine vegetation around Yabba Creek and cross the creek via a suspension bridge. No orchids were seen in the riverine vegetation despite it being the typical habitat for members of the Sarcanthinae subtribe of the *Vandaeae* tribe (*Sarcophilus*, *Plectorrhiza*, *Rhinerrhiza*, etc). At the northern end of the Yabba Creek circuit the 4.5 km Araucaria circuit began. The group proceeded along the Araucaria circuit that begins and ends in open forest of ironbark and grey gums. The central section of the circuit is dry rainforest with emergent bunya and hoop pines.

Frequent mists must occur in the area as the open forest trees were covered in lichens.

The ironbarks in the open forest contained numerous plants of *Dockrillia linguiformis* that were about a week away from being in flower. The odd inflorescence had some flowers starting to open. The number of inflorescences indicated that this should be a good flowering if the weather does not remain too hot and burn the flowers off. The ironbarks also contained *Dockrillia teretifolia* or *Dockrillia dolichophylla* that had finished flowering. Some had recently pollinated flowers (forming seed capsules).

Surprisingly no *Dendrobium aemulum* were seen.

The dry rainforest contained *Dendrobium speciosum* var. *grandiflorum* and/or *Dendrobium speciosum* var. *hillii* that were at the end of their flowering. The flowers were folding up and dropping. The *Dendrobium*

speciosum in this area can be either var. *grandiflorum* or var. *hillii* as this area in the overlap of these two varieties. *Dendrobium gracilicaule* was also in flower in the dry rainforest. These flowers were fresher than the *Dendrobium speciosum* but

not in prime condition. The recent hot weather has burnt the flowers off. A possible sighting of the natural hybrid *Dendrobium* × *gracilimum* was also made on one tree that contained both parents; *Dendrobium speciosum* and *Dendrobium gracilicaule*. Non flowering plants of the following orchids were also seen in the dry rainforest:

Dockrillia teretifolia and/or *Dockrillia dolichophylla*

Dockrillia bowmanii

Plectorrhiza brevilabris and/or *Plectorrhiza tridentata* (again this area is a possible overlap for both these species)

Sarcophilus falcatus

Cymbidium suave

A young plant of *Cymbidium suave* was also sighted in the fork of an ironbark during the return section of the walk through the open forest.

The group then had a pleasant BYO lunch in the day use picnic area before heading for home. On the drive out of the camping area an eagle eye sighted a flowering *Dendrobium speciosum* in a small grove of hoop pines close to the road.

This grove of hoop pines contained the following orchids:

Numerous *Dockrillia teretifolia* and/or *Dockrillia dolichophylla*

Dendrobium speciosum var. *grandiflorum* and/or *Dendrobium speciosum* var. *hillii* at the end of flowering

Dendrobium gracilicaule flowering

Sarcophilus falcatus at the end of flowering (flowers folding up)

Sarcophilus weinthalii

Dockrillia schoenina

Jimna is an area well worth visiting in late winter and early spring.

Far North diary: Kevin Matthews

2 SEPTEMBER: These *Caladenia alata* (**Figs 9,11**) are growing in the same colony here on the farm amongst scrubby Manuka on podzol silica. There is a white form missing the 2 golden calli from the midlobe. There seems to be no hard and fast rule with these calli—while some have none at all others can have 2 pairs or 2 on one side and one on the other. I was interested to see if the flower had any aids for pollination so took a flower for examination under the microscope. I wasn't too surprised to find the anther cap has bristle hairs for good pollinator footing (**Fig 10, 10a**). I'd previously not noticed the red topped hairs on the column of *C. alata*; the hairs are similar on the stem and ovary. Eric has suggested they're a deterrent to browsing bugs, and questioned how the post anther bristle hairs would aid pollination.... My reasoning is that in order for the insect to get at the pollinia it needs to be upside down and therefore needs a good foot hold. Took a look at a few orchid colonies on the farm today to checkout progress and happened on a crane fly with a pseudo scorpion passenger clamped on its front leg, most bizarre.

7 OCTOBER: I've had some more good luck with orchids recently in the way of finding a new colony of *Nematoceras rivulare* at the top of a steep narrow waterfall in the Managamuka Gorge. It covers an extensive area however at this stage it appears few plants will develop flower; it also has a number of pandurate leaves showing throughout the colony. To get a decent flower photo it may require some safety gear to stop one going over the fall.... who said orchiding wasn't dangerous?

9 & 11 OCTOBER: While botanising on the Tauroa Peninsula out at Ahipara last October I found a colony of what looked like

chewed off *Caladenia* with very robust wiry peduncles; on re-finding the colony I was much disgusted to find that the bugs and or rabbits had beaten me again this season. However after further searching in an area remote from this site and with some good luck thrown in I turned up 2 similar colonies; while one colony had well finished flowering the other had a freshly opened *Stegostyla* flower with a further 2 coming up to flower. Interestingly the midlobe lacks the usual deep maroon calli running to the tip (**Figs 15, 16**). Obscured in the photo are the 2 rows of raised calli on the labellum running to the base of the column as per *S. atradenia*. Under 10x magnification one can just define 3 wart-like vestiges of the forward calli on the midlobe. I revisited the flower 2 days later to try for a photo without rain drops or wind and to see if the very upright labellum had dropped down from the column. It had not and the only change was that the lateral sepals that were joined at the tips had now split. It will require further follow up visits this year and next to determine if the lack of maroon midlobe calli is a consistent feature of the Ahipara *Stegostyla* or just a freak.

Further searching on this return visit turned up a colony of the largest flowering *Caladenia* that I've seen in New Zealand (**Fig.12**); very much along the lines of what I'd equate to as the large flowering Australian *Caladenia carnea* and additionally with the much smaller *C. "nitidosa rosea"*. From petal tip to petal tip the flower measured 23mm while the 2 other flowers on the same plant were yet to open. Others had finished flowering while more were just emerging their peduncle. The leaf is wide at 4-5mm and up to 70mm long; the margin is edged with sparsely spaced hair. I'm looking forward to getting some better photos than the one attached and hopefully on a windless day!

Nelson news: Mark Moorhouse

16 NOVEMBER: YESTERDAY GEORGINA UPSON and yours truly spent another long fruitless day searching for *Stegostyla* 'minor' near its known area. We did find several hundreds of acres of suitable habitat on DOC land in the Bacon Creek watershed on the northwest flank of Mount Jones, an area already noted for other scarcer species such as *Calochilus* and made some inroads into exploring same.

I said fruitless, but that is strictly relative to our cause. There were many other species to be found, some in immense quantities. *Stegostyla lyallii* of the smaller subalpine taxon were plentiful, the pure white 'Iwitahi' variety also numerous in some areas and the broad petalled *Steg. lyallii* taxon displaying 6 rows of calli sparse but intermingled as to be expected at 500-700 meters, the lower end of its habitat range. One thing gained from encountering large numbers of a species, is the luxury of being able to make on the spot comparisons; in addition one's eye becomes trained in making a visual recognition without having to extract the 20x glass from the pocket at each flower.

What became strikingly obvious was the total lack of 'inbetweens', and this concreted in my mind that these are indeed separate taxa and need official recognition as such by awarding them a full botanical description and separate names. Consistent differences include dorsal sepal width, tip shape and stance, labellum stance, midlobe shape, calli appointment and arrangement and to some degree labellum wings, leaf dimension range, multiplicity of flowers, petal and tepal form and other minor features.

There are only two obvious differences between the smaller *Steg. lyallii* taxon and the white 'Iwitahi' taxon, both of these involve colour. Firstly, the obvious lack of red barring

on 'Iwitahi's' labellum, the other (at least in our area) is the strong dominance of wine-red flushed leaves (at least 95%) for 'Iwitahi', and this proved to be a successful method of identifying most white 'Iwitahi' at a first glance, but as with any ID factor there are always a few exceptions. In my humble opinion this can at best place 'Iwitahi' at varietal distance apart from the smaller *Steg. lyallii* taxon.

Pterostylis graminea could be found in tens of thousands throughout the area. Attached is an oddity we ran across. The first two-flowered *Pt graminea* I have encountered. The flowers were on their last legs with labellums permanently retracted, but worth a record shot for interests sake. (Fig.20)

This brings me to another rather intriguing find. Something that appears to be akin to a pink *Caladenia chlorostyla*.

On initial inspection it was taken to be *C. bartlettii* but closer examination revealed an atypical midlobe with falcate lateral calli.

In addition the inner dorsal sepal was curiously speckled which began to ring some bells with a plant I had only recently been reading about.... *Caladenia* aff. *fuscata*. The dorsal matches, but the midlobe, well only sort of. Not convincingly enough. Then there is Eric's *Caladenia* 'speckles'? An examination of David Jones' book of Australian spp brought us no closer to an ID though similar parallels could be made with specific features of some Australian spp. (Cover & Figs 21, 30 by Georgina Upson)

In this area, which is mostly sandstone and mudstone, there are isolated remnants of trauvertine, an ancient overlayer, much of it now only backpack sized rotting boulders scattered along the banks of the streams. It was nice to see that opportunistic colonies of *Nematoceras*

macranthum, *N. orbiculatum* and *N.* ‘whiskers’ were to be found on most of them, or below them where run off had sweetened the ground. With all three flowering simultaneously (short overlap for *N. macranthum*) there are plenty of ‘inbetweens’ flowering in the area displaying rather atypical features. It seems evident that these species share pollinators and do occasionally produce crosses. This is a constantly damp area producing great breeding conditions for the myriad of fungus gnats that could be seen milling about the creek edge towards evening.

Nematoceras aff. *sulcatum* were also present still in late flower. this ID having been confirmed with Dr Molloy. Over 20 other species were identified, many still in early bud. This years flowering season has been set back at least a fortnight by winter’s inclement grasp on us so late in the season.”

22 NOV 2009: WELL FINALLY WE have a big breakthrough to announce re *Stegostyla* ‘minor’. An excited Georgina Upson phoned me Saturday night with news that at last she had located a whole colony of *Stegostyla* ‘minor’ showing clear evidence that this was indeed a fertile species and could be found in breeding colonies. After so many years of searching I was so stunned I think I recall Georgie saying ‘Hello, are you still there? Hello!’ after my long silence.

After arrangements were made to make another trip today, Sunday, I slept fitfully, praying for a fine enough day to take some much needed photos of certain aspects of *Steg* ‘minor’ we had little data on. Morning arrived, it was raining lightly but looked a bit brighter to the west. Muttering something about incompetent weather forecasters under my breath [it was supposed to be sunny] I collected together some wet weather bush gear and headed off to rendezvous with Georgina. The weather did soon brighten and the drizzle ceased so the expedition was all on after a

short 40km drive into the western ranges. With a positive step we set out for a location a mile or so back into the trackless scrub towards a flat-topped spur on the northwest flank of Mount Jones between the Wangapeka River and the Main Western Range of Nelson.

About half way to our objective, a cry of joy heralded the discovery of a new species for the area, *Pterostylus oliveri*. (Fig.32a) bringing the total for this tiny area of New Zealand to almost 60 species. I dare to claim this may be some sort of record for any 1000 acre square of New Zealand soil. The colony of about 20 plants were some of the tallest and lushest I had ever seen with a good number in full flower.[attachment] We proceeded on through a confusing pattern of ridges and saddles and attempted to locate the site of the unusual pink chlorostyla-like *Caladenia* we had discovered the week before, without success as we were approaching from a different angle, but later that day Georgie did find two further specimens nearby which were photographed thoroughly in rather low-light conditions. [attachment] The anther cap of these two specimens was a deep wine-red, cementing further the possibility that these were closely affiliated to the Australian sp. *Caladenia fuscata*. After considerable debate, this option or simply that of a pink *C. chlorostyla* were all that still remained in contention. Close examination of local *C. chlorostyla* revealed slightly longer column wings in that species and perhaps a slightly less erect dorsal sepal as the only physical differences evident between the two taxa. But colours radically different. Do we need to revisit Hooker’s pink *C. minor* with this new evidence to hand? [Apologies Eric, Bruce and Brian] Or does *C. carnea* have New Zealand representatives after all? Two questions that were further debated. The plants located all reached 150mm in height, very tall for any *C. chlorostyla* and quite robust. Our case rests with the attached photos.

Onwards, and upwards. The untouched century old *Leptospermum* forest rose gently with the ridge. Some parts flattened off to

almost horizontal. Old pig digging formed damp pockets here and there, an important feature of survival for *Steg.* spp in the drier seasons. 'Found one' rang through the bush. I wended my way through the mature manuka stems to find Georgie crouched over a newly discovered *Steg* 'minor', 20x glass in hand, peering at the two rows of calli down the mid-lobe of the labellum. As I approached I notice another plant and discover she has found two. The known plants of this rare species was beginning to soar from 1 at the start of the season, then 10, now 14 and by the end of the day 21 new plants had been added. Had we reached *Steg.* 'minor' Mecca? It certainly felt that way. Finally we had enough to start to explore the ranges of size, the variation of calli, and to establish firmly that this was truly a fertile species, able to produce viable seed which in places formed colonies surrounding a mother plant, in which both flowering plants and tiny non-flowering leaves were present. At last too, we had enough material to establish a 'normal' description of column wings, anther caps and other minor details that had previously been overlooked.

With so many *Stegostyla lyallii* present in both forms, it was a great opportunity also to build a comparative photographic record, which we would like to share with the readers. Photos attached of *C. chlorostyla*, *Steg* 'minor', *Steg. lyallii* 'Iwitahi' and *Steg lyallii* 'aff alpina'. The photographs graphically display the differences better than any written description could hope to (**Figs 33, 34**).

Could we encourage others to examine carefully any 'larger' *C. chlorostylus* plants growing in association with *Steg. lyallii* on flattish ground in open manuka and kanuka forests. They may be astounded to find two rows of calli extending down the midlobe of the labellum of some of these plants and from there notice other differences that make *Steg.* 'minor' a new and un-named species.

A Colenso Society

7 November 2011 marks the bicentennial of the birth of the Rev. William Colenso, a polymath whose genius has been appreciated in limited fashion by church historians and with greater enthusiasm by botanists, Māori scholars, students of the history of science, print lovers and others. Much of his writing is relatively inaccessible.

I propose the formation of an incorporated Colenso Society. Its aims: to ensure his bicentennial is properly marked, and to encourage Colenso scholars by establishing a "Colenso Project".

The Colenso Project might trace and catalogue all of his surviving writing, transcribe and annotate his letters, republish Bagnall and Petersen's biography and make it all available in searchable form on line. The concept is modelled on the Darwin Correspondence Project (<http://www.darwinproject.ac.uk/>).

If you are interesting in contributing a little time, a little wisdom and ten dollars to permit as a first step the formation of a properly incorporated society please contact me. I will send you draft Rules for comment, add your email to my mailing list, and contact all responders early in 2010.

If you know of others who might be interested, please pass this to them. Don't send money yet.

Ian St George
(ian.stgeorge@rnzcgp.org.nz)

Notes etc

HERE IS A COLONY of *Nematoceras hypogaeum* in beech forest near Te Wharau in the Wairarapa—about 25km south of the type locality—on 2 November, well past its September flowering. Note the beech-litter habitat and the very kidney-shaped, wider-than-long, “trilobed” leaves—a rather different shape from the flowering *Nematoceras trilobum* s.s. (aka *N.* “Trotters”)—below.



Nematoceras hypogaeum



Nematoceras trilobum s.s.

BIOLOGY AND CONSERVATION OF *CALADENIA*. The complete issue of *Australian Journal of Botany*, Volume 57 Number 4, 2009:

Kingsley W. Dixon and Stephen D. Hopper. *An introduction to Caladenia R.Br. – Australasia's jewel among terrestrial orchids.*

Kingsley Dixon and Raymond L. Tremblay. *Biology and natural history of Caladenia.*

Ryan D. Phillips, Gary Backhouse, Andrew P. Brown and Stephen D. Hopper. *Biogeography of Caladenia (Orchidaceae), with special reference to the South-west Australian Floristic Region.*

Lachlan Farrington, Phyllis MacGillivray, Renate Faast and Andrew Austin. *Investigating DNA barcoding options for the identification of Caladenia (Orchidaceae) species.*

Ryan D. Phillips, Renate Faast, Colin C. Bower, Graham R. Brown and Rod Peakall. *Implications of pollination by food and sexual deception for pollinator specificity, fruit set, population genetics and conservation of Caladenia (Orchidaceae).*

Sophie Petit, Manfred Jusaitis and Doug Bickerton. *Effect of pollen load, self-pollination and plant size on seeds and germination in the endangered pink-lipped spider orchid, Caladenia behrii.*

Renate Faast, Lachlan Farrington, José M. Facelli and Andrew D. Austin. *Bees and white spiders: unravelling the pollination syndrome of Caladenia rigida (Orchidaceae).*

Fiona Coates and Michael Duncan. *Demographic variation between populations of Caladenia orientalis – a fire-managed threatened orchid.*

Raymond L. Tremblay, Maria-Eglée Perez, Matthew Larcombe, Andrew Brown, Joe Quarmby, Doug Bickerton, Garry French and Andrew Bould. *Dormancy in Caladenia: a Bayesian approach to evaluating latency.*

...continued on page 31....

5

Gary Little's *Singularybas*, p.27



Taranaki *Singularybas*

6



7



Otago *Singularybas*

8, p.29



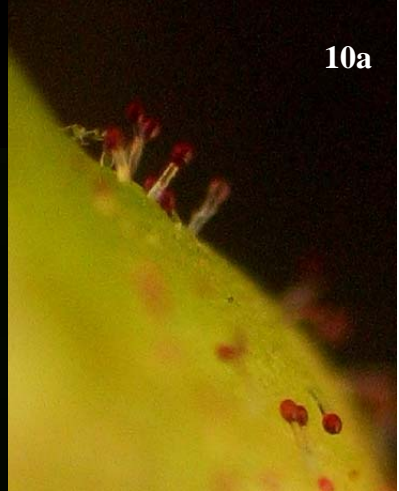
9, see p.14



10



10a



11



14



13



12



15,
see
p.14



16



17,
see
p.29



18,
see
p.29



19,
see
p.29

20, see p.15



21, see p.15



22



25



24



23

26, see p.30



27



28



32

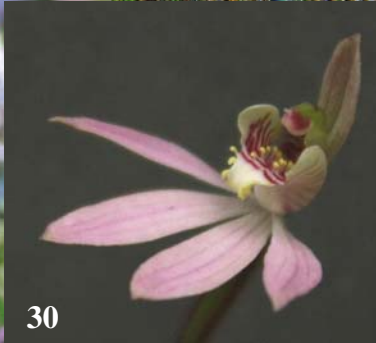


29

31, see p.30



30



32a, see p.16



33



34



35



36



37



38

12.



34.
Epipogum
aphyllum
 Liv.

Raymond L. Tremblay, Maria-Eglée Perez, Matthew Larcombe, Andrew Brown, Joe Quarmbly, Doug Bickerton, Garry French and Andrew Bould. *Population dynamics of Caladenia: Bayesian estimates of transition and extinction probabilities.*

Renate Faast and José M. Facelli. Grazing orchids: impact of florivory on two species of *Caladenia* (Orchidaceae).

Magali Wright, Rob Cross, Kingsley Dixon, Tien Huynh, Ann Lawrie, Les Nesbitt, Andrew Pritchard, Nigel Swarts and Richard Thomson. *Propagation and reintroduction of Caladenia.*

THE SLIDE COLLECTION OF KARLHEINZ SENGHAS now in “Word Orchid Iconography”: The Swiss Orchid Foundation at the Jany Renz Herbarium, University of Basel, Switzerland, has incorporated the slide collection of Dr. Karlheinz Senghas, the well known orchid expert and former Curator of the Botanical Garden Heidelberg, into its virtual “Word Orchid Iconography”.

Visiting the homepage of the Swiss Orchid Foundation at the Herbarium Jany Renz (www.orchid.unibas.ch), it is easy to locate the collection of orchid photographs and drawings which is extremely large and covers a substantial part of the world’s orchid flora (in total more than 60,000 pictures).

In the last few months, the staff of the Swiss Orchid Foundation has selected, digitised and incorporated some 10,500 photographs and line drawings from the private collection of Dr. Karlheinz Senghas into its “Word Orchid Iconography”. This invaluable archive, that covers orchids in all continents, is now available to orchid specialists worldwide.

Dr. Karlheinz Senghas was born in 1928. After having achieved his university-entrance diploma, he started his studies in biology at Heidelberg, where he met Professor Dr. Werner Rauh and to whom he later submitted his PhD thesis. In 1960 Rauh appointed Senghas to the post of scientific head of the Botanical Garden Heidelberg with the task to build up its orchid collection. The Heidelberg

collection expanded rapidly under his leadership and through his research and collecting activities (1960: ca. 400 living species; 1993: ca. 6000 species). In addition, he networked with other botanical gardens, organised orchid exhibitions and conferences and published his research results. He also published many articles on orchids in various orchid magazines. His most important orchid publication was his authorship of 5 volumes of the third edition of Rudolf Schlechter “Die Orchidee”, of which he was also a co-editor with Professor Friedrich Brieger. His rich and extensive publication list may be searched on the webpage of the Foundation at Bibliorchidea.

His active research work brought him several distinctions, notably *Senghasia* and *Senghasiella*, orchid genera dedicated to him, and the spectacular bucket orchid *Coryanthes senghasiana* named in his honour.

Following his retirement he continued to attend conferences and meetings of orchid societies and published in various magazines, notably “Journal für den Orchideenfreund”.

Karlheinz Senghas died on February 4, 2004. His widow, Mrs. Irmgard Senghas kindly gave permission to the Swiss Orchid Foundation to copy his slide collection and to make it accessible on the foundation’s website.

You can examine his archive on the homepage of Swiss Orchid Foundation SOF through the link “Database Search”, “Advanced Search”, “Collector/Photo by: ‘K. Senghas’” “ Search”.

GARY LITTLE SENT photographs of his local *Singularibas*—from Diggers Valley, Northland (**back cover picture, and Fig. 5**). This appears to be similar to *Singularibas oblongus*, similar too to the plant photographed by a Mt Taranaki roadside (**Fig.6**) but the mat of hair-like labellar papillae are only variably present—ranging from a 3-day whisker to mere stubble. Note also the Otago form (**Fig.7**).

PETER DE LANGE EMAILED (27 October), “Just thought I would let you know that *finally* after 19 years of absence last week we rediscovered *Linguella puberula* at the North Cape Scientific Reserve. Probably the largest population in New Zealand. The original find was made by Lisa Forester and Gillian Crowcroft in October 1990 when they were searching for Doug McCrae's *Thelymitra matthewsii* plant (which legend has it that he'd found it in the badlands beyond the Serpentine quarry). We (Peter de Lange, Lisa and Gillian identified the plant in the field using a copy of Flora 2 we'd had in the Department of Conservation truck. We had no way of marking the site then except by erecting a cairn of ironstone blocks - this seems to have washed away because the following year we could not find the population, and that remained the case for the next 18 years. Last week in another attempt to find the site, Jeremy Rolfe and I criss-crossed the badlands finding nothing, whilst skirting back to the North Cape Road, we stopped to admire an unusual *Petalochilus* (something close to *P. bartlettii* - these plants had no marginal calli present which matches Jones's description of this species but cf. Scanlen's images of this species where marginal calli are not present - see for example http://www.nzpcn.org.nz/vascular_plants/detail.asp?PlantID=1134) and whilst Jeremy was photographing this I found numerous rosettes of what could only be *Linguella*. Nothing flowering though. Later that day Anne Fraser, Maureen Young, Andrew Townsend (DoC Northland) and Janeen Collings (DoC Northland) came over - we had all been looking (successfully this time) for *Thelymitra matthewsii* - Anne and Maureen had found earlier that day 10 plants in two sites, eight sterile and two fruiting, when we decided to walk to the trig station. Anne and Maureen found several very large populations of flowering *Linguella* just up the old road from the one I had found earlier that morning - and these were flowering. We gave up counting after about 500 flowering, fruiting, and rosette-stage plants were seen. Interestingly all

we found on the south side of the road admixed amongst *Lepidosperma filiforme* but always on the more exposed side of this sedge. Associated species included sparse *Petalochilus bartlettii* s.l. and the liverwort *Lethocolea pansa*. *Plumatichilos* - its usual bed fellow - was scarce at the Cape this year (we found one fruiting plant). Aside from this pleasing find we were delighted by the spectacular show of *Thelymitra* "darkie" which at the Cape is distinctive for its very dark pink flowers, *T. "rough-leaf"* (also mostly pink though a few dark blue plants were seen), and myriad pale pink, pink and white entomophilous *T. longifolia*. A very dark pink *Thelymitra* with a column somewhat akin to the *T. pauciflora* agg. left us perplexed - we never saw anything like it again.”

PAT ENRIGHT, WHO VISITED offspring in Beijing late in 2009, pointed out this website advertising a **book on Chinese orchids**: “Their prices are relatively cheap compared to the bookshop prices for anything English language in Beijing: <http://www.hceis.com/book.asp?id=8124>”

THE THIRD ISSUE of the **North American Native Orchid Journal** for 2009 is now available at <http://culturesheet.org/wiki:user:nanoj:start>. All four issues of volume 5 (1999) are now also available.

OPS: THE SHARP-EYED Gordon Sylvester asked, “...what is the missing text from (J114) page 20 column 2 just above the Australian Journal of Botany advert: “perhaps this is what he was...?” *The missing words were “looking at”*—Ed.

MIKE LUSK EMAILED (2 Nov 09), “I found a large *Earina mucronata* in the Kaitake Range, Taranaki recently. There were perhaps 100 small beetles and one fly entering the flowers but unfortunately I couldn't see any pollinia. I reckon there were so many beetles that pollinia would have been removed long before I was there.” (Figs 13, 14, 17). *The fly looks like the one photographed by Doug McCrae, on Microtis, on the cover of our book*—Ed.

GORDON SYLVESTER EMAILED, “I have just returned home from a little warm-up jaunt for Labour Weekend. Called into a little reserve between the sea and the Highway called Mananui. It covers about a 800m by 2 km wide strip of sand dunes. I had little expectation of any thing in the strip. However I was wrong. Almost two thirds of the track is littered both sides with a *Nematoceras*: trilobate leaf, flowers just starting to form. Leaf sizes from 12mm across to a little more than 25mm across. It will be a spectacular show in about a month to a month and a bit time. On a windfall beside the track was *Ichthyostomum pygmaeum* along with *Winikia cunninghamii* and *Earina autumnalis*. A little further on various forms of *Pterostylis* sps. showed up including my *Pt. 'gigantium'* and *Pt. irsoniana* with the reddish central vein on the leaf. There were some variations in the graminea type leaves remaining. Out on the sand dunes part of the track were *Microtis* leaves. The *Pterostylis* was the only species with visible flower buds. However the *Nem trilobum* showed flower buds at the basal leaf, and the *Ich. pygmaeum* showed a couple of flower stalk vestiges. Will need to return one afternoon in about a month’s time. Managed to have a look in the bush at Shantytown. Noted *Earina mucronata* in flower. *Earina autumnalis*, *Winikia cunninghamii*, *Microtis unifolia*, *Drymoanthus adversus*, and a *Pterostylis* -- looks like *banksii* until you have a closer look at it.” (Fig.19).

GORDON EMAILED AGAIN (7 November), “Just back from a short trip to Lake Mahinapuna. This little plant (Fig.8) was one of several found both at the lake track and also another nearby track Mananui Track. At least half of the populations in both areas exceeded 400mm tall. In addition *Pterostylis irsoniana* was in various stages of flowering.”

GARY LITTLE SENT an excellent close-up of a floret of *Microtis unifolia* (Fig.18). Note how the flower retains its shape (doesn't wilt) even though it has been pollinated—its

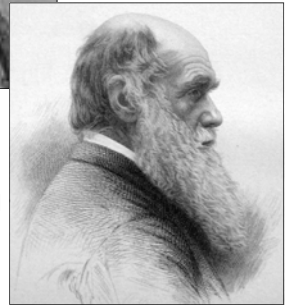
ovary swelling, and its column black and atrophic.

APOLOGIES TO Val Smith: she had neither completed her “Eponymous orchids” series, nor was she the author of J114’s piece on *Sullivania minor*—which was written ages ago, but forgotten, by your editor. Val makes a welcome return in this issue.



FAREWELL TO DARWIN for a while—this has been his year.

←Darwin as a young man.



Darwin → having evolved

On the other hand, 2011 will be the 200th anniversary of the birth of William Colenso, and that will be his year.

THE EDITOR’S VERY GOOD ORCHID TRIP started at Kaitoke in the Tararua where *Singularybas oblongus* was in full flower. Thence to the Apiti track near Norsewood, in the Ruahines, where *Nematoceras papillosum*, *Pterostylis montana* sensu Hatch, the pterostylises with the hooked dorsals and the short deflexed lateral sepals (Fig.4) were beginning to flower, a last *N. iridescens* lingered on, *Prasophyllum* and *Microtis* were starting. Thence to Iwitahi where the *Simpliglottis valida* (Fig.22) were superb, as was the company. Thence to Whakapapa where *Nematoceras* aff. *trilobum*

“roundleaf” (Fig.25) was in full flower. Thence (on the Taihape/Napier road) a visit to Glenross station and the nearby Blowhard reserve, the type locality for *Nematoceras papillosum* which was in full flower at lower altitude but in bud at 800m, where a single *N. longipetalum* (Fig.24) also hung on in full flower, and where a patch of *N. trilobum* s.s. was in full flower (Fig.23). Thence to the Sunrise track in the Ruahines, where the orchids were similar to those at Apiti. Thence to Cape Turnagain, the type locality for *N. macranthum*, which he found, but which, however, had flowered about midoctober.

MARGARET MENZIES WROTE, “Glyn, Claire and I went up to the Waitere on 22 August looking for the *Molloybas cryptanthus*, and found the white and red forms, nearly finished flowering. The week after that we took a guy to see it, and it was a real struggle to find a good one—I think he thought we were nuts, but he got a good photograph of it.

Meanwhile we almost walked on a patch of tiny white *Nematoceras* aff. *trilobum* in the middle of the track, a cute cupface looking like ET, not as big as my little fingernail (Fig. 26). Not far away was another little white *N. aff. trilobum*, tiny as well—quite a bit of red inside—dorsal different, with a fantail-shaped labellum. There was also another *N. aff. trilobum*, whose sepals were tall and straight and the petals very short (Fig. 29).

On 27 September Gary, Ina, Ernie and I went down the Omoana Rd to the old red bridge. We found masses of *N. orbiculatum*—some red all over (Figs 27, 28), two lots of *N. macranthum* (Fig. 32)—the group by the bridge was huge. Also *Pterostylis* and *Chiloglottis* leaves. On the roadside we found *N. iridescens*.

THE ANOS VICTORIA BULLETIN for December 2009 [42(6): 6] showed a stunning shot of *Pterostylis* sp. aff. *papuana* from Papua New Guinea (Fig.31). Great colour—Ed.

PAT E#NRIGHT EMAILED, “There are some interesting orchid books on this site—http://www.nhbs.com/die_orchideen_der_turkei_tefno_94985.html.

DR. H. C. ERICH NELSON (1897-1980). Erich Nelson spent his childhood in Berlin and, after World War I, started as an artist. He specialised in watercolour paintings of landscapes and vegetation. In Italy in 1928 he came across orchids. Henceforth orchids formed his purpose in life as an artist, scientist and as a scientific illustrator.

In the context of the growing National Socialism he had to leave Germany with his wife Gerda and, after a stop in South Tyrol, he found a second homeland in Chermex sur Montreux. By 1931 he had published his first work on the orchids of Germany and the bordering regions, and after many journeys and tireless painting, and after having intensely studied the orchid literature, he published his magnum opus between 1954 and 1976.

Erich Nelson died in 1980 of a tragic road accident and left an important number of scientific illustrations, studies and watercolour paintings. All 750 orchid drawings, watercolour paintings and studies of Erich Nelson have been digitised, georeferenced and the nomenclature updated by the Swiss Orchid Foundation at the Herbarium Jany Renz. The international public now has access to his work through the website of the foundation www.orchid.unibas.ch.

Erich Nelson was not only an artist, but also a scientific illustrator. He showed the beauty of nature with great sensitivity in his landscape watercolours. As a scientific illustrator, he documented the European orchids with accuracy. His scientific illustrations are among the best in existence.

Even today a scientific artist is necessary for this kind of documentation, as neither the computer nor photos are able to provide so much exact and aesthetic information on a single page.

Fig. 37 shows *Serapius clavigera*; Fig. 38 shows *Ophrys fuscata*.

The NZ orchids:

The editor's annual list

Acianthus R.Br. Prodr. Fl. Nov. Holland.: 321 (1810). **Acianthus alliance**

Acianthus sinclairii Hook.f. Fl. Nov.-Zel. 1: 245 (1853).

Acianthus fornicatus var. *sinclairii* (Hook.f.) Hatch. Trans. & Proc. Roy. Soc. New Zealand 75: 369 (1945).

Adelopetalum Fitzg. J. Bot. 29: 152 (1891). **Bulbophyllum alliance**

Adelopetalum tuberculatum (Colenso) D.L.Jones, M.A.Clem. & Molloy. Orchadian 13(11): 498 (2002).

Bulbophyllum tuberculatum Colenso. Trans. & Proc. New Zealand Inst. 16: 336 (1884).
Bulbophyllum exiguum as meant by Buchanan. Trans. & Proc. New Zealand Inst. 16: 397 (1884), is not that of F.Muell. (1861).

Adenochilus Hook.f. Fl. Nov.-Zel. 1: 246, t.56 (1853)

Adenochilus gracilis Hook.f. Fl. Nov.-Zel. 1: 246, t.56 (1853).

Anzybas D.L.Jones & M.A.Clem. Orchadian 13(10): 442 (2002). **Corybas alliance**

Anzybas carsei (Cheeseman) D.L.Jones & M.A.Clem. Orchadian 13(10): 443 (2002).
Corysanthes carsei Cheeseman. Trans. & Proc. New Zealand Inst. 44: 162 (1912).
Corybas carsei (Cheeseman) Hatch. Trans. & Proc. Roy. Soc. New Zealand 75: 367 (1945).
Corybas unguiculatus as meant by L.B.Moore. Fl. New Zealand Vol. 2: 116 (1970) is not *Corysanthes unguiculatus* of R.Br. (1810).

Anzybas rotundifolius (Cheeseman) D.L.Jones & M.A.Clem. Orchadian 13(10): 443 (2002).
Nematoceras rotundifolia Hook.f. Fl. Nov.-Zel. 1: 251 (1853).

Corysanthes rotundifolia (Hook.f.) Hook.f. Handb. N. Zeal. Fl. 266 (1864).
Corybas rotundifolius (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
Corysanthes matthewsii Cheeseman. Trans. & Proc. New Zealand Inst. 31: 351 (1899).

Corybas matthewsii (Cheeseman) Schltr. Repert. Spec. Nov. Regni Veg. 19: 23 (1923).

Corybas unguiculatus as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 75: 367 (1945), is not *Corysanthes unguiculatus* of R.Br. (1810).

Aporostylis Rupp & Hatch. Proc. Linn. Soc. New South Wales 70: 60 (1946)

Aporostylis bifolia (Hook.f.) Rupp & Hatch. Proc. Linn. Soc. New South Wales 70: 60 (1946).

Caladenia bifolia Hook.f. Fl. Nov.-Zel. 1: 247 (1853).
Chiloglottis traversii F.Muell. Veg. Chath. Is. 51 (1864).

Caladenia macrophylla Colenso. Trans. & Proc. New Zealand Inst. 27: 396 (1895).
Chiloglottis bifolia (Hook.f.) Schltr. Engl. Bot. Jahrb. 45: 383 (1911).

Calochilus R.Br. Prodr. Fl. Nov. Holland.: 320 (1810)

Calochilus herbaceus Lindl. Gen. & Spec. Orch. Plant.: 45 (1840).

Calochilus campestris as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 77: 248 (1949), is not that of R.Br. (1810).

Calochilus paludosus R.Br. Prodr. Fl. Nov. Holland.: 320 (1810).

Calochilus robertsonii Benth. Fl. Austral. 6: 315 (1873).

Calochilus campestris as meant by Fitzg. Austral. Orchids 1(4): t.6 (1878), is not that of R.Br. (1810).

Calochilus campestris as meant by Cheeseman. Man. New Zealand Fl. 686 (1906), is not that of R.Br. (1810).

Corunastylis Fitzg. Austral. Orchids 2(3): t.1 (1888). **Prasophyllum alliance**

Corunastylis nuda (Hook.f.) D.L.Jones & M.A.Clem. Orchadian 13(10): 461 (2002).
Prasophyllum nudum Hook.f. Fl. Nov.-Zel. 1: 242 (1853).

Prasophyllum tunicatum Hook.f. Fl. Nov.-Zel. 1: 242 (1853).

Prasophyllum variegatum Colenso. Trans. & Proc. New Zealand Inst. 20: 208 (1888).
Genoplesium nudum (Hook.f.) D.L.Jones & M.A.Clem. Lindleyana 4(3): 144 (1989).

Corunastylis pumila (Hook.f.) D.L.Jones & M.A.Clem. *Orchadian* 13(10): 461 (2002).
Prasophyllum pumilum Hook.f. *Fl. Nov.-Zel.* 1: 242 (1853).
Genoplesium pumilum (Hook.f.) D.L.Jones & M.A.Clem. *Lindleyana* 4(3): 144 (1989).

Corybas Salisb. Parad. Lond. t.83 (1805).

Corybas alliance

Corybas cheesemanii (Hook.f. ex Kirk) Kuntze. *Revis. Gen. Pl.* 2: 657 (1891).
Corysanthes cheesemanii Hook.f. ex Kirk. *Trans. & Proc. New Zealand Inst.* 3: 180 (1871).
Corybas aconitiflorus as meant by Hatch. *Trans. & Proc. Roy. Soc. New Zealand* 75: 367 (1945), is not that of Salisb. (1807).

Cryptostylis R.Br. Prodr. Fl. Nov. Holland.: 317 (1810)

Cryptostylis subulata (Labill.) Rchb.f. *Beitr. Syst. Pflanzenk.* 15 (1871).
Malaxis subulata Labill. *Nov. Holl. Pl.* 2: 62, t.212 (1806).

Cyrtostylis R.Br. Prodr. Fl. Nov. Holland.: 322 (1810). Acianthus alliance

Cyrtostylis oblonga Hook.f. *Fl. Nov.-Zel.* 1: 246 (1853).
Acianthus reniformis var. *oblonga* (Hook.f.) Rupp & Hatch. *Proc. Linn. Soc. New South Wales* 70: 59 (1946).

Cyrtostylis rotundifolia Hook.f. *Fl. Nov.-Zel.* 1: 246 (1853).
Cyrtostylis macrophylla Hook.f. *Fl. Nov.-Zel.* 1: 246 (1853).
Caladenia reniformis (R.Br.) Rchb.f. *Beitr. Syst. Pflanzenk.* 67 (1871).
Cyrtostylis oblonga (Hook.f.) var. *rotundifolia* (Hook.f.) Cheeseman. *Man. New Zealand Fl.* 685 (1906).
Acianthus reniformis (R.Br.) Schltr. *Engl. Bot. Jahrb.* 34: 39 (1906).
Acianthus reniformis var. *reniformis* (Hook.f.) Rupp & Hatch. *Proc. Linn. Soc. New South Wales* 70: 59 (1946).
Cyrtostylis reniformis as used by many authors until now is not that of R.Br. *Prodr. Fl. Nov. Holland.:* 322 (1810).

Danhatchia Garay & Christenson. Orchadian 11(10): 469, f.471 (1995)

Danhatchia australis (Hatch) Garay & Christenson. *Orchadian* 11(10): 470 (1995).
Yuania australis Hatch. *Trans. Roy. Soc. New Zealand, Bot.* 2: 185 (1963).

Diplodium D.L.Jones, Molloy & M.A.Clem. Austral. Orchid Res. 4: 70 (2002). Pterostylis alliance

Diplodium alobulum (Hatch) D.L.Jones, Molloy & M.A.Clem. *Austral. Orchid Res.* 4: 70 (2002).
Pterostylis trullifolia as meant by Cheeseman. *Man. New Zealand Fl.* (1906), is not that of Hook.f.
Pterostylis trullifolia Hook.f. var. *alobula* Hatch. *Trans. Roy. Soc. NZ* 77: 244, t.30, f.3E-H (1949).
Pterostylis alobula (Hatch) L.B.Moore. *New Zealand J. Bot.* 6: 486, f.3 (1969).

Diplodium alveatum (Garnet) D.L.Jones & M.A.Clem. *Austral. Orchid Res.* 4: 70 (2002).
Pterostylis alveata Garnet. *Victoria Naturalist* 59: 91 (1939).

Diplodium brumale (L.B.Moore) D.L.Jones, Molloy & M.A.Clem. *Austral. Orchid Res.* 4: 70 (2002).
Pterostylis trullifolia Hook.f. var. *rubella* Hatch. *Trans. & Proc. Roy. Soc. New Zealand* 77: 244 (1949).
Pterostylis brumalis L.B.Moore. *New Zealand J. Bot.* 6: 485, f.3 (1969).

Diplodium trullifolium (Hook.f.) D.L.Jones, Molloy & M.A.Clem. *Austral. Orchid Res.* 4: 72 (2002).
Pterostylis trullifolia Hook.f. *Fl. Nov.-Zel.* 1: 249 (1853).
Pterostylis rubella Colenso. *Trans. & Proc. New Zealand Inst.* 18: 271 (1886).
Pterostylis trullifolia Hook.f. var. *gracilis* Cheeseman. *Trans. & Proc. New Zealand Inst.* 47: 271 (1915).

Drymoanthus Nicholls. Victorian Naturalist 59: 173 (1943)

Drymoanthus adversus (Hook.f.) Dockrill. *Australasian Sarcanthinae:* 32, t.3 (1967).
Sarcophilus adversus Hook.f. *Fl. Nov.-Zel.* 1: 241 (1853).
Sarcophilus breviscapa Colenso. *Trans. & Proc. New Zealand Inst.* 14: 332 (1882).

Drymoanthus flavus St George & Molloy. *New Zealand J. Bot.* 32: 416, f.1 (1994).

Earina Lindl. Bot. Reg. sub t.1699 (1834)

Earina aestivalis Cheeseman. *Trans. & Proc. New Zealand Inst.* 51: 93 (1919).

Earina autumnalis (G.Forst.) Hook.f. *Fl. Nov.-Zel.* 1: 239 (1853).
Epidendrum autumnale G.Forst. *Prodr.* 60 (1786).
Earina suaveolens Lindl. *Bot. Reg.* 29 (1843).
Earina alba Colenso. *Trans. & Proc. New Zealand*

Inst. 18: 267 (1886).
Earina mucronata Lindl. Bot. Reg. 20 sub t.1699 (1834).
Earina quadrilobata Colenso. Trans. & Proc. New Zealand Inst. 15: 325 (1883).

Gastrodia R.Br. Prodr. Fl. Nov. Holland.: 330 (1810)

Gastrodia cunninghamii Hook.f. Fl. Nov.-Zel. 1: 251 (1853).
Gastrodia leucopetala Colenso. Trans. & Proc. New Zealand Inst. 18: 268 (1886).

Gastrodia minor Petrie. Trans. & Proc. New Zealand Inst. 25: 273, t.20, f.5–7 (1893).

Gastrodia “long column” agg.: there are a number of late flowering *Gastrodia* with a long column.

Gastrodia aff. sesamoides. *Gastrodia sesamoides* as meant by Cheeseman. Man. New Zealand Fl. 697 (1906), is not that of R.Br. (1810).
Gastrodia “city” appears to be a variant.

Hymenochilus D.L.Jones, M.A.Clem. & Molloy. Austral. Orchid Res. 4: 72 (2002). Pterostylis alliance

Hymenochilus tanypodus (D.L.Jones, Molloy & M.A.Clem.) D.L.Jones, M.A.Clem. & Molloy. Austral. Orchid Res. 4: 74 (2002).
Pterostylis tanypoda D.L.Jones, Molloy & M.A.Clem. Orchardian 12(6): 273 (1997).
Pterostylis cynocephala as meant by L.B.Moore. Fl. New Zealand Vol. 2: 135 (1970) and others (1970–1997), is not that of Fitzg. (1876).

Hymenochilus tristis (Colenso) D.L.Jones, M.A.Clem. & Molloy. Austral. Orchid Res. 4: 74 (2002).
Pterostylis tristis Colenso. Trans. & Proc. New Zealand Inst. 18: 271 (1886).
Pterostylis mutica as meant by Cheeseman. Trans. & Proc. New Zealand Inst. 15: 300 (1883), is not that of R.Br. (1810).

Ichthyostomum D.L.Jones, M.A.Clem. & Molloy. Orchardian 13(11): 499 (2002). Bulbophyllum alliance

Ichthyostomum pygmaeum (Sm.) D.L.Jones, M.A.Clem. & Molloy. Orchardian 13(11): 499 (2002).
Dendrobium pygmaeum Sm. in Rees. Cycl. (Rees) 11: n.27 (1808).
Bulbophyllum pygmaeum (Sm.) Lindl. Gen. Sp. Orchid. Pl. 58 (1830).
Bolbophyllum ichthyostomum Colenso. Trans. & Proc. New Zealand Inst. 26: 319 (1894).

Linguella D.L.Jones, M.A.Clem. & Molloy. Austral. Orchid Res. 4: 74 (2002). Pterostylis alliance

Linguella puberula (Hook.f.) D.L.Jones, M.A.Clem. & Molloy. Austral. Orchid Res. 4: 75 (2002).
Pterostylis puberula Hook.f. Fl. Nov.-Zel. 1: 249 (1853).
Pterostylis nana as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 77: 237 (1949), is not that of R.Br. (1810).
Pterostylis aff. nana.

Microtis R.Br. Prodr. Fl. Nov. Holland.: 320 (1810). Prasophyllum alliance

Microtis arenaria Lindl. Gen. Sp. Orchid. Pl. t.306 (1840).
Microtis biloba Nicholls. Victoria Naturalist 66: 93, f.O–L (1949).

Microtis oligantha L.B.Moore. New Zealand J. Bot. 6: 473, f.1 (1969).

Microtis magnadenia as meant by Hatch. Trans. Roy. Soc. New Zealand, Bot. 2: 185–189 (1963), is not that of R.S.Rogers (1930).

Microtis parviflora R.Br. Prodr. Fl. Nov. Holland.: 321 (1810).

Microtis javanica Rchb.f. Bonplandia 5: 36 (1857).

Microtis benthamiana Rchb.f. Beitr. Syst. Pflanzenk. 24 (1871).

Microtis longifolia Col. Trans. & Proc. New Zealand Inst. 17: 247 (1885).

Microtis porrifolia (Sw.) R.Br. ex Spreng. var. *parviflora* (R.Br.) Rodway. Tasman. Fl. 159 (1903).

Microtis aemula Schltr. Bot. Jahrb. Syst. 39: 37 (1906).

Microtis bipulvinaris Nicholls. Victoria Naturalist 66: 92–94, f.A–F (1949).

Microtis holmesii Nicholls. Victoria Naturalist 66: 93, f.G–I (1949).

Microtis unifolia (G.Forst.) Rchb.f. Beitr. Syst. Pflanzenk. 62 (1871).

Ophrys unifolia G.Forst. Fl. Ins. Austr. 59 (1786).
Epipactis porrifolia Sw. Kongl. Vetensk. Acad. Nya Handl. 21: 233 (1800).

Microtis porrifolia (Sw.) R.Br. ex Spreng. Syst. Veg. (ed. 16) [Sprengel] 3: 713 (1826).

Microtis banksii A.Cunn. Bot. Mag. 62: sub 1.3377 (1835).

Microtis frutetorum Schtdl. Linnaea 20: 568 (1847).

Microtis viridis F.Muell. Fragm. (Mueller) 5: 97 (1866).

Microtis longifolia Colenso. Trans. & Proc. New Zealand Inst. 17: 247 (1885). This is a late flowering form.

- Microtis papillosa* Colenso. Trans. & Proc. New Zealand Inst. 18: 269 (1886).
- Microtis pulchella* as meant by Lindl. Gen. Sp. Orchid. Pl. 395 (1840), is not that of R.Br. (1810).
- Microtis aff. unifolia**: a late flowering form allied to *M. unifolia* and *M. parviflora*. *M. longifolia* Col. is late flowering, but structurally indistinguishable.
- Molloybas D.L.Jones & M.A.Clem. Orchadian 13(10): 448 (2002). Corybas alliance**
- Molloybas cryptanthus** (Hatch) D.L.Jones & M.A.Clem. Orchadian 13(10): 448 (2002).
Corybas cryptanthus Hatch. Trans. Roy. Soc. New Zealand 83: 577 (1956).
Corybas saprophyticus as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 366, t.71 (1952), is not that of Schltr. (1923).
- Myrmechila D.L.Jones & M.A.Clem. Orchadian 15(1): 36–37 (2005). Chiloglottis alliance**
- Myrmechila formicifera** (Fitzg.) D.L.Jones & M.A.Clem. Orchadian 15(1): 37 (2005).
Chiloglottis formicifera Fitzg. Austral. Orchids 1 (3): (1877).
- Myrmechila trapeziformis** (Fitzg.) D.L.Jones & M.A.Clem. Orchadian 15(1): 37 (2005).
Chiloglottis trapeziformis Fitzg. Austral. Orchids 1(3): (1877).
- Nematoceras Hook.f. Fl. N. Zel. 1: 249, t.57 (1853). Corybas alliance**
- Nematoceras acuminatum** (M.A.Clem. & Hatch) Molloy, D.L.Jones & M.A.Clem. Orchadian 13 (10): 449 (2002).
Corybas acuminatus M.A.Clem. & Hatch. New Zealand J. Bot. 23: 491, f.2 (1985).
Corysanthes acuminata (M.A.Clem. & Hatch) Szlach. Richardiana 3(2): 97 (2003).
Corybas rivularis as meant by Cheeseman. Man. New Zealand Fl. 697 (1906), and others (1906–1985), is not *Acianthus rivularis* of A.Cunn. (1837).
- Nematoceras hypogaeum** (Colenso) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corysanthes hypogaea Colenso. Trans. & Proc. New Zealand Inst. 16: 336 (1884).
- Nematoceras iridescens** (Irwin & Molloy) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corybas iridescens Irwin & Molloy. New Zealand J. Bot. 34: 1, f.1 (1996).
Corysanthes iridescens (Irwin & Molloy) Szlach. Richardiana 3(2): 98 (2003).
Corybas “A” tagname.
- Nematoceras longipetalum** (Hatch) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corybas macranthus (Hook.f.) Rchb.f. var. *longipetalus* Hatch. Trans. & Proc. Roy. Soc. New Zealand 76: 580, t.60(1) (1947).
Corybas longipetalus (Hatch) Hatch. NZNOG Journal 47: 6 (1993), is not that of Schltr. (1923).
Corybas orbiculatus (Colenso) L.B.Moore. Fl. New Zealand Vol. 2: 118 (1970), is not *Corysanthes orbiculata* of Colenso (1891).
- Nematoceras macranthum** Hook.f. Fl. Nov.-Zel. 1: 250 (1853).
Corysanthes macrantha (Hook.f.) Hook.f. Handb. N. Zeal. Fl. 266 (1864).
Corybas macranthus (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
There are several entities in this aggregate. Probable hybrids with insect-pollinated members of the *N. trilobum* aggregate have been reported.
- Nematoceras orbiculatum** (Colenso) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corysanthes orbiculata Colenso. Trans. & Proc. New Zealand Inst. 23: 389 (1891).
Corybas orbiculatus as meant by L.B.Moore. Fl. New Zealand Vol. 2: 118 (1970) and others (1970–1996), is not *Corysanthes orbiculatus* of Colenso (1891) (see Molloy & Irwin. New Zealand J. Bot. 34 (1): 5 [1996]).
Corybas “short tepals” and *Corybas* “C” tagnames.
- Nematoceras panduratum** (Cheeseman) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corysanthes rotundifolia var. *pandurata* Cheeseman. Man. New Zealand Fl. 366 (1925), is not *Nematoceras rotundifolia* of Hook.f.
This has been regarded as a synonym of *Nematoceras rivulare*.
- Nematoceras papa** (Molloy & Irwin) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
Corybas papa Molloy & Irwin. New Zealand J. Bot. 34(1): 5, f.1 (1996).
Corysanthes papa (Molloy & Irwin) Szlach. Richardiana 3(2): 98 (2003).
Corybas “Mt Messenger” and *Corybas* “B” tagnames.
- Nematoceras papillosum** (Colenso) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).

Corysanthes papillosa Colenso. Trans. & Proc. New Zealand Inst. 16: 337 (1884). This has been regarded as a form of *Nematoceras macranthum*, and though its status remains speculative, the form with a white lower labellum has been identified with this name.

Nematoceras rivulare (A.Cunn.) Hook.f. Fl. Nov.-Zel. 1: 251 (1853).

Acianthus rivularis A.Cunn. Companion Bot. Mag. 2: 376 (1837).

Corysanthes rivularis (A.Cunn.) Hook.f. Handb. N. Zeal. Fl. 266 (1864).

Corybas rivularis (A.Cunn.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).

Corysanthes rotundifolia as meant by Cheeseman. Man. New Zealand Fl. 695 (1906), is not *Nematoceras rotundifolia* of Hook.f. (1853).

Corybas orbiculatus as meant by L.B.Moore. Fl. New Zealand Vol. 2: 118 (1970) and others (1970–1996), is not *Corysanthes orbiculatus* of Colenso (1891).

Corybas “*Kerikeri*” tagname.

The *Nematoceras rivulare* complex includes unnamed taxa with the tagnames N. “*Kaimai*”, N. “*rest area*”, N. “*Kaitarakihī*”, N. “*whiskers*” (aka N. “*viridis*”), N. “*Mangahūia*”, N. “*sphagnum*”, N. “*veil*”, N. “*Pollok*” and N. “*Motutangi*”.

Nematoceras trilobum Hook.f. Fl. Nov.-Zel. 1: 250 (1853).

Corysanthes triloba (Hook.f.) Hook.f. Handb. N. Zeal. Fl. 265 (1864).

Corybas trilobus (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).

About 25 taxa in the *Nematoceras trilobum* complex are of speculative taxonomic status; they include the late-flowering N. “*Trotters*” (almost certainly N. *trilobum* sens. strict.), the tiny May to July flowering forms with the tagname N. “*pygmy*”; N. “*Rimutaka*” (NZNOG Journal 58: 8–9 [1996]), N. “*round leaf*”, N. “*craigielea*”, N. “*darkie*”, N. “*trisept*”, N. “*trihwhite*”, and many others. The N. *trilobum* complex has tetraploids in the South Island and Chatham I., and predominantly diploids in the North Island, but further chromosome counts are needed (see Dawson, Molloy & Beuzenberg. New Zealand J. Bot. 45(4): 644 [2007]).

Nematoceras aff. sulcatum: a form on the Chathams, similar to N. *sulcatum* from Macquarie Is (see Molloy BPJ. Orchids of the Chatham Islands. DOC [2002]).

***Orthoceras* R.Br. Prodr. Fl. Nov. Holland.: 316 (1810)**

Orthoceras novae-zeelandiae (A.Rich.)

M.A.Clem., D.L.Jones & Molloy. Austral. Orchid Res., 1: 100 (1989).

Diuris novae-zeelandiae A.Rich. Essai Fl. Nov. Zel. 163 t.25, f.1 (1832).

Orthoceras solandri Lindl. Gen. Sp. Orchid. Pl. 512 (1840).

Orthoceras rubrum Colenso. Trans. & Proc. New Zealand Inst. 18: 273 (1886).

Orthoceras caput-serpentis Colenso. Trans. & Proc. New Zealand Inst. 22: 490 (1890).

Orthoceras strictum R.Br. forma *viride* Hatch. Trans. Roy. Soc. N.Z. Bot.2; 195 (1963).

Orthoceras strictum R.Br. Prodr. Fl. Nov. Holland.: 317 (1810).

***Petalochilus* R.S.Rogers. J. Bot. 62: 65 (1924).**
Caladenia alliance

Petalochilus alatus (R.Br.) D.L.Jones & M.A.Clem. Orchadian 13(9): 406 (2001).

Caladenia alata R.Br. Prodr. Fl. Nov. Holland.: 324 (1810).

Caladenia minor Hook.f. var. *exigua* Cheeseman. Man. New Zealand Fl. 688 (1906).

Caladenia exigua Cheeseman. Trans. & Proc. New Zealand Inst. 45: 96 (1913).

Caladenia carnea R.Br. var. *alata* (R.Br.) Domin. Bibliotheca Botanica Heft 85: 549 (1915).

Caladenia carnea R.Br. var. *exigua* (Cheeseman) Rupp. Proc. Linn. Soc. New South Wales 69: 75 (1944).

Caladenia holmesii Rupp. Victoria Naturalist 70: 179 (1954).

Caladenia catenata (Sm.) Druce var. *exigua* (Cheeseman) W.M.Curtis. Stud. Fl. Tasman., 4A: 133 (1979).

Petalochilus bartlettii (Hatch) D.L.Jones & M.A.Clem. Orchadian 13(9): 406 (2001).

Caladenia carnea R.Br. var. *bartlettii* Hatch. Trans. & Proc. Roy. Soc. New Zealand 77: 402 (1949).

Caladenia bartlettii (Hatch) D.L.Jones, Molloy & M.A.Clem. Orchadian 12(5): 227 (1997).

Petalochilus calyciformis R.S.Rogers. J. Bot. 62: 66 (1924).

Moore (1970) treated this as an aberrant floral (peloric) mutation of other species.

Petalochilus chlorostylus (D.L.Jones, Molloy & M.A.Clem.) D.L.Jones & M.A.Clem. Orchadian 13(9): 406 (2001).

Caladenia catenata as meant by Cooper. Field guide to the NZ native orchids 17 (1984), is not

that of Druce (1917).

Caladenia chlorostyla D.L.Jones, Molloy & M.A.Clem. *Orchadian* 12(5): 223 fl (1997).

Caladenia "green column" tagname.

Arethusa catenata and *Caladenia alba* are names used for Australian plants once confused with NZ taxa.

Petalochilus aff. chlorostylus is a similar taxon to *Petalochilus chlorostylus*, with red hairs and later flowering.

Petalochilus minor (Hook.f.) D.L.Jones & M.A.Clem. *Orchadian* 13(9): 410 (2001).

Caladenia minor Hook.f. *Fl. Nov.-Zel.* 1: 247, t.56b (1853).

Caladenia carnea var. *pygmaea* (R.S.Rogers)

Rupp. *Proc. Linn. Soc. New South Wales* 69: 74 (1944).

Caladenia carnea R.Br. var. *minor* (Hook.f.)

Hatch. *Trans. & Proc. Roy. Soc. New Zealand* 77: 401 (1949).

Caladenia catenata var. *minor* (Hook.f.)

W.M.Curtis. *Stud. Fl. Tasman.*, 4A: 106 (1979).

The identity of *Petalochilus minor* is not clear, but it may be the taxon known as *P. aff. chlorostylus*.

Petalochilus nothofageti (D.L.Jones, Molloy & M.A.Clem.) Jones & M.A.Clem. *Orchadian* 13 (9): 410 (2001).

Caladenia nothofageti D.L.Jones, Molloy &

M.A.Clem. *Orchadian* 12(5): 226, f.1 (1997).

Petalochilus saccatus R.S.Rogers. *J. Bot.* 62: 66, t.571, 4–7 (1924).

Caladenia saccata (R.S.Rogers) Hopper &

A.P.Br. *Austral. Syst. Bot.* 17: 171–240 (2004).

Moore (1970) treated this as an aberrant floral (peloric) mutation of other species.

Petalochilus variegatus (Colenso) D.L.Jones & M.A.Clem. *Orchadian* 13(9): 410 (2001).

Caladenia variegata Colenso. *Trans. & Proc. New Zealand Inst.* 17: 248 (1885).

Caladenia "big pink" tagname. Some flowers

have a clear two rows of calli on the labellum, others have extra calli scattered to either side of the two rows.

Petalochilus aff. fuscatus: a small pink flowered entity which appears similar to the variable Australian species *Petalochilus fuscatus*. See Scanlen. *NZNOG Journal* 72: 22 [1999]. It appears to be identical with HB Matthews's *Caladenia* "nitida-rosea" (see Scanlen E. Matthews & son on orchids. *NZNOG Historical Series* 2006; 14: 12).

Petalochilus aff. pusillus: a tiny pink flowered entity with broad oval sepals and petals, an incurved dorsal sepal and a triangular labellar

midlobe; grows near Wellington, Taranaki and in Northland (W.M.Curtis. *Stud. Fl. Tasman.*, 4A: 133 [1980]).

Plumatichilos Szlach. Polish Bot. J. 46(1): 23 (2001). Pterostylis alliance

Plumatichilos tasmanicus (D.L.Jones) Szlach. *Polish Bot. J.* 46(1): 23 (2001).

Pterostylis tasmanica D.L.Jones. *Muelleria* 8(2): 177 (1994).

Pterostylis squamata as meant by Hook.f. *Fl. Nov.-Zel.* 1: 249 (1853), is not that of R.Br. (1810).

Pterostylis barbata as meant by Cheeseman. *Man. New Zealand Fl.* 683 (1906), is not that of Lindl. (1840).

Pterostylis plumosa as meant by Cooper. *Field guide to NZ native orchids* 51 (1981), is not that of Cady (1969).

Jones suggests there is a second unnamed NZ entity.

Prasophyllum R.Br. Prodr. Fl. Nov. Holland.: 317 (1810)

Prasophyllum colensoi Hook.f. *Fl. Nov.-Zel.* 1: 241 (1853).

Prasophyllum pauciflorum Colenso. *Trans. & Proc. New Zealand Inst.* 18: 273 (1886).

Prasophyllum rogersii as meant by Hatch. *Trans. & Proc. Roy. Soc. New Zealand* 76: 290 (1946), is not that of R.S.Rogers & Rees (1921).

Probably a number of taxa, possibly including Irwin's P. "A" and P. "B" (*NZNOG Journal* 79: 9–10 [2001]).

Prasophyllum hectorii (Buchanan) Molloy, D.L.Jones & M.A.Clem. *Orchadian* 15: 41 (2005).

Gastrodia hectori Buchanan. *Trans. & Proc. New Zealand Inst.* 19: 214 (1886).

Prasophyllum patens as meant by Cheeseman.

Man. New Zealand Fl. (1906), is not that of R.Br. (1810).

Prasophyllum suttoni as meant by Hatch. *Trans. & Proc. Roy. Soc. New Zealand* 76: 291 (1946), is not that of Rupp (1928).

Pterostylis R.Br. Prodr. Fl. Nov. Holland.: 326 (1810). Pterostylis alliance

Pterostylis agathicola D.L.Jones, Molloy & M.A.Clem. *Orchadian* 12(6): 266 (1997).

Pterostylis graminea (Hook.f.) var. *rubricaulis* H.B.Matthews ex Cheeseman. *Man. New Zealand Fl.* 351 (1925).

Pterostylis montana (Hatch) var. *rubricaulis* (Cheeseman) Hatch. *Trans. & Proc. Roy. Soc. New Zealand* 77: 240, plate 23 (1949).

- Pterostylis “rubricaulis” tagname.
- Pterostylis areolata** Petrie. Trans. & Proc. New Zealand Inst. 50: 210 (1918).
- Pterostylis auriculata** Colenso. Trans. & Proc. New Zealand Inst. 22: 489 (1890).
Pterostylis “Catlins” tagname.
- Pterostylis australis** Hook.f. Fl. Nov.-Zel. 1: 248 (1853).
- Pterostylis banksii** A.Cunn. Companion Bot. Mag. 2: 376 (1837).
Pterostylis emarginata Colenso. Trans. & Proc. New Zealand Inst. 15: 328 (1883) may be here.
- Pterostylis aff. banksii**: A smaller taxon than true *P. banksii*, common around Wellington, and apparently found elsewhere (see NZNOG Journal 80: 14,19 [2001]). This may, in the editor’s opinion, be *P. emarginata* Col.
- Pterostylis cardiostigma** D.Cooper. New Zealand J. Bot. 21: 97, f.1,2 (1983).
- Pterostylis cernua** D.L.Jones, Molloy & M.A.Clem. Orchadian 12(6): 267, f.2 (1997).
- Pterostylis emarginata** Colenso. Trans. & Proc. New Zealand Inst. 15: 328 (1883).
Dubious. See *P. banksii* and *P. aff. Banksii*.
- Pterostylis foliata** Hook.f. Fl. Nov.-Zel. 1: 249 (1853).
Pterostylis vereenae R.S.Rogers. Trans. & Proc. Roy. Soc. South Australia 38: 360–361, f.18(2) (1914).
Pterostylis gracilis Nicholls. Victoria Naturalist 43: 324–326 (1927).
- Pterostylis graminea** Hook.f. Fl. Nov.-Zel. 1: 248 (1853).
There are several taxa in the *P. graminea* complex, including tagname *P. “sphagnum”*.
- Pterostylis humilis** R.S.Rogers. Trans. & Proc. Roy. Soc. South Australia 46: 151 (1922).
- Pterostylis irsoniana** Hatch. Trans. & Proc. Roy. Soc. New Zealand 78: 104, t.18 (1950).
- Pterostylis irwinii** D.L.Jones, Molloy & M.A.Clem. Orchadian 12(6): 269 (1997).
Pterostylis “Erua” tagname.
- Pterostylis micromega** Hook.f. Fl. Nov.-Zel. 1: 248 (1853).
Pterostylis polyphylla Colenso. Trans. & Proc. New Zealand Inst. 22: 489 (1890).
Pterostylis furcata Lindl. var. micromega Hatch. Trans. Roy. Soc. New Zealand 80: 326 (1953).
- Pterostylis montana** Hatch. Trans. & Proc. Roy. Soc. New Zealand 77: 239, t.22 (1949).
- Pterostylis aff. montana agg.**: includes as many as 14 undescribed taxa, including the distinctive *P. “Blyth”* = “**P. pulchragalea**” ms name of HB Matthews.
- Pterostylis nutans** R.Br. Prodr. Fl. Nov. Holland.: 327 (1810).
Pterostylis matthewsii Cheeseman. Trans. & Proc. New Zealand Inst. 47: 46 (1915).
- Pterostylis oliveri** Petrie. Trans. & Proc. New Zealand Inst. 26: 270 (1894).
- Pterostylis paludosa** D.L.Jones, Molloy & M.A.Clem. Orchadian 12(6): 271 (1997).
Pterostylis furcata Lindl. var. linearis Hatch. Trans. & Proc. Roy. Soc. NZ 77: 243, plate 29, 2 (1949).
Pterostylis “linearis” tagname.
- Pterostylis patens** Colenso. Trans. & Proc. New Zealand Inst. 18: 270 (1886).
Pterostylis banksii Hook.f. var. patens (Colenso) Hatch. Trans. & Proc. Roy. Soc. New Zealand 75: 370 (1945).
- Pterostylis porrecta** D.L.Jones, Molloy & M.A.Clem. Orchadian 12(6): 272 (1997).
Pterostylis aff. graminea.
P. “Hackett” tagname.
- Pterostylis silvicultrix** (F.Muell.) Molloy, D.L.Jones & M.A.Clem. Austral. Orchid Res. 4: 66 (2002).
Pterostylis banksii var. silvicultrix F.Muell. Veg. Chath. Is. 51 (1864).
- Pterostylis speciosa** Colenso. Trans. & Proc. New Zealand Inst. 22: 488 (1890).
Dubious. Was identified as *P. banksii* by Cheeseman.
- Pterostylis subsimilis** Colenso. Trans. & Proc. New Zealand Inst. 28: 611 (1896).
Was identified as *P. banksii* by Cheeseman
- Pterostylis venosa** Colenso. Trans. & Proc. New Zealand Inst. 28: 610 (1896).
Pterostylis confertifolia Allan. Trans. & Proc. New Zealand Inst. 56: 32 (1926).
Pterostylis trifolia Colenso. Trans. & Proc. New Zealand Inst. 31: 281 (1899).
- Simpliglottis** Szlach. Polish Bot. J. 46(1): 13 (2001). **Chiloglottis alliance**
- Simpliglottis cornuta** (Hook.f.) Szlach. Polish Bot. J. 46(1): 13 (2001).
Chiloglottis cornuta Hook.f. Bot. Antarct. Voy., Vol. 1, Fl. Antarct.: 69 (1844).
Caladenia cornuta (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
The NZ form of *Simpliglottis cornuta* may differ from the Australian, and may be an aggregate.
- Simpliglottis valida** (D.L.Jones) Szlach. Polish Bot. J. 46(1): 14 (2001).
Chiloglottis valida D.L.Jones. Austral. Orchid Res. 2: 43–44, t. 54, plate p.92 (1991).
Chiloglottis gunnii as meant by Molloy. Native orchids of NZ: 9 (1983), is not that of Lindl. (1840).

Singularlybas Molloy, D.L.Jones & M.A.Clem.

Orchadian 13(10): 449 (2002). Corybas alliance

Singularlybas oblongus (Hook.f.) Molloy,

D.L.Jones & M.A.Clem. *Orchadian* 13(10): 449 (2002).

Nematoceras oblonga Hook.f. *Fl. Nov.-Zel.* 1: 250, t.57B (1853).

Corysanthes oblonga (Hook.f.) Hook.f. *Handb. N. Zeal.* Fl. 266 (1864).

Corybas oblongus (Hook.f.) Rchb.f. *Beitr. Syst. Pflanzenk.* 67 (1871).

There are two or three taxa included in this complex. One appears to be identical with HB Matthews's *Corysanthes "aestivalis"* (see Scanlen E. Matthews & son on orchids. NZNOG Historical Series 2006; 14: 12). A white flowered form (West Coast and subantarctic islands) is more clearly separate.

Spiranthes Rich. De Orchid. Eur. 20, 28, 36 (1817)

Spiranthes novae-zelandiae Hook.f. *Fl. Nov.-Zel.* 1: 243 (1853).

Spiranthes australis as meant by Hook.f. *Handb. N. Zeal.* Fl. 272 (1864), is not that of Lindl. (1824).

Spiranthes sinensis as meant by Rupp & Hatch. *Proc. Linn. Soc. New South Wales* 70: 58 (1946), is not that of Ames (1908).

Spiranthes lancea as meant by Hatch. *Trans. Roy. Soc. New Zealand* 82: 614 (1954), is not that of Backer, Bakh.f. & Steenis (1950).

The name *Neottia sinensis* has been used for *Spiranthes australis* in Australia, as has the name *Spiranthes sinensis* var. *australis* (R.Br.) H.Hara & Kitam. *Acta Phytotox. Geobot.* 36 (1-3): 93 (1985).

Spiranthes "Motutangi": tagname for endangered Far North taxon similar to *S. australis*.

Stegostyla D.L.Jones & M.A.Clem. Orchadian 13(9): 411 (2001). Caladenia alliance

Stegostyla atradenia (D.L.Jones, Molloy & M.A.Clem.) D.L.Jones & M.A.Clem. *Orchadian* 13(9): 414 (2001).

Caladenia iridescens as meant by Hatch. NZNOG Newsletter 16: 1 (1985), is not that of R.S.Rogers (1920).

Caladenia carnea R.Br. var. *minor* forma *calliniger* Hatch. *Trans. Roy. Soc. New Zealand, Bot.* 2: 187 (1963).

Caladenia atradenia D.L.Jones, Molloy & M.A.Clem. *Orchadian* 12(5): 221 (1997). "Caladenia calliniger" and *Caladenia* aff.

iridescens tagnames.

Stegostyla lyallii (Hook.f.) D.L.Jones & M.A.Clem. *Orchadian* 13(9): 413 (2001).

Caladenia lyallii Hook.f. *Fl. Nov.-Zel.* 1: 247 (1853).

There seem to be a number of taxa currently included in the *S. lyallii* agg., including a small form from Iwitahi and Nelson Lakes.

Stegostyla aff. alpina: plants structurally closer to *S. alpina* than to *S. lyallii* are in NZ (see St George. NZNOG Journal 63: 4 [1997]).

Sullivania F.Muell. J. Proc. Roy. Soc. New South Wales 15: 229 (1882).

Sullivania minor (R.Br.) D.L.Jones & M.A.Clem. *Orchadian* 15: 36 (2005).

Caleana minor R.Br. *Prodr. Fl. Nov. Holland.*: 329 (1810).

Caleya minor (R.Br.) Sweet. *Hort. Brit. (Sweet)* 385 (1827).

Caleya sullivanii F.Muell. *Australas. Chem. Druggist* 4: 44 (1882).

Caleana nublingii Nicholls. *Victoria Naturalist* 48: 15 (1931).

Paracaleana sullivanii (F.Muell.) Blaxell. *Contr. New South Wales Natl. Herb.* 4:281 (1972).

Paracaleana minor (R.Br.) Blaxell. *Contr. New South Wales Natl. Herb.* 4: 281 (1972).

Thelymitra J.R.Forst. & G.Forst. Char. Gen. Pl. 97 t.49 (1776)

Thelymitra aemula Cheeseman. *Trans. & Proc. New Zealand Inst.* 51: 94 (1919).

Thelymitra aff. brevifolia: a NZ form of *T. pauciflora* s.l. with an orange column similar to that of *T. brevifolia* Jeanes of Australia.

Thelymitra carnea R.Br. *Prodr. Fl. Nov. Holland.*: 314 (1810).

Thelymitra imberbis Hook.f. *Fl. Nov.-Zel.* 1: 244 (1853).

Thelymitra carnea R.Br. var. *imberbis* (Hook.f.) Rupp & Hatch. *Proc. Linn. Soc. New South Wales* 70: 59 (1946).

Thelymitra colensoi Hook.f. *Handb. N. Zeal.* Fl. 271 (1864)

Thelymitra intermedia Berggr. *Minneskr. Fisiog. Sallsk. Lund* 8: 21 f (1878).

Thelymitra longifolia J.R.Forst. & G.Forst. var. *stenopetala* Hatch. *Trans. & Proc. Roy. Soc. New Zealand* 79: 396, plate 80 F-H (1952).

Thelymitra longifolia J.R.Forst. & G.Forst. var. *intermedia* Hatch. *Trans. & Proc. Roy. Soc. New Zealand* 79: 396, plate 80 J (1952).

Was tagnamed *T. "pseudopauciflora"* for a time. Debate continues: *T. colensoi* appears to be a more delicate and slender flower than *T. intermedia*.

- Thelymitra cyanea** (Lindl.) Benth. Fl. Austral. 6: 323 (1873).
Macdonaldia cyanea Lindl. Bot. Reg. 25 (1840).
Thelymitra uniflora Hook.f. Bot. Antarct. Voy., Vol. 1, Fl. Antarct.: 70 (1844).
Thelymitra venosa as meant by Cheeseman. Man. New Zealand Fl. 671 (1906), is not that of R.Br. (1810).
Thelymitra venosa R.Br. var. *typica* Hatch Trans. & Proc. Roy. Soc. New Zealand 79: 390, plate 77 A–C (1952).
Thelymitra venosa R.Br. var. *cedricsmithii* Hatch Trans. & Proc. Roy. Soc. New Zealand 79: 390, plate 77 D–E (1952).
Thelymitra venosa R.Br. var. *cyanea* Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 391, plate 77 F–H (1952).
- Thelymitra X dentata**: a sterile hybrid of *T. longifolia* X *T. pulchella*.
Thelymitra dentata L.B.Moore. New Zealand J. Bot. 6: 478, f.2 (1969).
- Thelymitra formosa** Colenso. Trans. & Proc. New Zealand Inst. 16: 338 (1884).
Thelymitra circumsepta as meant by Hatch. NZNOG Journal 65: 8 (1997), is not that of Fitzg. (1878).
- Thelymitra hatchii** L.B.Moore. New Zealand J. Bot. 6: 477, f.2 (1969).
Thelymitra pachyphylla as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 394, plate 79 D–H (1952), is not that of Cheeseman (1906).
Thelymitra concinna Colenso. Trans. & Proc. New Zealand Inst. 20: 207 (1888) appears to be the pink-ciliated form of *T. hatchii*, and if so has precedence.
- Thelymitra aff. ixioides**.
Thelymitra ixioides as meant by Hook.f. Handb. N. Zeal. Fl. 669 (1864), is not that of Swartz. (Kongl. Vetensk. Acad. Nya Handl. 21: 253, t.3, f.L [1800]).
Thelymitra ixioides var. *typica* (Hook.f.) Rupp & Hatch. Proc. Linn. Soc. New South Wales 70: 59 (1945).
- Thelymitra longifolia** J.R.Forst. & G.Forst. Char. Gen. Pl. 98 t.49 (1776).
Serapias regularis Banks & Sol. ex G.Forst. Prodr. 59 (1776).
Thelymitra forsteri Sw. Kongl. Vetensk. Acad. Nya Handl. 21: 228 (1800).
Thelymitra nemoralis Colenso. Trans. & Proc. New Zealand Inst. 17: 249 (1885).
Thelymitra alba Colenso. Trans. & Proc. New Zealand Inst. 18: 272 (1886).
Thelymitra cornuta Colenso. Trans. & Proc. New Zealand Inst. 20: 206 (1888).
Thelymitra longifolia J.R.Forst. & G.Forst. var. *alba* (Colenso) Cheeseman. Man. New Zealand Fl. 339 (1925).
Thelymitra longifolia J.R.Forst. & G.Forst. var. *forsteri* Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 396, plate 80 B–E (1952).
Thelymitra aristata as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 395, plate 79 M–N, plate 80 A (1952), is not that of Lindl. (1840), and has been tagnamed *T. “tholinigra”* by Scanlen.
- Thelymitra aff. longifolia agg**: some undescribed taxa that appear to be insect-pollinated.
- Thelymitra malvina** M.A.Clem., D.L.Jones & Molloy. Austral. Orchid Res. 1: 141 (1989).
- Thelymitra matthewsii** Cheeseman. Trans. & Proc. New Zealand Inst. 43: 177 (1911).
- Thelymitra nervosa** Colenso. Trans. & Proc. New Zealand Inst. 20: 207 (1888).
Thelymitra decora Cheeseman. Man. New Zealand Fl. 1151 (1906).
- Thelymitra pauciflora** R.Br. Prodr. 314 (1810).
Thelymitra pauciflora sens. strict. is in NZ according to Jeanes (Muelleria 19: 19–79 [2004]); however, there are also a number of forms in this aggregate.
- Thelymitra pulchella** Hook.f. Fl. Nov.-Zel. 1: 244 (1853).
Thelymitra fimbriata Colenso. Trans. & Proc. New Zealand Inst. 22: 490 (1890).
Thelymitra pachyphylla Cheeseman. Man. New Zealand Fl. 1151 (1906).
Thelymitra caesia Petrie. Trans. & Proc. New Zealand Inst. 51: 107 (1919).
T. pulchella is a very variable species, yet all of these appear to have features that are relatively stable in some populations.
- Thelymitra purpureofusca** Colenso. Trans. & Proc. New Zealand Inst. 17: 249 (1885).
Thelymitra “Whakapapa”: undescribed taxon from Ruapehu, may correspond to *T. purpureofusca*, or may be distinct.
- Thelymitra sanscilia** Irwin ex Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 397, plate 81 B–E (1952).
- Thelymitra tholiformis** Molloy & Hatch. New Zealand J. Bot. 28: 111, f.6 (1990).
Thelymitra intermedia as meant by L.B.Moore. Fl. New Zealand Vol. 2: 129 (1970), is not that of Berggr. (1878).
- Thelymitra “Ahipara”**: an unnamed taxon from the Far North, may be identical with *T. “darkie”*.
- Thelymitra “Comet”**: a large, late-flowering *Thelymitra* from the Kaweka range. Appears to be sterile, so probably a hybrid.
- Thelymitra “darkie”**: undescribed taxon from the Far North (see McCrae. NZNOG Journal 24: 11; 77: 22 [1987]). May be identical with *T. “Ahipara”*.

Thelymitra “rough leaf”: undescribed taxon from the Far North (see McCrae. NZNOG Journal 24: 11; 77: 22 [1987]).

Thelymitra “sansfimbria”: plain blue flowers from Far North (see Scanlen. NZNOJ 98: 36 & 102: 39, 45).

Thelymitra “sky”: undescribed taxon from the Far North (see Scanlen. NZNOG 70: 30–35, f.6 [1998]).

Thelymitra “tholinigra”: (see Scanlen. NZNOJ 85: 10, 15).

Thelymitra “Whakapapa”: undescribed taxon from Ruapehu, that may correspond to *T. purpureofusca*, or may be distinct.

Townsonia Cheeseman. Man. New Zealand Fl. 692 (1906). Acianthus alliance

Townsonia deflexa Cheeseman. Man. New Zealand Fl. 692 (1906).

Townsonia viridis as meant by Schltr. Repert.

Spec. Nov. Regni Veg. 9: 250 (1911), is not *Acianthus viridis* of Hook.f. (1860).

Acianthus viridis as meant by L.B.Moore. Fl. New Zealand Vol. 2: 107 (1970), is not that of Hook.f. (1860).

Waireia D.L.Jones, M.A.Clem. & Molloy. Orchardian 12(6): 282 (1997)

Waireia stenopetala (Hook.f.) D.L.Jones, M.A.Clem. & Molloy. Orchardian 12(6): 282 (1997).

Thelymitra stenopetala (Hook.f.) Bot. Antarct.

Voy., Vol. 1, Fl. Antarct.: 69 (1844).

Lyperanthus antarcticus Hook.f. Bot. Antarct.

Voy., Vol. 1, Fl. Antarct.: 544 (1847).

Winika M.A.Clem., D.L.Jones & Molloy. Orchardian 12(5): 214 (1997). Dendrobium alliance

Winika cunninghamii (Lindl.) M.A.Clem., D.L.Jones & Molloy. Orchardian 12(5): 214 (1997).

Dendrobium biflorum as meant by A.Rich. Essai Fl. Nov. Zel. 221 (1832), is not that of Sw. (1800).

Dendrobium cunninghamii Lindl. Bot. Reg. 21 sub. t.1756 (1835).

Dendrobium lessonii Colenso. Trans. & Proc. New Zealand Inst. 15: 326 (1883).

NZNOG Books

Colour field guide to the native orchids of New Zealand

By Eric Scanlen & Ian St George
82 pages of text + 187 colour plates
\$30 includes postage in NZ
(enquire about cost of overseas postage)

Colenso's collections

including the unpublished work of the late Bruce Hamlin on William Colenso's New Zealand plants held at Te Papa compiled by Ian St George
412 pages + searchable CD
\$35 includes postage in NZ
(enquire about cost of overseas postage)

Orchids on Disk

Bruce Irwin's drawings

(one CD: \$20).

NZNOG Historical Series (Nos. 1-15 on one DVD: \$10)

The New Zealand orchids (republishing the 1999 *Nature guide* and the 2005 *Field guide* on one CD: \$10)

and from NOSSA (editor R. Bates)

Western Australian Orchids

Orchids of South Australia

Through the generosity of the Native Orchid Society of South Australia (NOSSA) NZNOG members pay only the cost, plus \$5 to NOSSA: send \$15 for the DVD of these two, to

NZNOG Historical Series

#16: Colenso to Balfour

Orchid extracts from William Colenso's letters to his collector David Balfour of Glenross.
\$10 in NZ

#17: Orchids in Black & White

Fifty important monochrome halfplate photographs of NZ native orchids by HB Matthews. \$22 in NZ.

From Brian Tyler, 4 Byrd St, Levin.
BandJ.Tyler@xtra.co.nz.

The Column: Eric Scanlen

Thelymitra “puriri” in Diggers Valley

Remember Ruth Renner’s mauve/pink *Thelymitra* growing 1.2m above ground, in the nine year old puriri log at Diggers Valley? (J112:22,26) The Column thought then, that it was a pink form of RH Matthews’ 1904 find [1], taken now to be *T. “sansfimbria”*, found again recently by his great-great nephew Kevin. It is a blue, perfumed, un-striped form of *T. pulchella* with no fimbria on the column arms.

Well, Ruth’s isn’t that at all, according to Ruth’s and Kevin’s latest data.

- A) it has no perfume,
- B) it is blue/mauve, not blue,
- C) the column is different with some short yellow fimbria on the column arms and
- D) it is growing in a mossy hole in a decaying puriri log, not a boggy piece of scrub.

The puriri hole dries out so Ruth has had to dribble a bit of water around when things have been hot and dry for long periods. Diggers Valley averages some 2,000mm of rainfall per annum which is wetter than most coastal climates.

So Ruth chose the suggested tag-name of *Thelymitra* “puriri” then bought a new camera which incidentally has produced some superior images along with Kevin’s as you can see in **Figs. 35, 36, 40.**

The orchid appears to be yet another form of the aggregate of natural, amphidiploid-hybrid, *T. pulchella* with the split post anther lobe. This harks back to parent *T. cyanea* with its two yellow or white parts of the post anther lobe, like column arms but usually corkscrewing in opposite directions. The lack of *T. cyanea*’s stripes, as in *T. “sansfimbria”*, is surprising but was also reported by Thom Pendrigh from Oxford in N/L25:10, March 1988. So non-striped is a widespread trait but definitely rare for this aggregate.

Collecting info from Ruth, Kevin and their pix, the tallest flower is 55cm, its leaf is 38cm. Floral bracts are a fleshy green and acute with square shoulders. The leaf sheathes the base of the peduncle and there are two or three acute bracts sheathing the stem with up to eleven flowers. The flowers, up to a measured 30mm diameter, open wide only in hot sunny weather during November. The photos show granular pollen which has fallen around its own stigma. One can thus surmise that *T. “puriri”* is also *Thrips*-fall-back-self pollinated. Some pix with the black *Thelymitra Thrips* in the flowers would be nice to confirm this hypothesis.

Amongst *T. “puriri”* plants with normally formed columns, the lower one only, on at least two stems, had a modest staminodium standing from the base. The Column has heard that this is a throw-back which occurs from time to time in several if not all the sun-orchids. This harks back million of years to that distant ancestor of orchids which had proper stamens. *T. hatchii*, in Ulrich Walther’s photos, on an old calendar of the Column’s, show long staminodia standing right into the yellow cilia on the column arms, in all four open flowers. The Australian *T. circumsepta* was actually described from a type specimen with staminodia.

In *T. “puriri”*, the staminodium on the lowest flower of at least two plants only out of nine, has to be most unusual. Can anyone explain?

The strictly local site of *T. “puriri”* is a conservation worry. Propagation is not the Column’s forté but, some ground similar in make up, exposure and moisture content to that in the log should be good for transplanting a trial few of the seedlings provided some substrate is transferred too to ensure that the plant’s mycorrhizal fungus goes too. Perhaps a good dose of rotting puriri would be of assistance in

the circumstances.

The Column expects that the chromosome count will be $2n=66$ as in *T. pulchella* [2] but, are the non-striped forms from a *T. longifolia* parent or one of the many forms of *T. aff. longifolia* or perhaps one of several other sun-orchids in the north with $2n=26$ chromosomes? Black *Thrips* happily fly in and out of closed sun-orchids and larger flies and native bees have been spotted on open *Thelymitra*. Whatever is responsible for this assumed hybrid, seems not to be selective as to species being visited and could easily have cross pollinated say *T. aff. pauciflora* with *T. cyanea*.

All the reader has to do to check, is cross pollinate a range of $2n=26$ chromosome *Thelymitra* with different forms of *T. cyanea* to see what the seeds produce. Getting the chromosomes to double up and thus produce the necessary amphidiploids could be a minor problem but should be well within the abilities of dedicated propagators with five or so years to spare! Any takers?

References

1. Scantlen E.A., Matthews & Son on Orchids, NZNOG Historic Series 2006
2. Dawson, M.I., Molloy P.J. & Beuzenberg E.J., Contributions to a chromosome atlas of the New Zealand flora—39. Orchidaceae, *NZ J. Bot.* 2007, Vol. 45:611-6843

Captions

Fig. 40 *Thelymitra* "puriri" by Kevin Matthews, 10 Nov. 2009, nine stems and 27 flowers and seedlings in Ruth's puriri log. Hardly ideal habitat you would think but none are growing outside the log as yet.

Fig. 35 Five flowers on *T. "puriri"* by Ruth Renner, 4 Nov. 2009, flowering on a hot sunny day. Probably a *T. pulchella* sibling but where are the stripes?

Fig. 36 Normal column on *T. "puriri"* by Ruth Renner, 4 Nov. 2009, showing its fimbriate column arms and its own granular pollen flopped behind, on top of and in front of its own stigma. Indications of *Thrips*/fall-back self pollination.

WANTED

The NZ Native Orchid Group is looking for **LOCAL GUIDES** and **REGIONAL REPORTERS**

Members are often approached by overseas visitors seeking guidance as to where to find native orchids. If you would be prepared to assist by emailing enquirers about what they might find in your region, or by guiding visitors, please contact the editor.

The editor is also seeking regular regional contributions (text and photographs) for the Journal. If you would be prepared to assist in this way please contact the editor: no great skill with the pen is required; the editor is happy to edit.



