



*The
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Journal*

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A
pocket guide
to the
New Zealand
native
orchids



by
the New Zealand Native Orchid Group

The new guide is available now from Brian Tyler (bandj.tyler@xtra.co.nz),
4 Byrd St, Levin: \$35 plus packing and postage.

The type locality

Ian St George

Sarcochilus breviscapa from the Seventy Mile Bush

In 1838 Allan Cunningham sent William Colenso a drawing and a description of an epiphytic orchid found at Whangaroa, Northland by his brother Richard [J78]. He wrote,

Other Orchideous Epiphytes are known to exist in New Zealand, and one having altogether the habit of *Sarcochilus* R. Brown, but without fructification, was obd. by R.C. on the branches of Alectryon, (Tetoki) at Wangaroa, but flowers are necessary to determine the Genus of the plant. Mr. Brown, in the appendix to the Voyages of Flinders observes that in the first Voy. of Cook, the naturalists who landed in the bays of Tigadoo and Tolago on the south of East Cape found several species of orchideous Epiphytes, compounded under the Linnean Genus Epidendrum, some of which remain to be further noticed, although collected in the year 1769. Gentlemen of the Church Missn. visiting those parts of the East Coast are begged to notice and collect these lovely forms of New Zealand vegetation.

He went on in his letter to describe the genus *Sarcochilus* and sketched the Australian native *Sarcochilus falcatus*.

Edgerley sent specimens of this plant to Kew from the Hokianga, and Colenso sent some from the Bay of Islands, though his specimens are no longer at Kew. Later he sent a specimen from the Wairarapa (his No. 1957).

Banks & Solander had collected it at Opurangi (Mercury Bay) on Cook's first voyage, and Solander had given it a manuscript name, *Epidendrum adversum*. JD Hooker therefore called it *Sarcochilus adversus* in *Flora Novae Zelandiae* in 1853, and Alec Dockrill used the same epithet for his *Drymoanthus* in 1967.

When David Balfour, farmer of Glenross out on the Napier Taupo road, in the late 1870s sent William Colenso what he called his "divot" plant, Colenso was mystified by the name but excited by the plant.

It was an orchid, known still as *Sarcochilus*, and Colenso cajoled and pleaded with Balfour for several seasons, before finding specimens of his own on big felled rimu and totara in the Seventy Mile Bush, and, convinced these Hawke's Bay plants were different from the Northland ones, described them [*Trans. NZ I.* 1882; 14: 332]...

***Sarcochilus breviscapa*, n. sp.**

Plant epiphytical; roots stout, clasping, issuing from bases of leaves and forming large irregular masses, from which 4–8 plants grow: stems 6–10 lines high, compressed, subcylindrical, very stout, glabrous, purple, covered by the imbricated sheathing bases of the leaves: leaves, usually 4–5 to a plant at a time, thick, glabrous, oblong or oblong-lanceolate, acute and pointletted, with a distinct mucro (almost like a short awn, so that each leaf has a vertical double-pointed apex), diminishing but slightly towards base, 1, 1½–2 inches long, 5–6 lines broad at middle, and 2–3 lines broad at base, sessile, sheathing, jointed immediately above clasping sheath, somewhat keeled, distichous, spreading, sub-falcate, dark-green spotted with purple, mid-rib below purple, 8-nerved longitudinally, nerves parallel and sparingly transversely netted, but only visible when leaf is dried: scape, slender, axillary in lower leaves, 4–8 lines long, (and with rhachis) green, closely spotted and blotched with purple; two solitary sheathing bracts, one at base, and one much larger and acuminate on one side in the middle: rhachis, 6–12 lines long, thickened.

Raceme 5–8-flowered, flowers not crowded: pedicels 2 lines long, alternate and scattered, purple striped, each having a single broadly ovate acute bract, embracing at base. Perianth conniving, not split quite to base, 3 lines diameter, light-green, striped and spotted with purple: sepals oblong-ovate, obtuse, with a purple stripe down the centre on outside; dorsal one largest: petals oblong-lanceolate, subacute, smaller than sepals, margined spotted and blotched with purple: labellum shorter than petals, greenish-white minutely spotted with purple without, green within, gibbous at apex, subcucullate with a minute notch on each side of lip; lateral lobes very slightly produced, conniving, with two thick transverse opposite ridges

(calli) within. Capsule oblong-linear, pointletted, stout, turgid, 7–8 lines long, light-greenish, striped longitudinally with purple; densely woolly within: seeds minute, lanceolate, and with their wool light-brown.

Hab.—High up in forks of large pine trees (*Podocarpus dactyloides* and *P. totara*), “Seventy Mile Bush” (1878–80), and at Glenross (1881, D. P. Balfour), Hawke’s Bay; flowering in September. A species allied to some of the smaller Australian species of this genus, and possessing close affinity with *S. adversus*, Hook. fil., but very distinct.

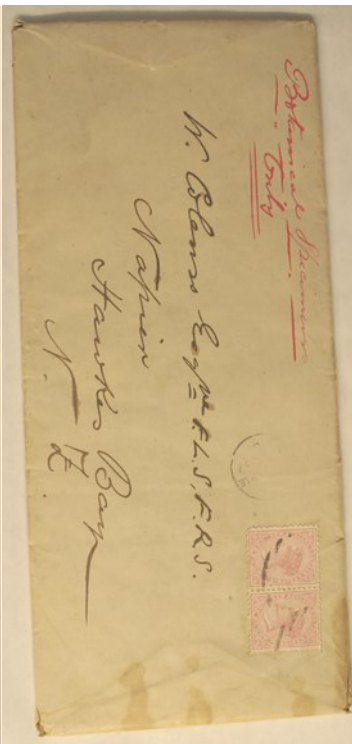
Infuriatingly, as usual Colenso felt free to say “very distinct” but not to explain exactly why (other than the short scape indicated by the epithet). His type specimen is mounted on the back of an envelope (WELT 63870).

Colenso sent a case of living specimens to JD Hooker in 1883,

“In the case of living Orchids, No. II., there are just the Duplicates of the last (small) box per S.Fr. Mail, but in larger masses: (viz. *Earina autumnalis*, *E. quadrilobata*, & *Dendrobium Lessonii*.) – and, also, 2 fine specimens of (undisturbed clumps) of *Sarcochilus*. – I believe *S. breviscapa*, mihi. (See, for description of this plant, *Trans. N.Z.I.* vol xiv. p.332.) – these I subsequently sought & fortunately obtained.”

Sadly, after hearing back from Hooker he wrote again on 27 February 1884,

“I deeply regretted the total loss of those Epiphytal Orchids, after all my labour! it half-upset me.” So we don’t know what Hooker thought of *S. breviscapa*.



Specimen sheet in Kew Herbarium, showing (lower left) Colenso's specimen No. 1957 (sent in 1848), Hooker's sketch of the flower, and Brian Molloy's lectotypification of this Wairarapa plant as *Drymoanthus adversus*.

Colenso had annotated his specimen, "1957. Orchid. Epiphyte – of which I have 2 leaves and 2 racemes of flowers – which I divide with you. This is like some I sent you from the Bay of Islands, (*Sarcochilus falcata*?) but the flowers are smaller and leaves larger. From Wairarapa."

At upper right is the 1834 Richard Cunningham specimen from Northland, originally labelled "*Sarcochilus falcatus*", though "shown to Dr Lindley on 5 Apl. 1835 & doubtful".

Colenso
1957

BOTANY DIVISION, D.S.I.R., CHRISTCHURCH, N.Z.
No. Colenso 1957
Sarcochilus adversus G.D. Hook.
lectotype
DETERMINAVIT B.P.S. Molloy 9-10-1992

BOTANY DIVISION, D.S.I.R., CHRISTCHURCH, N.Z.
No. Colenso 1957
= *Drymoanthus adversus*
(G.D. Hook.) Dockr.
DETERMINAVIT B.P.S. Molloy 9-10-1992



ALLAN CUNNINGHAM'S
NEW ZEALAND HERBARIUM.
Presented by Robert Howard Esq. 1862.

shown to Dr Lindley
4 5 Apl 1835
+ 4 other
but evidently
the action of "Dried"
that fails with them.
leaves

S. falcatus N. B. 502
D. Hook. 142
fl. not vid.
spec. not ill.
Cunningham
1834

N. Zealand
Colenso.

1957
Sarcochilus? latifolia
Lindl.

Syn. type.
HERB. KEW.
9th 12/1989



Drymoanthus adversus (G.D. Hook.) Dockr.
DET. M. Clarke 23/1/84

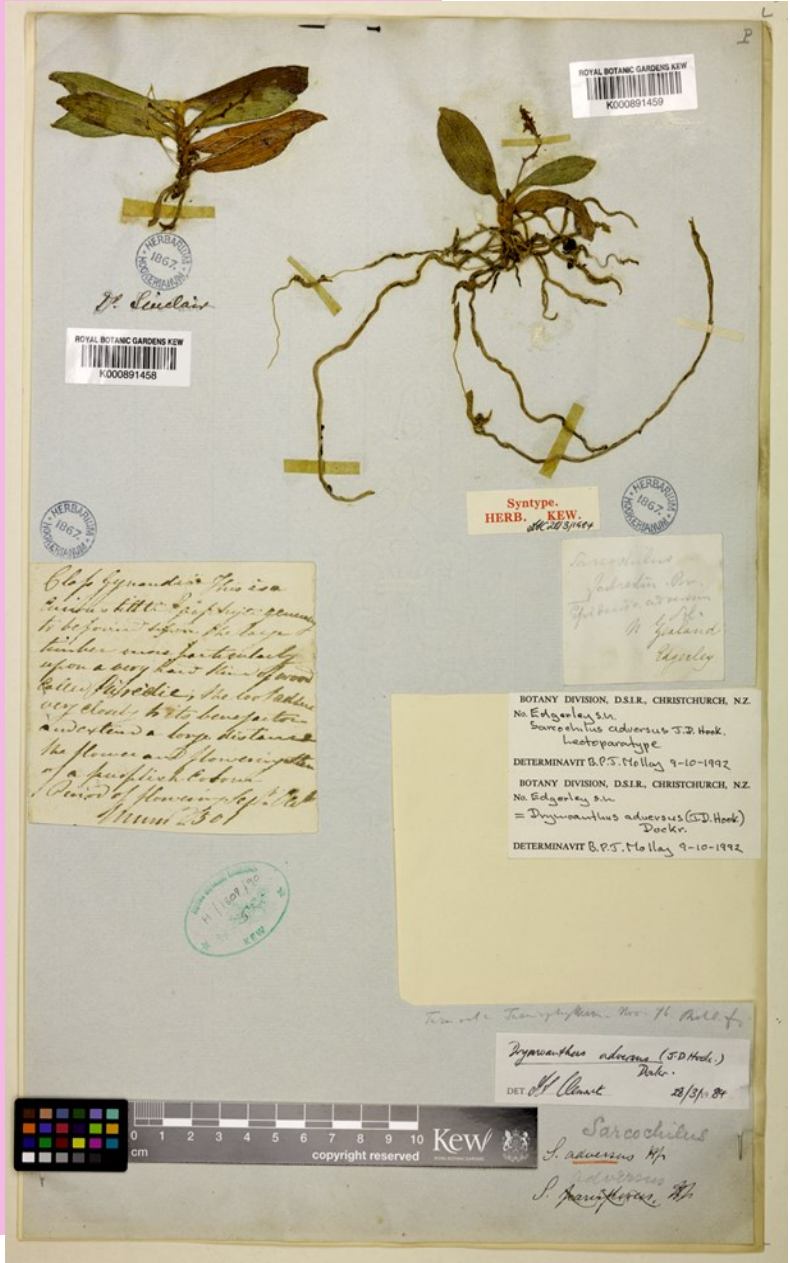
Sarcochilus adversus M.

A second specimen sheet at Kew

The upper left specimen was collected by Andrew Sinclair and annotated in his writing, "Class Gynandria. This is a curious little Epiphyte generally to be found upon the large timber more particularly upon a very hard kind of wood called Puredie (Puriri), the root adhere very closely to its benefactor and extend a large distance the flower and flowering stem of a purplish colour. Period of flowering Sepr.-Octr." Sinclair visited the Bay of Islands in 1841 but collected from other parts of New Zealand too.

The upper right specimen was collected by Edgerley, who sent his specimens from the Hokianga.

Hooker's writing in the lower right suggests he toyed with naming it "Sarcochilus parviflora".



Lucy Moore identified *D. breviscapa* as *D. adversus* for her 1970 *Flora II*. In 1992 Brian Molloy designated an 1848 Colenso Wairarapa specimen as the lectotype of *D. adversus*, dissected a flower from Colenso's type specimen of *Sarcochilus breviscapa*, and identified it as *D. adversus*.

*Did they compare Northland plants though? where Colenso believed the flowers are larger and the leaves smaller? Where (at Whangaroa) Richard Cunningham at first thought they were the big Australian *Sarcochilus falcatus*? Where did the plants that Hooker described in 1853 actually come from?*

*Remember: for many years the southern *D. flavus* was thought to be identical to *D. adversus*....*

***Drymoanthus* in the Far North**

Ross Donald took these photographs on the Wairakau Track, Totara North, Whangaroa Harbour on 9 November 2011. Mary Watson passed them on...



Sarcochilus falcatus

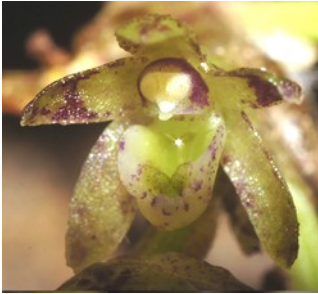
Certainly it isn't *Sarcochilus falcatus*, but is it the same as the Wairarapa *Drymoanthus adversus* = Colenso's *D. breviscapa*?

Compare these photographs of *Drymoanthus adversus* from various places...

Waitakere: Allan Ducker ▼

Kohukohu : Eric Scanlen ▼

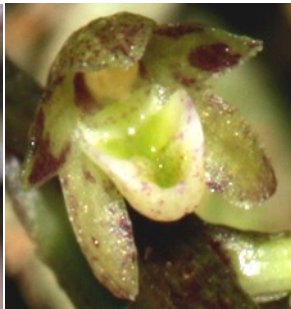
Rimutaka: Jeremy Rolfe ▼



Diggers Valley: Allan Ducker ▼

Northland: Kevin Matthews ▼

Wellington: Mary Watson ▼



It isn't possible to compare the sizes in photographs, sadly, but there is something about that Whangaroa flower (cover & previous page) —wider open, long thin tepals—that gels with Colenso's opinion that the plants he'd seen in Northland (almost certainly from Whangaroa) were different from those he found later in Hawke's Bay. But different enough to erect a new species? I don't think so....

The New Zealand Native Orchid Journal

The **New Zealand Native Orchid Group's** main aim is telling people about native orchids, so others are welcome to copy our material, provided they acknowledge the source and authors. The **Journal** is published quarterly from February, and deadline for copy is the first of the preceding month. We like copy to be typed or sent by email. The journal now uses the generic names as revised by the Plant List 2012 [see Jane GT 2015. NZNOJ 136 (February): 13–14 and "The editor's 2015 list revised" in this issue].

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WE MAY NOT SHARE AUTHORS' OPINIONS

Iwitahi Heritage Protection Area

Report for the year ending March 2015



New Signs

Since the last Annual Report (a year ago) a further 250 *Pinus nigra*, have been planted. Prior to planting, the roots of the trees are soaked in a mixture copper oxide and Agrifos 600 to inhibit the effect of phytophthora. After planting the foliage of all the young trees that have been planted in the previous 3-4 years are sprayed with the same mixture. This has been made possible due to our benefactor Brian Otto.

Concern has been expressed as to the damage to the orchid areas due to trampling. Investigation have been made with Dept. of Conservation as to the basic cost of putting in tracks and steps. Tracks cost about \$1,000 per kilometre and each set of steps is priced at \$1,000, with a minimum of three sets needed.

The tracks will be left as they are and indicated with markers attached to the trees. Where steps are required they will be cut out and the edges reinforced and consolidated with ½ round fence posts. This will provide a more natural path way and be less obtrusive in appearance.



Damage to the reserve

In the last couple of years there has been damage from pigs rooting up and eating the orchid tubers. The initial idea about getting a friend to run his pig dogs through the area to sort the pigs out turned into a night mare after contacting Timberlands. He would have to apply for a permit to hunt and there was no guarantee that he would get the block that the reserve was in, and then there was the cost for the permit as well. Quite a bit of Rabbit damage (orchids nipped off) has been observed as well. To this end the prices of the bait stations and 10kg of bait at Farmlands was checked out. These items were supplied by Key Industries and through a contact OCNZ have been able to open an account with Key Industries, so the products are now available at about a 50% discount.



Ten bait stations at about \$15-00 each and 25kg of bait at \$110-00, were ordered. These have been placed in the Reserve and have up been topped up twice. As the stations are open to the weather the bait breaks down when it gets moisture on it, to this end a low tec solution has been designed at very little cost.



Iwitahi Weekend 2014



For our annual weekend we had 19 full registrants, two for Saturday afternoon and the night (Carlos) and two that came for the Saturday to help, also on the Saturday morning we had eight members from the Rotorua Orchid Society for a walk around and look at the orchids that were out.

After a good look around on Saturday morning it was down to work for the group. The tracks were cleaned up and a start was made on the extension of the track system. It is that well hidden that it is now hard to find it!

Then it was down to the never ending job of pulling 'weeds', the young trees (*P. nigra*) were sprayed again and the protective sleeves were

removed, while doing this a rough count of the deaths of the trees that had recently been planted was undertaken. This worked out to be about 15 out of the 500 trees that we have planted in the last two years, this is great.

The plots that were put in last year to establish and enable monitoring of the dynamics of the orchids in the area were recounted again, New HPA signs were purchased to replace the old ones. See Photo at top of page.

Highlights of the weekend, were how everyone got stuck in to the work. There were two talks on Saturday evening. One by Jessica Schnell from Massey University on the New Zealand Indigenous Flora Seed Bank. The other talk was by Carlos Lehnebach, Botany Curator, Museum of New Zealand Te Papa, on his research on native species, including *Gastrodia* and *Corybas* among others.

On the Sunday Brian Otto made a surprise donation of \$500 to help with the control of the rabbits.

Iwitahi Weekend 2015

5th - 6th December 2015

Accommodation at Sika Lodge 4th - 5th

All meals (BYO grog) \$90 PP

Friday Night, welcome and catch up, Free Discussion.
Saturday, am. Visit reserve guided tour. pm. Explore area with possible working bee to help tidy up area. Evening discussion and slide presentation.
Sunday, am. reserve working bee. pm depart for home.

To 'book a bunk' for a fun weekend, contact Bill Liddy 06 863 6735 or email wflid@xtra.co.nz



The Column

Eric Scanlen

Prasophylla galore

The *Prasophyllum* roundup 2014 (J133:26), was a determined effort to unravel a few mysteries but raised some problems and left many questions unanswered about this “deliberately difficult” genus, as RS Rogers and Bruce Irwin labelled it (J79:10). So the Column has spent a few months of spare time, probing through relevant articles plus numerous photos of his own and many others, seeking further identifiable morphological traits and assigning them to distinct taxa. He extends sincere thanks to the many willing NZNOG participants, as named in the text, who sorted through their records and pix for more info. This treatise, in conjunction with the J133:26 round up, is presented, along with a table of traits (pp.18–19), for all 14 taxa that have been identified. There are still questions however, but publication became necessary before the Column went *Prasophyllum* bonkers; supposing that that hasn’t already occurred.

Prasophyllum R. Br., 1810, is one of the few genera that came through unscathed, since Jones and Clements et al, 2002 revision [1]. It consists of an erect spike of up to 25 flowers, emerging one third to two thirds the way up a single terete leaf which may or may not exceed the spike. The **flowers** are non-resupinate (dorsal sepal at the bottom). The **lateral sepals** above, often emerge from the bud united, then as flowers mature, they separate from 50% to 100%, depending on taxon; the degree of separation is an identifier. The **labellum** curves sharply upwards, between 45° and 165°, depending on taxon. It has a long central **callus** of various shades of green, which stops short of the bend in *Pr. hectori* but rounds it in the others and gets close to the labellum tip. New **floral bracts** are usually sub-acute, sheathing, maturing to truncate, and sometimes to free standing. A glassy, needle-like **stipe** connects the tip of the **rostellum** to the bi-lobed pollinia. Untouched pollinia gets extracted from the anther by the stipe, dangled enticingly for pollinators then swung 180° up onto the stigma above, for fall-back, self-pollination. Photos show new **pollinia**, smoothly contoured, progressing through a textured stage then finally to numerous small grains of pollinia, no doubt, for transport by small insects.

Mike Lusk has depicted such an insect, possibly *Melanostoma fasciatum*, in **Fig. 1**, on *Pr. “Apti”* at Te Mata Park, ER 29/34, on 7 Nov 2011 The late Gary Penniall photographed a bigger fly right into *Pr. “debile”* at the Pureora Forest site, on



8 Dec 2000, (J82:14,18) and, near the same site, got *Selenopalpus cyaneus*, a black, pollen-eating beetle, on *Pr. hectori*, with pollinia stuck on its head, on 10 Feb 2001. Any or all of these bugs may be pollinators but definitive proof is lacking.

Prasophyllum taxa are briefly described as follows, in alphabetical order of either species epithet or tag-name. Tags are taxon identifiers only, and do not necessarily indicate a new species. The table following gives traits that were identifiable from text or photos but dimensions are often missing. Why missing? Most of the photographs were taken with little expectation of their use in taxon ID, including those by the Column.

Whole plants, flower spikes, side plus front views of floret and dimensions, are all essential to good ID. Dorsal sepal and floral bract shapes can be definitive too, please note.

1 *Prasophyllum* “A green” of Bruce Irwin’s and Anne Fraser’s (J79:8-11) is possibly the most widespread taxon, occurring from Southland to East Cape. Bruce had two *Pr.* “A” taxa on Ohakune Mountain Rd. to Turoa Skifield but he didn’t separate *Pr.* “A green” from the rarer *Pr.* “A purple” though a split did become necessary as this study progressed. Apart from colour differences, *Pr.* “A green” has a lower altitude range and proportionally longer lateral sepals etc. see table of traits. Colour varies from all green as in **Fig. 2** by Cheryl Dawson from 1,000m on Ruapehu, 12 Jan 2014, to **Fig. 3** by Allan Ducker from Lake Lyndon ER 54 at 840m a.s.l.

NB. *Pr.* “Caples”, has now been included in *Pr.* “A green” after close examination of a topmost flower (J133:25 Fig. 23) revealed enough of its curl of labellum plus its column arms and anther cap, for better identification.

2 *Prasophyllum* “Apiti” as in Cheryl’s **Figs. 4 & 5**, from Dec. 2013 & 2014, has a purplish peduncle and eye-catching, crimson-on-green flowers. Green ovaries and mucronate white floral bracts, etc. from the table, give it distinction. It has a colony by Apiti Track off Ngamoko Rd, Norsewood, at 890m a.s.l.

Mike’s Fig. 1 with the fly from Te Mata Park is another example of this taxon.

3 *Prasophyllum* “A purple” of Bruce’s, has the next biggest flowers to *Pr. hectori*. Bruce and Anne Fraser got it (J79:8) on Ohakune Mountain Rd, ER18 at 1,350m on 28 Jan 1998. See Pam Shearer’s **Fig. 6**, Otira Valley Carpark, ER50/53, at 860m a.s.l. on 17 Jan 2014. The Column got it at Middle Rd, Horopito, on 4 Jan 2003, at 670m (J133:29 Fig. 6 & J79:7 Fig.1). It’s labellum curls back to 135° and its pale purple floral bract is sub-acute, morphing to ovate in maturity, apart from purple colours, all as per the table of traits. More reports of this rare but notable orchid please.

4 *Prasophyllum* “Cobb Ridge”, **Fig. 7**, of Georgina Upson’s, grows by Cobb Reservoir ER46, on both Cobb Ridge to the south-east, and by Sylvester Track, to the north-west, here above the treeline at 1,320m a.s.l. It has a labellum callus that has expanded like a small green bottle from the bend in the labellum to almost the tip. The floral bract opens obtuse and sheathing then maturing to obtuse, free standing. The undulate labellum is unique but doesn’t show on the Cobb Ridge specimen, **Fig. 8**. Note the loss of a petal here, allowing us to





see column arms, well back from the tip of the anther cap. The bronze coloration is more subdued here than on the Sylvester Track specimen.

5 *Prasophyllum colensoi*, see **Fig. 9**, the Column's, from the Comet Hut, 850m a.s.l. on 5 Dec 1999. It is well represented in coastal to subalpine regions but is in doubt north of the central plateau. William Colenso sent specimens from Waipukurau, near sea level, latitude 40°, to Kew where J.D. Hooker named it after its finder [2]. The type sheet (J133:27) shows plants to 33cm tall which belatedly impressed the Column that alpine plants he had cherished for decades as *Pr. colensoi*, could not be that. Dorothy Cooper depicted *Pr. colensoi* well in 1981, [3] with its bronzy flowers on green ovaries and stems, with obtuse, pale green floral bracts. Being the only *Prasophyllum* named by Hooker for NZ (excluding *Corunastylis-Genoplesium*) almost every *Prasophyllum* specimen subsequently tended to get labelled *Pr. colensoi* save for *Pr. hectori* which however, was initially linked in error to *Gastrodia* by John Buchanan in 1886.

N.B. J133:28 could not be *Pr. colensoi*. Those long lateral sepals now proclaim it to be *Pr. "debile"* in muted colours.

Also, the discontinued *Pr. "Jacks"* (J133:30) appears to be an over-mature *Pr. colensoi* from Jacks Pass, Hanmer Springs.

6 *Prasophyllum "debile"*, Henry B. Matthews' taxon from ER25, Opunake, 1921 (J133:26) was later cross-tagged by Bruce Irwin as *Pr. "B"*. This taxon is notable for its elongated lateral sepals, towering over the labellum and for its acuminate dorsal sepal. Colour varies considerably from the purple and green of **Fig. 10**, the Column's from Middle Rd. Horopito, 21 Sept 1998, to the tawny green of Allan Ducker's **Fig. 11** from Mt Cheeseman Skifield Rd, to pale green, **Fig. 12** by Graham Dickson from 4 Jan 2010, ER67, Lindis Pass. Fig. 10 may have shared some colour genes of the purple stem with *Pr. "A purple"* (J133:29) which was only say 30m distant.

7 *Prasophyllum hectori*, with the largest flowers of the genus in NZ, thrives in a reed choked stream, up to knee deep, where it can have up to 25 flowers in a spike. **Fig. 13** of the Column's from Pureora Forest Park at 600m a.s.l., on 2 Jan 1995. It is strongly scented to most, has a striking white, undulate labellum with a thin green callus barely reaching the bend. Note the pollinia being swung



8



9



13



by the stipe, attached to the rostellum, here only part way to the stigma above. This is said to occur in all NZ *Prasophylla*. Plants in still shallow water at National Park Wetland, 820m a.s.l., 4 Feb 1996, were miserable specimens by comparison but in contrast Kevin Matthews found robust plants in warm, still, anaerobic water near sea level at ER5 Lake Ohia.

8 *Prasophyllum hectori alba*, Fig 14, by the late Ian Reid, (J98:8,9) from Opuatia wetland, December 1994, looks to have the same structure as its namesake but lacks the copper-red colour (anthocyanin). This variant occurs also in the Chathams (J84:39). It may well be a mutant of *Pr. hectori*, but it is now making a niche for itself as an independent taxon.

9 *Prasophyllum "Otago"* of Ian St George's, comes from Sunshine Bay Queenstown and the Mavora Lakes, both during December 1981. Graeme Jane and Gael Donaghy saw it at the Mavora lakes as in J97:1,22 and reported it as *Pr. colensoi*. The Column indexed it in error, as *Pr. "A"*! Graham Dickson got the same taxon, at Falls Dam, St Bathans and either side of Lake Wanaka as in **Fig. 15**, 7 Dec 2014 from Motatapu River bank, here in open, sparse grass, low rainfall and low fertility. Graham's specimen from Lismore Park got reported in error, J133:29 as *Pr. "A purple"*. *Pr. "Otago"* emerges from the bud with lateral sepals united but they separate completely and spread in maturity. Note the, sub-acute floral bracts maturing to truncate. Hugh Wilson reported this taxon in Stewart Island [4] where he recorded, under *Pr. colensoi*, "Stem and flowers often stained dark purple-brown." What else could that be?

10 *Prasophyllum "Otira niptip"* by Pam Shearer (J133:31, Figs. 11 & 12), masqueraded uneasily as a form of *Pr. "Jacks"* in J133. Not so! Another pic from Pam, **Fig. 16**, from 17 Dec 2014, showed that the apparently nipped tips on the lateral sepals were a consistent trait as were the necked tips of the labella. Note also the sub-acute floral bracts maturing to truncate and slightly corrugated, somewhat as in *Pr. "Tohanga"*. **Fig. 17** shows the tips on the lateral sepals, plus the three-lobed labellum. Steve Reekie independently sent the Column two pix of this taxon from 980m up, on the Otira Valley Track, taken on 12 Jan 2015. Some labella have necked tips, the nipped lateral sepal tips, colour and sub-acute floral bracts are all there. So we have a new taxon, from near the Otira Carpark and river, north of Arthur's Pass, whilst the Column's *Pr. "Jacks"* is now dropped as an over-mature *Pr. colensoi*.

11 *Prasophyllum "patentifolium"*, Fig. 18 from Cable Bay by Kevin Matthews. Note the darker sepals than in J133, Figs. 14 & 16, both as described by HB Matthews [5]. *Pr. "patentifolium"* was originally sent by HBM's father, RH Matthews, to TF



14



15



16



17



18

Cheeseman, in Nov & Dec 1898. HBM clearly intended to describe it as a new species c. 1928 but the onset of blindness stalled this endeavour. It has column arms overlapping the anther cap and 20% separated lateral sepals which split completely in maturity, plus other traits as in the table of traits.

The ER5 Cable Bay site, up Stratford Drive, had nearly all been cleared for housing when the Column visited on 26 Oct 2014 at the time of the NZNOG's AGM and this orchid was nowhere to be seen. So the only presently reported site for this now critically endangered taxon, is at Hackney Matthews' place near Awanui. Not being formally described, this taxon was once lumped with the alpine Aussie species, *Pr. rogersii* Rupp (J75:8) would you believe? then ignored, risking extinction, just as in *Petalochilus saccatus* and *P. calyciformis*. NZ sorely needs to boost its conservation of non-commercial plants.

12 *Prasophyllum* “Ryall” Fig. 19, by Mike Lusk from Lake Ruapani, Waikaremoana, closely resembles Steve Reekie’s from Mt Ryall near Greymouth and Tricia Aspin’s from Sylvia Tops near Lewis Pass (J133:35). This is another alpine/sub-alpine taxon of this hardy genus. It opens with lateral sepals some 90% conjoined then separates completely in maturity. Its orange-brown colour is the eye-catcher but other tabled differences distinguish it from the rest.

13 *Prasophyllum* “Tohanga” Fig 20, by Kevin Matthews, shows the curious lumpy stigma and the callus close to the labellum tip. Check J133:23 Fig. 188 for its curiously morphing floral bract, from mucronate sheathing in early stages to truncate-corrugated and free standing in maturity. One only good specimen was seen by the AGM attendees on 25 Oct 2014 by a 4WD track off Tahanga Rd, SW of Lake Ohia. Orchids in the area were particularly poor that season after heavy spring rains. The Column blames the crush of photographers for his own poor photos and hopes that others did better

14 *Prasophyllum* “Tongariro” takes the cake for high altitude, up to 1,820m or more on the Central Plateau. **Fig. 21**, with *Gaultheria colensoi*, was from a mere 1,600m a.s.l. at Turoa Skifield on Ruapehu, 3 Jan 1997. Note the broken leaf, proving that it is terete. One could be forgiven for thinking these flowers are *Pr. colensoi* because they look similar but, apart from the altitude difference, *Pr. “Tongariro”* curls its labellum further to 165° and separates its lateral sepals completely whereas the *Pr. colensoi* labellum curls only to 100° and gets lateral sepals split, only some 50%. Specimens on Tongariro have some red coloration on ovary backs but are otherwise the same.

Also ran, Fig. 22 of Georgina’s, from Sylvester Track ER 46, was growing inter-



19



20



mingled with *Pr.* “Cobb Ridge” above the treeline, at 1,320m a.s.l. on 13 Jan 2008 and could be another distinct taxon. Its labellum hooks around 180°, the callus is flat and its widely bifid column arms appear to be hairy and to extend as far as the anther cap. More detailed info could clarify this colony.

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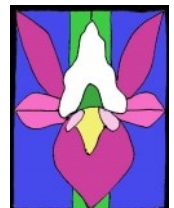
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See overleaf for table of traits ►



Leek orchid

Prasophyllum—table of traits

NAME Flowering time	Column arm anther	Floral bract Shape—age Colour	Altitude Range	Habitat pre- ferred	Lat. Sepal % Split	Lat. Sepal Labellum
Prasophyllum genus	Regular per taxon	Regular per taxon	Sea level to 1,820m	Ground or- chid	Maturity increases	Good indica- tor
<i>P.</i> “A green” Dec -Jan	1.0	Ovate to truncate . Pale green.	400m to 1,200m	Damp soil to subalpine	5%-90%	1.1 to 1.3
<i>P.</i> “Apiti”	±0.75	Sub-acute to truncate. White	350-890m	Damp soil	5%-50%	1.0
<i>P.</i> “A purple” January	±0.9	Sub-acute to ovate. Pale purple	720m to 1,300m	Damp scrub	5% weak joint	1.1
<i>P.</i> “Cobb Ridge” January	0.6	Obtuse to, free standing. Pale bronze	1200m to1320m	Subalpine alpine soil	10% to ?	0.9
<i>P. colensoi</i> Nov. -Jan.	0.9	Truncate pale green	Sea level 970m	Well lit scrub	25% to 50%	1.1
<i>P.</i> “debile” (“B”) January	0.9	Sub-acute green	730m to 970m	Wet ground	Free	1.75
<i>P. hectori</i> Jan. - Feb.	1.5	Sub-acute to truncate + apiculus	Sea level - 820m	Still water to, reedy streams	Free, spread	0.8
<i>P. hectori</i> “alba” December.	1.5	Sub-acute to truncate + apiculus	20m to ±100m	Reedy stream	Free, spread	0.8
<i>P.</i> “Otago” Dec. Jan	0.5	Acute to truncate. Purple/green	340m to 580m	Moraine to sparse grass	0% young, then split, 100% old	1.6
<i>P.</i> “Otira niptip” January	±0.75	Sub-acute to truncate free. Green-yellow	892m	Damp soil	10%	0.9
<i>P.</i> “patentifolium” November	1.2	Obtuse. Green	Lowland, far north	Swampy manuka	20% new 100% old.	1.0
<i>P.</i> “Ryall” Dec. – Feb.	±0.75	Sub-acute to truncate. Pale-maroon	930m to 1500m	Subalpine, alpine soil.	10% new, 100% old.	1.25
<i>P.</i> “Tohanga” October	±0.9	Acute to truncate ridged ,gr/br	Lowland, far north	Lowland scrub	5% in bud, Then split, 100% old	1.2
<i>P.</i> “Tongariro” Dec.-Feb	±0.75	Sub-acute to truncate, cream-green	1,020m- 1,820m	Alpine or subalpine soil	5% in bud, 100% old	1.2

Labellum Hook	Ovary	Environmental Region	Stem Colour	Colour Flower	Labellum callus	D Sepal Length shape
Tightens with age	6 ribs, to tepals	E.R.	Dubious indicator	Good trait but some variation	Long, green inside centre	Three ribbed
45° - 90°	Green	18,19,50, 51,54,66, 77	Always green	Cream/green + pale bronze mid-stripes, anther yellow,	Blunt brown to lime tip	5.5mm elliptic
±90°	All green	28/29, 32/34	Green to purple top	Labellum red, tepals red+green edges	Brown, acute, thin, tawny tip	3.9mm acute
100-135°	Green ± red ribs on flat top.	18,53	Purple by flowers	Purple/brown lip + tepals cream edged. green callus	Bulbous tawny tip	8.2mm elliptic
±53°	All green	46	All green	Green + bronze tips to petals and labellum	Inflated beyond labellum bend	Acute
90° - 100°	Green to tawny	18,28,29, 53,66,67	Green only	Cream sepals, bronze on petals + anther	Rounded tip near lip tip	5mm, acute to elliptic
100-160°	Green with purple top	18,25,53, 54,67.	Green	Green to purple, variable, red anther	Tawny tip	4.4mm acuminate
±100°	Green; top red tinge	3, 4, 15, 18, 29, 30	Green ± reddish	Undulate labellum white, tepals purple, cream edged.	White edged, Short, white recessed tip.	10.0mm acuminate
±95°	Green; top yellow tinge	11, 80	Green	Lip white yellow + green backs, lat. seps. & lat. petals	Green, yellow edged, short.	Acuminate
80° 135°	Green± purple shoulders	66,67,73, 79	Dark purple	Purple with green edges; some albas at St Bathans	Tip bulbous	Acute
80°	All green	50, 53	Green	Lemon + tawny below to purple above centre stripes	Dark green with golden tip	Elliptic
110°	All green	5	Green	Green ± brown tips to sepal outers	Tip bulbous, warted, near labellum tip.	4mm, acute to acuminate
±135°	Red/ brown	21 48, 49,	Maroon top	Green or red/ brown outer, yellow inner	Green/tawny, round narrow	Acute
±90°	Green ±red tinged rib atop	4	Green	Yellow/green lat. sepal ends purple	Pale tip near labellum tip	3.9mm acute
90° - 165°	Green ±red prominent rib atop	18	Green or pale maroon	Tawny ± reddish mid tepals	Thin, tawny tip, rounded to acute.	Acute

Notes &c

Mark Moorhouse emailed, “Kevin Grant sent me down a hardcopy photo of a *Chiloglottis cornuta* in rather pretty shades taken in December. A delicate pinkish mauve dorsal and contrasting maroon labellum, other sepals and petals in white/translucent with perhaps a hint of pink about their bases. (Fig.1)

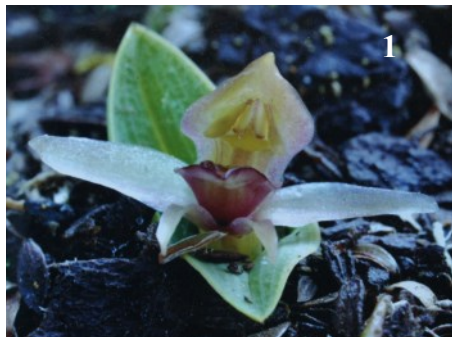
“It reminded me of a colony I photographed years back at Big River, Reefton where the intensity of reds was even stronger. Sorry quality of shot not brilliant as its a copy of a copy of a print. (Fig.2) A quick sortie through my *Chiloglottis* shots found another plant taken on the Rainbow skifield road 2012, similar to Kevin's shot but a little less intense in colour. (Fig.3)

Something that ties them all together is the leaf, which has a distinctly white edge.

“Perhaps it's something in the soil. Geologically the Rainbow & St Arnaud are similar greywacke based but the Reefton rock is pre-Cambrian & quite different. Soil though matches... yellow brown earths & podzols. (And gold ore at Big River! “Should I advise Kevin to start digging?)

“Do other members have photos of *C. cornuta* in this shade, or is it a uniquely Nelson phenomenon?”

eheryl Dawson responded with a photograph from Tunopo track in Western Ruahine of a plant with less intense pink-maroon colouring and a white edge to the leaf (Fig.4).



Cheryl Dawson took these photographs “at the early part of the Kiatuna track starting at the top end”—a deeply coloured and a “ghost” *Pterostylis irsoniana*, lacking anthocyanin.*



* Anthocyanins (from Greek: ἀνθος (anthos) = flower + κυανός (kyanos) = blue) are water-soluble vacuolar pigments that may appear red, purple, or blue depending on the pH. They belong to a parent class of molecules called flavonoids synthesized via the phenylpropanoid pathway. Anthocyanins occur in all tissues of higher plants, including leaves, stems, roots, flowers, and fruits. Anthoxanthins are clear, white to yellow counterparts of anthocyanins.

Bright reds and purples are adaptive for attracting pollinators to flowers. The colourful skins of fruit attract the animals that eat them and disperse the seeds. Anthocyanins have been shown to act as a "sunscreen", protecting leaf cells from high light damage by absorbing blue-green and ultraviolet light—for instance in red juvenile leaves, autumn leaves, and evergreen leaves that turn red during the winter. The red of leaves may camouflage leaves from herbivores blind to red wavelengths, or signal unpalatability, since anthocyanin synthesis often coincides with synthesis of unpalatable phenols.

Ristina J. Macdonald, Zoë J. Lennon, Lauretta L. Bensemann, John Clemens and Dave Kelly (email: dave.kelly@canterbury.ac.nz) authored “**Variable pollinator dependence of three *Gastrodia* species (Orchidaceae) in modified Canterbury landscapes**” published online in the *New Zealand Journal of Ecology* (2015) 39 (2)...

Abstract: Pollination is an ecosystem service affected by anthropogenic activity, often resulting in reduced fruit set and increased extinction risk. Orchids worldwide have a wide range of pollination systems, but many New Zealand orchids are self-pollinating. We studied the pollination system of three saprophytic native orchids from the genus *Gastrodia* in modified landscapes in Canterbury, New Zealand: *G. cunninghamii*, *G. minor*, and an undescribed taxon *G.* “long column”. The species showed two distinct

pollination systems. *Gastrodia cunninghamii* and *G. minor* were autonomous selfing species. In contrast, *G. "long column"* had almost no fruit set when pollinators were excluded, and was visited by the endemic New Zealand bee *Lasioglossum sordidum*, which acted as a pollen vector in order to produce fruit. Visitation rate by *L. sordidum* varied among four sites around Christchurch, and natural fruit set in *G. "long column"* ranged from 76% where *L. sordidum* were abundant to 10% where bees were not observed. Oddly, some of the highest natural fruit-set rates were at a highly modified urban site. Therefore, while some *Gastrodia* species are dependent on native pollinators, they can still persist in highly modified landscapes.

Obituary: George Fuller

David McConachie writes, It is with great sorrow that I have to inform the group about the passing of George Fuller on 19 June.

George was a foundation member of NZNOG and was a member until his death. He was a horticulturist by training, and researcher and photographer extraordinaire by inclination.

At Pukekura Park, George had the opportunity to observe colonies of various *Corybas* species over many years and was able to photograph pollinators of several of them. These observations made it into the *Journal* and into the magazine *Orchids in New Zealand*.

Orchids were a large part of George's life and his interest covered the whole group, both native and exotic. He was very knowledgeable and generous with his knowledge. This led to the respect that George was held in both here in New Zealand and internationally.

I would like to take the opportunity to pass the Group's condolences to his five children, his grandchildren and great-grandchildren. He will be missed by us all.

Kevin Matthews took these photographs of *Genoplesium (Corunastylis) pumilum* on 14 April: "Four flowering plants seen growing amongst *Schoenus brevifolius* on a sand hummock in Kaimaumu Wetland. Overall height up to 200mm, flowers 50mm height, still opening in various stages. Lower flowers already showing signs of wither. It would appear that the scape extends in the cover and support of vegetation prior to flowering. In previous finds of *C. pumila* on open ground I've generally found flowering is closer to ground and later extends the scape. Attached is a photo of a juvenile leaf of *C. pumila* which is 5 grains of sand wide and 100mm in height. It would appear that *C. pumila* has a juvenile stage growing a tuber on prior to flowering in a later season. Further study is needed to determine if this is only one season".



Mark A. Clements, Christopher G. Howard and Joseph T. Miller of the Centre for Australian National Biodiversity Research, authored “*Caladenia revisited: results of molecular phylogenetic analyses of caladeniinae plastid and nuclear loci*” published by the *American Journal of Botany* 2015; 102(4): 581–597.

Premise of the study: The classification of the primarily Australasian group of orchids *Caladenia* and allied genera (Caladeniinae: Diurideae) containing 71 federally listed threatened species has proven controversial. Analyzing these species using genetic material will provide a sound basis for their classification and the capacity to ensure accurate conservation measures can be implemented.

Methods: We present a multigene analysis based on nuclear ribosomal ITS and five plastid regions from 54 species representing all major taxonomic groups within Caladeniinae.

Key results: In our combined analysis, apart from *Leptoceras* and *Praecoxanthus*, all *Caladenia* ingroup taxa form a strongly supported clade that is also supported by morphological synapomorphies (parallel leaf venation; leaf solitary, lanceolate, covered with glandular or eglandular trichomes). Characters and character states historically used to delimit taxa were revealed to be homoplasious and therefore do not support recognition of *Arachnorchis*, *Cyanicula*, *Drakonorchis*, *Ericksonella*, *Jonesiopsis*, *Petalochilus*, *Pheladenia* and *Stegostyla* as previously proposed. *Glossodia* and *Elythranthera* are shown to be a specialist group embedded within *Caladenia*.

Conclusions: Based on our results, none of the current systems of classification of the subtribe is satisfactory. Instead our results point to Lindley’s 1840 interpretation of *Caladenia*, but including *Glossodia* and *Elythranthera*, as being the most accurate reflection of the group. Accordingly, a renewed reclassification of Caladeniinae is proposed as well as several new combinations.

Proposed classification of Caladeniinae — *Adenochilus* (2 spp.), *Eriochilus* (c. 9 spp.), *Leptoceras* (1 sp.), *Praecoxanthus* (1 sp.), *Caladenia* (ca 301 spp).

Caladenia subgen. *Pheladenia* (1 spp.)

Caladenia subgen. *Glossodia*

sect. *Glossodia* (2 spp.)

sect. *Elythranthera* (2 spp.)

Caladenia subgen. *Pentisea* (*Cyanicula*, pro parte) (7 spp.)

Caladenia subgen. *Trilobatae* (*Cyanicula*, pro parte) (2 spp.)

Caladenia subgen. *Caladenia*

sect. *Ericksonella* (1 sp.)

sect. *Caladenia*

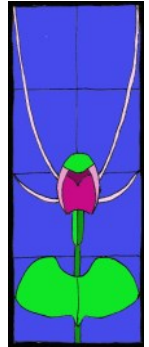
subsect. *Caladenia*

ser. *Caladenia*

ser. *Calonema*

ser. *Phlebochila*

subsect. *Petalochila*



Spider orchid

Murray Dawson emailed,

1000 orchid observations by 100 contributors on NatureWatch NZ

The New Zealand native orchids project on NatureWatch NZ (<http://naturewatch.org.nz/projects/new-zealand-native-orchids>) reached a milestone in June 2015.

We achieved more than 1000 observations of our native orchids, from 100 contributors, for nearly 100 species. Thanks to all for contributing to this significant milestone.

If you haven’t already done so, I would encourage members of the NZNOG to add their observations to this valuable project. It’s easy to sign up and share your observations with the wide community of orchid enthusiasts.

Mark Moorhouse emailed NZNOG@Yahoogroups,

After visiting the 1000 Orquideas site (www.milorquideasmarginais.com) where epiphytic orchids in some areas of Brazil are being reintroduced into their natural habitat after being harvested to extinction, it struck me that ***re-introducing epiphytes to an area is considerably less complicated than trying to reintroduce terrestrials.***

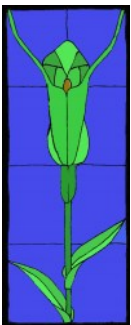
Bulbophyllum tuberculatum seems to me to be a logical one to start with. It is naturally sparse, and in our district incredibly rare. (One dead host tree is all I know of which is now sloughing its bark). I would like to see it survive here, and there are several suitable sites.

It still would require some people to document things like preferred host plants, preferred microclimate, position of plants in nature. After which some keen enthusiasts would be required to locate suitable new sites, obtain permissions if required, and someone with knowledge of either meristem culture, or seed growing techniques in flasks to propagate some stock to reintroduce into the wild and some to monitor reintroductions for a period.

Can we as a group do something about stabilizing some populations within its natural range by starting a reintroduction program? We could begin a data base right here on this site, recording host trees, approx elevation, terrain and climate.

Our Nelson tree is situated on a river delta. It's one of the smaller scrubbiest podocarps. Old man kanuka also is a host. Trees in the area have many epiphytic plants, kiekie, Pyrrosia, Earina, Dendrobium, filmy ferns, Drymoanthus and various mosses & lichens. Rainfall is mid to high, light frosts occasionally. For microclimate plants favour the middle spreading branches where both shade and sun alternate a number of times during the day.

Initially the project would require collection and assimilation of such data as above, location of any sloughed off plants doomed to die on the forest floor for meristem work.



Tutukiwi

Seed pods that have viable seed. We do have the expertise within our group I believe. If approved, such a project may be able to apply for funding from the Lottery board with a high probability of success.

What do you think? Have we some volunteer “observers” who are prepared to jot details into a note book and contribute to a data base regarding known plants?

Comments & offers please to Mark at memopob@yahoo.com.au

Australia notes

David McConachie

Orchids often surprise

By Alan Stephenson, republished from ANOS Illawarra *Bulletin* April 2015.

I have seen numerous var *alba* forms of terrestrial orchids and from regular annual visits to those sites I came to the conclusion that this was a colour form which did not replicate itself each year; however with this year came the surprise.

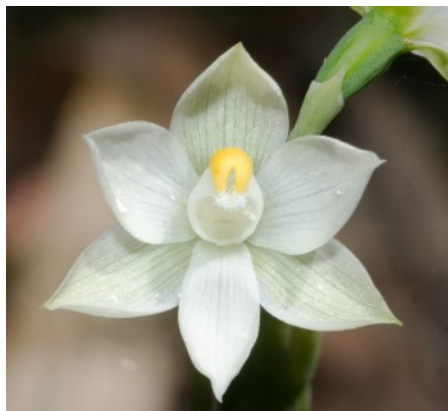
The var *alba* forms I have seen over the years include *Thelymitra ixioides*, *Thel. carnea*, *Oligochaetochilus rufus*, *Glossodia major*, *Gloss. minor* and also xanthic forms of *Cryptostylis subulata* and *Genoplesium baueri*. I concede the fact *G. major* and *G. minor* are prolific in this area and while var *alba* forms are seen each year, they do not occur in the same place each year.



alba Thelymitra ixioides



xanthic form of *Cryptostylis subulata*



alba Thelymitra pauciflora

In 2013 I located two plants of a var *alba* form of what I will term *Speculantha parviflora*, although work is underway to determine the precise species. Both plants were side by side and quite small with several flowers crowded together at the top of the raceme. In 2014 these plants failed to show and I feel the poor seasonal conditions were the reason. With a better end to 2014 and good rain also in January, more favourable conditions were provided this year and much to my surprise in the exact location of the 2013 plants, two more plants emerged in 2015.



Glossodia minor



alba forms: *Speculantha parviflora*

Both plants again were small, with stems of 60mm and racemes of 15mm, again consisting of four crowded flowers. Checks will be made to determine whether, unlike 2013 the raceme will extend as it does in normal plants and allow the photographer to see inside the flower so hopefully see the position of the labellum.

The *O. rufus* var *alba* was first seen in 2005 and has not flowered as a var *alba* form since that date, neither has the var *alba* form of *T. carnea*, first seen in 2011 or *T. ixioides* var *alba* from an earlier time.



Glossodia major

A very recent outing with sisters Dorothy and Elspeth concluded at Vincentia and apart from a good showing of *Corunastylis stephensonii* we visited a private residence and were shown two var *alba* plants of *Spiranthes australis*. The one other plant of this form I have seen was on Jamberoo Mt Rd in the days of slide photography. The two plants at Vincentia were at the end of their flowering and located in a drain almost secreted among very dense grass, however their presence was obvious.

Continuing the list of surprises, in 1999 I located a single plant of *Cryptostylis hunteriana* near Nowra at an altitude of 650mts and was promptly told by an officer of the NSW NPWS that this species did not grow at that altitude,

however when he paid a visit to check the plant he accepted the facts. Also regarding *C. hunteriana*, the plant seen in 2012 with a double labellum has also failed to reproduce that deformation as do most orchid species because deformities are usually seen as a one-off anomaly. This includes a single plant of *Caleana major* with a green body seen a decade ago at the entrance to the Jervis Bay area. This was seen during the course of a paid job and as it now costs \$10 to access the area I decided not to pay that fee each year just to check, as the constant fuel cost is enough of a burden.

As some members would be aware that apart from what can be termed normal orchid photography I look for different aspects of orchids and the habitat in which they are found and of course this includes all manner of flora and fauna.

It is not unusual to encounter a terrestrial orchid entangled by a small vine and on one site within three metres of each other I recently saw plants of *Corunastylis woollsii* and *Genoplesium baueri* entangled or supported by other plants. This feature is okay on these species as neither has a labellum which acts as a trigger, therefore a little movement to enable photography will not spring the labellum and destroy the photo. I wish all plants were this accommodating as even a heavy breath can ruin a photo, particularly with many in the *Pterostylis* group. It's not a lot of fun to drive an hour or more to photograph a particular species which does not grow in the Shoalhaven to have the labellum retract,



Corunastylis woollsii with added support

particularly as it may be the only available plant and I am not sufficiently patient to wait 30 – 60 minutes for the labellum to reposition itself.



alba Spiranthes australis



green form of *Caleana major*

As previously mentioned I have a liking for deformed plants but this will be the focus of another article, hopefully next month.

The NZ orchids

the editor's 2015 list revised
after recent name changes

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Bu

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

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

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).

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

Petalochilus calyciformis R.S.Rogers. J. Bot. 62: 66 (1924) and *Petalochilus saccatus* R.S.Rogers. J. Bot. 62: 66, t.571, 4–7 (1924) are treated as aberrant floral (peloric) mutations, probably of this species.

A similar taxon has red hairs and later flowering. There is also a larger late flowering plant with (usually) 2–3 fls.

- Caladenia fuscata** (Rchb.f.) M.A.Clem. & D.L.Jones, Austral. Orchid Res. 1: 25 (1989).
Petalochilus fuscatus (Rchb.f.) D.L.Jones & M.A.Clem., Orchadian 13: 410 (2001).
Caladenia carnea var. *fuscata* Rchb.f., Beitr. Syst. Pflanzenk.: 63 (1871).
 A small pink flowered entity, similar to the variable Australian species (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).
- Caladenia lyallii** Hook.f. Fl. Nov.-Zel. 1: 247 (1853).
Stegostyla lyallii (Hook.f.) D.L.Jones & M.A.Clem. Orchadian 13(9): 413 (2001).
 There seem to be a number of taxa currently included in the *S. lyallii* group, including a small form from Nelson Lakes, tagnamed C. "Bacon creek". Plants matching the Australian *Caladenia alpina* appear little different from *C. lyallii*.
- 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).
Petalochilus minor (Hook.f.) D.L.Jones & M.A.Clem. Orchadian 13(9): 410 (2001).
 The identity of *Caladenia minor* is not clear, but it may be a taxon within *C. chlorostyla*.
- Caladenia nothofageti** D.L.Jones, Molloy & M.A.Clem. Orchadian 12(5): 226, f.1 (1997).
Petalochilus nothofageti (D.L.Jones, Molloy & M.A.Clem.) Jones & M.A.Clem. Orchadian 13(9): 410 (2001).
- Caladenia pusilla** W.M.Curtis. Stud. Fl. Tasman., 4A: 133 (1980).
 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.
- Caladenia variegata** Colenso. Trans. & Proc. New Zealand Inst. 17: 248 (1885).
Petalochilus variegatus (Colenso) D.L.Jones & M.A.Clem. Orchadian 13(9): 410 (2001).
 Some flowers have a clear two rows of calli on the labellum, others have extra calli scattered to either side of the two rows.
- 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).
- Chiloglottis R.Br. Prodr. Fl. Nov. Holland.: 323 (1810).**
- Chiloglottis cornuta** Hook.f. Bot. Antarct. Voy., Vol. 1, Fl. Antarct.: 69 (1844).
Caladenia cornuta (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
Simpliglottis cornuta (Hook.f.) Szlach. Polish Bot. J. 46(1): 13 (2001).
 The NZ form of *Chiloglottis cornuta* may differ from the Australian; the colour and pattern of labellar calli vary.
- Chiloglottis formicifera** Fitzg. Austral. Orchids 1(3): (1877).
Myrmecchila formicifera (Fitzg.) D.L.Jones & M.A.Clem. Orchadian 15(1): 37 (2005).
 Only one record of this vagrant 100 years ago.
- Chiloglottis trapeziformis** Fitzg. Austral. Orchids 1(3): (1877).
Myrmecchila trapeziformis (Fitzg.) D.L.Jones & M.A.Clem. Orchadian 15(1): 37 (2005).
- Chiloglottis valida** D.L.Jones. Austral. Orchid Res. 2: 43–44, t. 54, plate p.92 (1991).
Simpliglottis valida (D.L.Jones) Szlach. Polish Bot. J. 46(1): 14 (2001).
Chiloglottis gunnii as meant by Molloy. Native orchids of NZ: 9 (1983), is not that of Lindl. (1840).
- Corybas Salisb. Parad. Lond. t.83 (1805).**
- Corybas acuminatus** M.A.Clem. & Hatch. New Zealand J. Bot. 23: 491, f.2 (1985).
Nematoceras acuminatum (M.A.Clem. & Hatch) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
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).
- Corybas carsei** (Cheeseman) Hatch. Trans. & Proc. Roy. Soc. New Zealand 75: 367 (1945).
Corysanthes carsei Cheeseman. Trans. & Proc. New Zealand Inst. 44: 162 (1912).
Anzybas carsei (Cheeseman) D.L.Jones & M.A.Clem. Orchadian 13(10): 443 (2002).
Corybas unguiculatus as meant by L.B.Moore. Fl. New Zealand Vol. 2: 116 (1970) is not *Corysanthes unguiculatus* of R.Br. (1810).
- 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).

- Corybas cryptanthus** Hatch. Trans. Roy. Soc. New Zealand 83: 577 (1956).
 Molloybas cryptanthus (Hatch) D.L.Jones & M.A.Clem. Orchadian 13(10): 448 (2002).
 Corybas saprophyticus as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 79: 366, t.71 (1952), is not that of Schltr. (1923).
- Corybas "hypogaeus"**
 Corysanthes hypogaea Colenso. Trans. & Proc. New Zealand Inst. 16: 336 (1884).
 Nematoceras hypogaeum (Colenso) 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).
 Nematoceras iridescens (Irwin & Molloy) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
 Corysanthes iridescens (Irwin & Molloy) Szlach. Richardiana 3(2): 98 (2003).
- Corybas macranthus** (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
 Nematoceras macranthum Hook.f. Fl. Nov.-Zel. 1: 250 (1853).
 Corysanthes macrantha (Hook.f.) Hook.f. Handb. N. Zeal. Fl. 266 (1864).
 Corysanthes papillosa Colenso. Trans. & Proc. New Zealand Inst. 16: 337 (1884).
 Nematoceras papillosum (Colenso) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
 Though its status remains speculative, the form with a pale lower labellum, long leafstem and very short flowerstem has been identified by the epithet papillosa. There are several entities in the *C. macranthus* group. Probable hybrids with insect-pollinated members of the *C. trilobus* group have been reported.
- Corybas oblongus** (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
 Singulyrbyas 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).
 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 (Nelson lakes and subantarctic islands) is more clearly separate.
- Corybas orbiculatus** (Colenso) L.B.Moore. Fl. New Zealand Vol. 2: 118 (1970).
 Corysanthes orbiculata Colenso. Trans. & Proc. New Zealand Inst. 23: 389 (1891).
 Nematoceras orbiculatum (Colenso) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
 Corybas orbiculatus as meant by L.B.Moore. Fl. New Zealand Vol. 2: 118 (1970) and others (1970–1996), is not *Corysanthes orbiculata* of Colenso (1891) (see Molloy & Irwin. New Zealand J. Bot. 34 (1): 5 [1996]).
- Corybas papa** Molloy & Irwin. New Zealand J. Bot. 34(1): 5, f.1 (1996).
 Nematoceras papa (Molloy & Irwin) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).
 Corysanthes papa (Molloy & Irwin) Szlach. Richardiana 3(2): 98 (2003).
- Corybas rivularis** (A.Cunn.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
 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).
 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.
 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).
 The *Corybas rivularis* complex includes taxa with the tagnames *C. "Kaimai"*, *C. "rest area"*, *C. "Kaitarakihī"*, *C. "whiskers"* (aka *C. "viridis"*), *C. "Mangahua"*, *C. "sphagnum"*, *C. "Pollok"* and *C. "Motutangi"*.
- Corybas rotundifolius** (Hook.f.) Rchb.f. Beitr. Syst. Pflanzenk. 67 (1871).
 Nematoceras rotundifolia Hook.f. Fl. Nov.-Zel. 1: 251 (1853).
 Corysanthes rotundifolia (Hook.f.) Hook.f. Handb. N. Zeal. Fl. 266 (1864).
 Corysanthes matthewsii Cheeseman. Trans. & Proc. New Zealand Inst. 31: 351 (1899).
 Corybas matthewsii (Cheeseman) Schltr. Repert. Spec. Nov. Regni Veg. 19: 23 (1923).
 Anzybas rotundifolius (Cheeseman) D.L.Jones & M.A.Clem. Orchadian 13(10): 443 (2002).
 Corybas unguiculatus as meant by Hatch. Trans. & Proc. Roy. Soc. New Zealand 75: 367 (1945), is not *Corysanthes unguiculatus* of R.Br. (1810).
- Corybas sulcatus** (M.A.Clem. & D.L.Jones) G.N.Backh. Vict. Naturalist 127: 56 (2010).
 Nematoceras sulcatum M.A.Clem. & D.L.Jones. Telopea 11 (4): 405–411 (2007).
 A form on the Chathams is similar to *C. sulcatus* from Macquarie Is (see Molloy BPJ. Orchids of the Chatham Islands. DOC [2002]).

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

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

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

About 25 taxa in the *Corybas trilobus* group are of speculative taxonomic status; they include the late-flowering *C. trilobus* sens. strict., the tiny May to July flowering forms with the tagname *C. "pygmy"*; *C. "Rimutaka"* (NZNOG Journal 58: 8–9 [1996]), *C. "round leaf"*, *C. "craigeielea"*, *C. "darkie"*, *C. "trisept"*, *C. "trihwhite"*, and many others. The *C. trilobus* 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]).

Corybas "Waiouru"

Corybas macranthus (Hook.f.) Rchb.f. var. *longipetalum* Hatch. Trans. & Proc. Roy. Soc. New Zealand 76: 580, t.60(1) (1947).

Nematoceras longipetalum (Hatch) Molloy, D.L.Jones & M.A.Clem. Orchadian 13(10): 449 (2002).

Corybas longipetalum (Hatch) Hatch. NZNOG Journal 47: 6 (1993), is not that of Schltr. (1923).

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).

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).

Yoania australis Hatch. Trans. Roy. Soc. New Zealand, Bot. 2: 185 (1963).

Dendrobium Swartz. Nova Acta Regiae Soc. Sci. Upsal., ser. 2, 6: 82. (1799).

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

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

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

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

Drymoanthus Nicholls. Victorian Naturalist 59: 173 (1943)

Drymoanthus adversus (Hook.f.) Dockrill. Australasian Sarcanthinae: 32, t.3 (1967).

Sarcochilus adversus Hook.f. Fl. Nov.-Zel. 1: 241 (1853).

Sarcochilus 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": there are a number of late flowering *Gastrodia* with a long column: one is blackish.

Gastrodia sesamoides *Gastrodia sesamoides* as meant by Cheeseman. Man. New Zealand Fl. 697 (1906), may not be that of R.Br. (1810).

Gastrodia "city" appears to be a variant.

Genoplesium R.Br. Prodr. Fl. Nov. Holland.: 319 (1810).

Genoplesium nudum (Hook.f.) D.L.Jones & M.A.Clem. Lindleyana 4(3): 144 (1989).

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).

Corunastylis nuda (Hook.f.) D.L.Jones & M.A.Clem. Orchadian 13(10): 461 (2002).

Genoplesium pumilum (Hook.f.) D.L.Jones & M.A.Clem. Lindleyana 4(3): 144 (1989).

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

Corunastylis pumila (Hook.f.) D.L.Jones & M.A.Clem. Orchadian 13(10): 461 (2002).

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

Microtis arenaria Lindl. Gen. Sp. Orchid. Pl. t.306 (1840).

Microtis biloba Nicholls. Victoria Naturalist 66: 93, f.O–L (1949).

Microtis papillosa Colenso. Trans. & Proc. New Zealand Inst. 18: 269 (1886). The type has not been found but Colenso's notched labellum suggests *M. arenaria* (which in turn has been included in *M. unifolia* by others).

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 Schldl. 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 an autumn flowering form and may be distinct.

Microtis pulchella as meant by Lindl. Gen. Sp. Orchid. Pl. 395 (1840), is not that of R.Br. (1810).

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).

Paracaleana D.F. Blaxell. Contributions from the NSW National Herbarium 4: 275–283 (1972).

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

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).

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

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, including Irwin's P. "A" and P. "B" (NZNOG Journal 79: 9–10 [2001]). See "The Column" in this issue.

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 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 alobula** (Hatch) L.B.Moore. *New Zealand J. Bot.* 6: 486, f.3 (1969).
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).
Diplodium alobulum (Hatch) D.L.Jones, Molloy & M.A.Clem. *Austral. Orchid Res.* 4: 70 (2002).
- Pterostylis alveata** Garnet. *Victoria Naturalist* 59: 91 (1939).
Diplodium alveatum (Garnet) D.L.Jones & M.A.Clem. *Austral. Orchid Res.* 4: 70 (2002).
- Pterostylis brumalis** L.B.Moore. *New Zealand J. Bot.* 6: 485, f.3 (1969).
Pterostylis trullifolia Hook.f. var. rubella Hatch. *Trans. & Proc. Roy. Soc. New Zealand* 77: 244 (1949).
Diplodium brumale (L.B.Moore) D.L.Jones, Molloy & M.A.Clem. *Austral. Orchid Res.* 4: 70 (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).
Diplodium trullifolium (Hook.f.) D.L.Jones, Molloy & M.A.Clem. *Austral. Orchid Res.* 4: 72 (2002).
- Pterostylis areolata** Petrie. *Trans. & Proc. New Zealand Inst.* 50: 210 (1918).
- Pterostylis auriculata** Colenso. *Trans. & Proc. New Zealand Inst.* 22: 489 (1890).
- Pterostylis australis** Hook.f. *Fl. Nov.-Zel.* 1: 248 (1853).
- Pterostylis banksii** A.Cunn. *Companion Bot. Mag.* 2: 376 (1837).
- 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).
Structurally similar to *P. banksii* but consistently smaller and with a consistently notched labellum tip.
- Pterostylis foliata** Hook.f. *Fl. Nov.-Zel.* 1: 249 (1853).
Pterostylis vereanae 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 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 montana** group: includes as many as 14 undescribed taxa.
- 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 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 puberula** Hook.f. *Fl. Nov.-Zel.* 1: 249 (1853).
Linguella puberula (Hook.f.) D.L.Jones, M.A.Clem. & Molloy. *Austral. Orchid Res.* 4: 75 (2002).
Pterostylis nana as meant by Hatch. *Trans. & Proc. Roy. Soc. New Zealand* 77: 237 (1949), is not that of R.Br. (1810).
- 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 tanypoda** D.L.Jones, Molloy & M.A.Clem. *Orchadian* 12(6): 273 (1997).
Hymenochilus tanypodus (D.L.Jones, Molloy & M.A.Clem.) D.L.Jones, M.A.Clem. & Molloy. *Austral. Orchid Res.* 4: 74 (2002).
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).
- Pterostylis tasmanica** D.L.Jones. *Muelleria* 8(2): 177 (1994).
Plumatictilis tasmanicum (D.L.Jones) Szlach. *Polish Bot. J.* 46(1): 23 (2001).
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.
- Pterostylis tristis** Colenso. *Trans. & Proc. New Zealand Inst.* 18: 271 (1886).
Hymenochilus tristis (Colenso) D.L.Jones, M.A.Clem. & Molloy. *Austral. Orchid Res.* 4: 74 (2002).
Pterostylis mutica as meant by Cheeseman. *Trans. & Proc. New Zealand Inst.* 15: 300 (1883), is not that of R.Br. (1810).
- Pterostylis venosa** Colenso. *Trans. & Proc. New Zealand Inst.* 28: 610 (1896).
Pterostylis trifolia Colenso. *Trans. & Proc. New Zealand Inst.* 31: 281 (1899).
Pterostylis confertifolia Allan. *Trans. & Proc. New Zealand Inst.* 56: 32 (1926).
Hymenochilus venosa (Colenso) D.L.Jones, M.A.Clem. & Molloy. *Austral. Orchid Res.* 4: 74 (2002).

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).
Spiranthes alticola D.Jones has been applied to Kew specimens from New Zealand (wrongly we think).
 The names *Neottia sinensis* and *Spiranthes sinensis* var. *australis* (R.Br.) H.Hara & Kitam. *Acta Phytotox. Geobot.* 36 (1–3): 93 (1985) have been used for *Spiranthes australis* in Australia.
- Spiranthes “Motutangi”**: tagname for endangered Far North taxon.

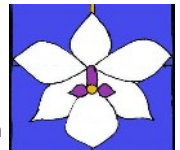
Taeniophyllum Blume, Bijdr. Fl. Ned. Ind.: 355 (1825)

- Taeniophyllum norfolkianum** D.L.Jones, B.Gray & M.A.Clem. in Jones et al., 15: 157 (2006)

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 brevifolia Jeanes. *Muelleria* 19: 19–79 (2004).
Thelymitra carnea R.Br. *Prodr. Fl. Nov. Holland.:* 314 (1810).
Thelymitra imberbis Hook.f. *Fl. Nov.-Zel.* 1: 244 (1853). A colour form only.
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) may be a synonym.
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).
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 ixioides** 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).
 This may not be the same as the Australian plant.
- 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 longifolia** group: 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). Spotted and unspotted forms grow together.
- 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 other forms in this group.
- 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, appears to 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).
- 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. Orchadian 12(6): 282 (1997)
- Waireia stenopetala** (Hook.f.) D.L.Jones, M.A.Clem. & Molloy. Orchadian 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

Have a look at www.milorquideasmarginais.com for an interesting orchid conservation project, then see Mark Moorhouse’s project on page 24.

Editor's rant Ian St George

Rare, sparse and naturally uncommon names

There is an inbuilt paradox in orchid “common names” that are so uncommon nobody ever says them so nobody ever hears them.

Let me state at the start: I am not talking about tagnames for what appear to be new entities: I believe such tagging is essential in the rounds of discussion that take place before an entity is either formally named as a new species or generally accepted as either not new or a freak. Where would we be without *Corybas* “short tepals”, *Corybas* “Eastern hills” or *Thelymitra* “roughleaf”? Eric Scanlen’s “*Prasophylla galore*” in this issue asks valid questions about what appears to be a range of taxa—and his questions cannot be answered without reference to a tagname.

What I am talking about here are “common” names like “pink fingers orchid”, “creeping forest orchid” and “Banks’s greenhood”.

If we are using the word “common” in the accepted sense—ie everyday, customary, familiar, ordinary, popular, of long usage—then these plain English names are not common. (On the other hand “common” may imply vulgar, cheap, trashy, the inventions of idle minds, in which case perhaps they are common).

We have all learned the scientific names with relative ease. I therefore find the argument that the scientific names are so complicated that they deter other people from showing interest—with the corollary that common names will attract the attention of those less articulate or less intelligent than ourselves—frankly condescending. If *we* don’t use common names, why would *they*?

I have heard people say (with admirable cynicism) that at least common names are stable in a world of formal taxonomic chaos. Yes, but they are not *unique*: “spider orchid” and “lady’s slipper” mean quite different things in different countries, and many orchids have more than one common name.

Old-world orchids conspicuous enough for common folk to notice them became known as “dog stones”, “monkey orchid”, “Lady’s slipper” etc and likewise a few of the more prominent NZ orchids were named in te reo—tutukiwi, raupeka, piripiri (also used for bidibids), maikaika (used for several orchids and a lily) or winika—before the Linnaean binomial system reached these shores. But wasn’t the Linnaean system designed to give a bit more precision? Why then invent *new* common names?

A number of our *genera* do have perfectly respectable plain names—greenhoods, spider orchids, sun orchids, beardies, flying duck orchids for instance. Sometimes I even hear of gnat orchids, potato orchids, leek orchids and bird orchids, and after a minute or two I remember what these refer to. The names of single species genera like *Waireia* are now the stuff of occasional (but not common) usage. A very few species have genuinely common names—the Easter orchid, the odd-leaved orchid, for instance. You would accept and expect such common and (for one reason or another) stand-out species to have been observed and named by common folk.

I think it’s decent to recognise the discoverer, especially when the botanist who first described the orchid did so—for example Col-

enso referred to “Hamilton’s thelymitra” (*T. concinna*) and “Suter’s orchid” (*Corybas orbiculatus*) and I note, with pleasure, the modern use of “Irwin’s greenhood”—but while these are apt acknowledgements they are not used commonly so are not common names. Harry Carse was long dead by the time *Corybas* was reinstated, so we can’t use “Carse’s corybas”: should we revert therefore to “Carse’s corysanthes”? I don’t think so. (Perhaps that’s why some paper waster has dubbed it “the banded helmet orchid”).

“Banks’s greenhood” and “Oliver’s greenhood” were not discovered by those worthy gentlemen, but named in Latin in their honour. Why then translate into English and call it a common name? “Hatch’s thelymitra” is quite inappropriate—*T. hatchii* was one Dan Hatch got completely wrong. Taken to its logical conclusion we would translate other binomials too, making *Waireia stenopetala* not “the beak orchid” nor “the horizontal orchid” but “the narrow-petal water chaser”.

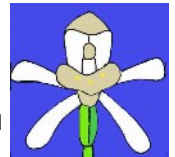
Pterostylis porrecta wins the Tin Labellum Award though; it was unrecognised as a separate entity until the eagle-eyed David McConachie found it at Elsthorpe in about 1987; he sent specimens to Brian Molloy in 1991 and then Jones, Molloy and Clements went on to describe it in 1997. By the very fact of its newness such a recently recognised rarity cannot have a common name. One might applaud “McConachie’s greenhood”: but who on earth inflicted on us “the shrimp flowered greenhood”? have you ever called it that? have you ever heard anybody call it that? have you ever even mused, privately to yourself, in a moment of wild hallucinogen-induced phantasy or bizarre whimsy, or in that hypnogogic state before sleep when we come closest to madness, “Gosh, these flowers look like shrimps”? You might as well say they look like the Red Queen in Alice in Wonderland. (Come to think of it, *Corybas ruberregina* has a certain busty charisma but I suspect we wouldn’t call it “the red queen orchid”—though the name has a nice ring).

But “shrimp flowered greenhood” a common name? give me a break.

I have never heard anyone use most of the common names ascribed to NZ wild orchids (and I have been privy to a lot of orchid talk). That’s because nobody does use them. Nobody talks about “pink fingers” or “slender forest” orchids or “mountain greenhood” (not, inexplicably, *Pterostylis montana*, but *P. alveata*).

These words waste space on paper. That would be all right (paper is mostly *Pinus radiata* whose price needs to rise for the sake of the NZ economy) but they are fundamentally fraudulent if they perpetuate the myth that common names are used commonly by common folk.

We should resist the temptation to publish common names except when they have been used popularly—ie, truly familiar names for well known orchids.



The odd-leaved orchid

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Contents

No. 137

August 2015
ISSN 1177-4401

Cover

Drymoanthus adversus: Ross Donald 9 November 2011, Wairakau Track, Totara North, Whangaroa Harbour.

The type locality Ian St George

3 *Sarcochilus breviscapa* from the Seventy Mile Bush.

The column Eric Scanlen

11 *Prasophylla galore*

Notes, letters, questions, comments

2 The new *Pocket Guide* for sale.

9 Iwitahi Heritage Protection Area Report

22 Mark Moorhouse and Cheryl Dawson on colourful *Chiloglottis cornuta*.

23 Cheryl Dawson's pale *Pterostylis irsoniana*. Pollination of *Gastrodia*.

24 Kevin Matthews observes a juvenile leaf on *Genoplesium pumilum*.
Obit. George Fuller.

25 Mark Clements and others revisit *Caladenia* names.
Murray Dawson: 1000 orchid observations.

26 Mark Moorhouse on re-establishing *Bulbophyllum tuberculatum* in the wild.

35 *milorquideasmarginais*. **39** QR code for website.

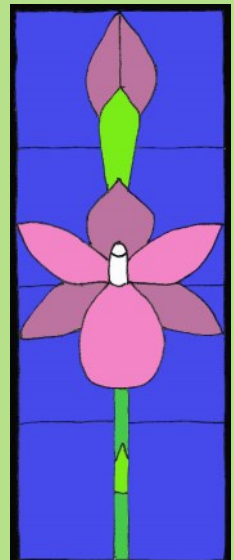
Australia notes David McConachie

29 Orchids often surprise. Alan Stephenson.

30 The editor's 2015 list of names, revised

Editorial rant

38 Rare, sparse and naturally uncommon names.



Sun orchid