



The New Zealand Native
orchidjournal

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Pterostylis alobula, twin flowers; photo Brian Tyler.

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In some corner of a foreign field.

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Editor: Ian St George, 22 Orchard St, Wadestown, Wellington, phone 04 4994227, fax 3894178, istge@nzocgp.org.nz.

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

Treasurer: Judith Tyler; **Books and publications agent:** Brian Tyler—4 Byrd St, Levin, email bandj.tyler@xtra.co.nz; subscription NZ\$40 + post overseas.

ANOS liaison: David McConachie, 42 Titiro Moana Rd, Korokoro, LOWER HUTT, email pleione@ihug.co.nz.

Field trips: Eric Scanlen, 4 Sunny Park Ave, Papakura, Ph. 09 2984868, email eascanlen@xtra.co.nz.

Editorial Board: Mark Clements, David Jones, Brian Molloy, Eric Scanlen.

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“Common” names

I have grizzled about the use of common or colloquial names for orchids elsewhere, taking the position that most of our so-called common names are uncommonly used, that you can't have a common name for a rare orchid, and that the same name is used for many different orchids in different countries. I have heard no arguments yet that would change my mind, though the current instability of scientific names has tempted me. I suppose “tutukiwi” for *Pterostylis banksii* is specific enough, and along with “Easter orchid” for *Earina autumnalis* is common enough to be acceptable, but the other so-called common names aren't, and at best should be used only for the genus, not the species.

Examples might be *Acianthus* heart-leaf orchid; *Bulbophyllum* bulb-leaf orchid; *Calochilus* bearded orchid; *Nematoceras* spider orchid, silverback; *Microtis* onion orchid; *Orthoceras* horned orchid; *Prasophyllum* leek orchid; *Pterostylis* greenhood; *Spiranthes* ladies tresses; *Thelymitra* sun orchid; *Winika* bamboo orchid.

Even so, look up “spider orchid” on Google and you will find, for instance at <http://www.canadianorchidcongress.ca/eng-h-s.html>, that species of *Arachnanthe*, *Arachnis*, *Bartholina*, *Bonatea*, *Brassia*, *Corybas*, *Dendrobium*, *Epidendrum*, *Holothrix*, *Maxillaria*, *Thelymitra*, *Ophrys* and *Caladenia* are all called spider orchid. When you have traversed all the possibilities for “spider orchid” try “jewel orchid” or “Lady's slipper” or “Easter orchid”. Even “leek orchid” is used for *Cymbidium* as well as *Prasophyllum* elsewhere.

Jeff Jeanes wrote about this in the ANOS (Victorian Group) *Bulletin* 2005: 37 (11): 9, and I will quote him at length:

“(Binomial scientific) names are important as each is unique to a particular taxon and there should be no confusion about the application of the name. On the other hand common names can be very

*confusing, such as ... the term 'Rock Lily' referring to an orchid (*Dendrobium speciosum* or if you prefer *Thelychiton speciosus*). Other ludicrous examples that come to mind are 'Mondo Grass' (*Ophiopogon species*) which are species of lily and 'Button Grass' (*Gymnoschoenus sphaerocephalus*) which is a sedge. Then we get other problems such as where the common name 'Tongue Orchid' in Victoria refers to species of *Cryptostylis*, but in New South Wales the term refers to *Dockrillia linguiformis*. The term 'Leopard Orchid' refers to *Thelymitra benthamiana* in Western Australia, but refers to *Diuris pardina* in eastern Australia. The term 'Tiger Orchid' refers to *Thelymitra tigrina* in Western Australia, but refers to *Diuris sulphurea* in eastern Australia. The 'Bird Orchids' of Western Australia belong to the genus *Pterostylis* (or *Plumatichilos* if you prefer), whereas in the eastern States they belong to the genus *Chiloglottis*. In Western Australia the term 'Mignonette Orchid' refers to members of the genus *Microtis*, but in the eastern States members of this genus are generally called 'Onion Orchids'. These are just a few examples of the confusing nature of common names within Australia. If you operate on an international level it becomes even worse. For this reason I tend not to use, or to go out of my way to learn, common names. But, I hear you complain, scientific names are so unfamiliar and difficult to pronounce. And I say, just look at the phone book if you want to see unfamiliar and difficult names. In our multicultural society chances are you will need to learn lots of names that are foreign to you and you have a responsibility to do so in order to show respect for the other person and their culture. Similarly, to be able to communicate effectively with other orchid enthusiasts, both in Australia and overseas, it is necessary to come to terms with*

the unambiguous Latin names that reflect the rich history and traditions of plant nomenclature. I know plenty of lay people, both within and outside A.N.O.S., that are perfectly happy to use the scientific binomials because they have made a little effort to learn to do so. These people understand the many advantages of using this system and most would prefer it to the use of common names. Far from being elitist, using the scientific binomials is honouring a rich and colourful history of plant nomenclature that is open to all people. "In my book review... I was indeed critical of some of the contrived and ludicrous common names used in the book Orchids of South-West Australia by Noel Hoffman and Andrew Brown. I'm not sure who coined these names, but I now have more understanding of why they were used. Since that time I (along with Gary Backhouse) have authored a similar type of book and have experienced the pressure exerted by publishers to include common names. It is such a serious issue with these people that it is very possible to have a manuscript rejected on this point alone. The other pressure for the usage of common names comes when dealing with government departments. It is difficult, if not impossible, to get threatened species (plants or animals) listed unless a common name is provided. This is an unfortunate situation but not surprising when you think of how many politicians come from a background in the biological sciences, which would have made them familiar with the long-held nomenclatural conventions explained above."

So our use of common names is demanded by journalists and politicians. The least trusted professions in New Zealand are journalists, trade unionists, marketers and car salesmen, followed by politicians in last place. Why would we want to do what they suggest?

Orcadian orchids & les Orchidées de l'Haute Loire

The Orchadian is the official journal of the Australasian Native Orchid Society.

The Orcadian, on the other hand, is the weekly Thursday newspaper of Orkney (the Orcadians prefer that term to "the Orkney islands"). Orkney, with its windswept, wet, Pictish/Norse, hard, stony greenygreyness has only a dozen or so "temperate" ground orchids. My wife was keen to get a feel for her Orcadian ancestry (similarly hard, stony, grey etc people), so after getting over our jetlag in the Highlands, we took the Scrabster-Stromness ferry on 1 June, my hopes high that spring had by now brought the brilliance of its floral rebirth to brighten the drab landscape.

Alas, spring came later. None of Orkney's orchids were expected until August. Whereas we had seen the odd *Dactylorhiza* in the Scottish highlands, we found none on Mainland, the largest of the Orkney islands.

L'ORCHIS AVERNE is the bulletin of the Auvergne group of la Société Française d'Orchidophilie. Its editor is Jean Koenig, a cereal scientist at the university in Clermont-Ferrand; he is also co-author of the Société's report of mapping the orchids of Puy-de-Dôme, a department of Auvergne.

Midjune thus found us in the headwaters of the Loire river, near the southwestern edge of the Massif Central, that great highland in the middle of France, staying in a delightful farmhouse in the French version of Otago's Silverpeaks, the Haute Loire with its old volcanic cones. These are acid soils, and we expected none of the limestone-loving orchids of the English downs. Of the wines, our landlord told us, "If you are offered local wine, I have two words of advice: resist it". We did.

We met Jean in a village called Sainte Georges d'Aurac and proceeded (after a wonderful French lunch with his orchid colleagues) to Mt Mezenc, with its alpine herbfields and peaty old lakebeds. I was struck again by the sheer

beauty of the colour and number of European wildflowers.

Eighteen orchids are nationally protected in France, and *Traunsteinera globosa* is one that grows here. There were *Dactylorhiza maculata*, *D. majalis*, and *D. sambucina* (cream and reddish flowered forms growing together). Also (aptly) the frog orchid *Coeloglossum viride*, and *Nigritella* (see inside front and back covers).

Just a few of the European orchids, brightly coloured for insect pollination.

Insecticides used by farmers are a real problem in France, Jean told me: they kill indiscriminately, and when an orchid has evolved in a special relationship with a specific pollinator, damage to the pollinator reduces the orchid's chances of survival.

What really struck me, even with my rudimentary French, was the similarity of the enthusiasm and comradeship of lovers of wild orchids, wherever you find them.

From our “no flowers please” department

For sale (US\$11,971.25 if you are interested) a letter from Charles Darwin (1809-1882), dated 27th January (no year), politely putting off a woman who must have sent him orchids for research: “I will not attempt to thank your Ladyship for all your kindness, for it is beyond my power. I am pleased to hear that my Books have at all interested you: but I fear my little Orchid book will be dry. This summer when at the sea, I meant merely to write a paper for some scientific journal, but the subject grew on me till my MS. got rather too long for a paper. I am convinced that orchids have a wicked power of witchcraft, for I ought all these months to be working at the dry old bones of poultry, pigeons and rabbits instead of intensely admiring beautiful orchids. — I mention all this, because, though I can hardly bear to write the words, I must beg your Ladyship not to send any more of your treasures; though perhaps at some future period I may

indulge myself with the examination of a few more orchids. - I will not forget your Ladyships most generous offer to give me other flowers, if I require them for observation, & I have no doubt that I shall some time be a beggar again.”

In 1862 he first published *On the Various Contrivances by which British and Foreign Orchids are Fertilised by Insects*.

Darwin experienced 40 years of intermittent vomiting, pain, headaches, lethargy, skin problems, and depression after disembarking from the Beagle. Twenty doctors couldn't diagnose him, though most concluded it was psychosomatic. *The Postgraduate Medical Journal* (2005; 81: 248-51) now suggests he had lactose intolerance. Not only was there a family predisposition to the same problems, but Darwin got better only when by chance he stopped taking milk and cream. No wonder he was so mysogynously condescendingly grumpy.

Forbes Bennett of Hastings sent photographs of **orchids from the eastern Ruahines**, including *Gastrodia* sp., *Orthoceras novae-zelandiae*, and *Caladenia chlorostyla*. The *Orthoceras* had really short floral bracts, and is certainly *O. novae-zelandiae*.



Orthoceras novae-zelandiae, eastern Ruahines, photo Forbes Bennett

originalpapers

White balance

By Max Gibbs, Hamilton

White balance is something camera companies have been working hard to accommodate automatically. What they don't tell you is why. There are two points that digital cameras see the same: white and black. All other colours are computed from the three colours red/green/blue by algorithms which add or subtract the intensity of these three colours digitally. The grey scale accommodates all shades of grey between white and black and the two scales—colour and grey—coincide at the white (all colours, maximum intensity) and black (no colour, zero intensity). The colour the camera produces theoretically faithfully reproduces the colour spectrum under standard conditions. We trust the manufacturer!

Then we put on a UV or sky light or polarising filter to protect the lens and take the camera outside and put this dirty great variable filter between our subject and the camera i.e., air with dust and smoke, and shadows, and rain, water vapour, etc. Then nature plays its part and changes the thickness of the air layer through which the sunlight passes so that at midday (standard colours correct) there is minimum adsorption but high scattering of blue light (that is why the sky is blue) while at sunrise and sunset, there is high adsorption of blue and scattering of red light (giving red



sunrises and sunsets). Water vapour in the air removes red wavelengths (that is why on wet days everything looks cooler and greeny-blue). You will have seen the effects of smoke turning the sky to red as blue light is removed, and tree leaves act as green transmission filters reducing red

light to give everything a green caste. And we all know about artificial light—tungsten, sodium, mercury vapour, fluorescent—most of which will have a factory setting on the camera. Try comparing a manually set white balance with the factory setting sometime under artificial light. You might be surprised.

Given the above, unless you always take your photos at noon in full sun the auto white balance will be slightly wrong: more so on some days than others.

The manual white balance setting allows the photographer to set the white end of the scale on site for the conditions on-the-day. It must be set every time for different conditions and different days. This will then produce a colour which can be related back to the standard colour algorithm set by the manufacturer in the camera. The colour will then be “correct” and can be compared exactly with a photo taken by another camera, using the same manual white balance technique, at another time.

A word of caution: make sure your white reference card is white! A4 printer paper is not white!

The human eye is attached to the most complicated computer we know of (our brain) which has this remarkable ability to synthesise colours that it remembers. We can discriminate between subtle shades of colour much more precisely than the camera. But not quantitatively.

When you view the digital photo on the computer screen, the settings of the computer screen will also affect the colour you see. Consequently, with a known white balance set and the screen set to the correct standard colours (no pigment burnout) we might just get a true colour on screen.

Now we come to printing. The paper we print on has a colour caste and the inks used to print the photo will have a different response on each paper. The print set-up mode in the computer can be taken off auto to use the manufacturer's spectral response curve for each type of paper to correct for the paper type

and the inks used by the printer to give true colours. This coupled with the manually set white balance will result in colours which should be indistinguishable from the original viewed side by side in any light. This aspect is usually left to the professionals. But if you get prints from the photo shop, you have a better chance of getting true colours from your manually set white balance digital images.

Now I know the above sounds like a lot of fiddling, and of course your eye sees the photos you have taken with similar settings to be pretty much the same colour as the colour chart. So why go to the trouble of doing a manual white balance?

If you don't, the error produced by the auto white balance can never be compensated for and future users of your photo can never be sure of the true colour. Setting the white balance manually means that the optical filter conditions at the time have been removed and the original digital image is as true as you can get to the subject. Thus all future users can be certain that the starting point is a standard colour spectrum and work accordingly.

The differences might be small, but that is the reason the manufacturers put in the manual white balance mode. So use it.

You might like to read the comments by "leading" photographers in digital camera reviews on the accuracy of the colours produced by digital cameras.

Mark Moorhouse, photographer of the green Gastrodia "long column" on the cover of J95, commented, "To demonstrate the importance of 'white balance' take note of the cover photograph taken digitally with only an automated white balance adjustment then compare it to another photograph of the same plant taken on slide film (see Eric's already published shot a few journals back of Gastrodia 'long column St Arnaud'). Neither of these photographs actually reproduce the greenish olive colour seen by the naked eye on site! But for further reference in the future, a 'white balanced shot' would offer a correct colour reference point by which other thus treated shots could be compared."

A couple of Caladenias

By Gordon Sylvester, Kumara

When I first noted *Caladenia* on my place I wasn't in any position to make close observations. This last summer I was in a better position and these are the details noted. The outstanding feature was the margins to the labellum and the colour of the plants in general.

Caladenia species Kumara plateau 80masl

There are two distinct species of *Caladenia* growing on the property. Both grow in the sphagnum moss mounds in the manuka environment; it is doubtful if they have any connection with the soil horizon in the vicinity as the moss hummocks are about 30cm deep.

Several photos were taken on 27 Dec 2004 after a search on the 26th which revealed the two species. Of the two the red stem variety is definitely the rarer of the two. On 28 Dec

2004 two specimens were collected and examined closely to determine species.

Species one. Single green leaf 2-3mm wide 80-100mm long and lax at moss level no hairs. Stem pale green with glandular hairs present as a fuzz visible under microscope as blunt globose glands; length 80-180mm. Ovary pale apple green with yellow stripe.

Flower single and double, pale green sepals, white tepals, labellum white, with white calli present. Lip not reflexed and jagged. Column white with a green head; this extends down the back of the column (posterior). The second flower does not appear until the first flower is finished. Forms loose colonies with up to 10-12 plants together all various heights. *Caladenia minor* (*C. chlorostyla*).

Further observations revealed the delayed flowering trait after the old flower was finished or pollinated. Pollinator not observed at this time.

Species two. Single green leaf 2-3mm wide 80-100mm long and lax at moss level sparsely hairy 1mm long. Stem dark red brown with glandular hairs present as a fuzz visible under microscope sheathing bract midshaft, length 80-100mm. Ovary pale greenish white with red stripe

Flower single or occasionally two, pale redbrown/green sepals, with a red brown rib,

pale red brown overlaying white tepals, labelum cream with ribbon like process on end red, with magenta topped yellow calli present in 2 rows. Lip reflexed and jagged. Column white with red bars and a dark head (posterior).

Plant is loose colony forming with single plants sparsely scattered about on the sides of the moss hummocks, in dappled shade.

Caladenia aff. *chlorostyla*.

notesetc

Nature News of 24 March carried the following story, headlined “**Lyrebird threatens Tasmania's rare orchids**”.

“The bird featured on the Australian 10 cent piece is becoming a pest in Tasmania's world heritage area. The lyrebird is not native to Tasmania but it is protected and cannot be culled. In the 1930s it was brought over from Victoria where foxes were threatening to wipe out the species. Since then, the lyrebird has spread through Tasmania's wilderness and is changing the character of the wet forests.

“Zoologist Michael Driessen says work is under way to protect rare plants from the lyrebird. ‘We've put some enclosures up to protect a rare orchid in the south-west, which hadn't been seen flowering for quite a long time and thought this was because of the activity of the lyrebird,’ he said. ‘Since those enclosures have gone up, we have seen some flowering of those rare orchids.’”

Craigie Lea *Corunastylis* crash: I felt sure ***Corunastylis* are under reported**, being winter flowering, so I cajoled Pat Enright to join me in a search of the reserve at Craigie Lea (eastern Wairarapa) in midapril. It seemed a perfect habitat, but we had no success. In science, negative findings should be reported too—not just positive: otherwise you get what is called publication bias. Rivetting stuff though, isn't it?



Iwitahi 2005
9-11 December
same time & place:
book with
Sue and Robbie
Graham, 141 SH1,
Waitahanui, Taupo,
07 3770469,
info@wildwoodgallery.
co.nz

NZNOG AGM
Iwitahi 10 Dec.
Agenda in November

Helene Wild (editor of the ANOS Victoria *Bulletin*) wrote, “I have had the NZ Native Orchid *Journal* [J95] sitting on my desk for a few days now. The picture on the front cover is inspirational. I just love these little gastrodias. **Congratulations to Mark Moorhouse** and congratulations to you on another great issue”.

elementary edhatch

4: Greenhoods 3: tidying up the odds and ends

—drawings by Bruce Irwin and Ian St George

Swamp plants

1: *Pterostylis micromega* (small-large – the large flower on the small plant)

Basal leaves in a rosette or scattered up the stem. A plant of shallow bogs and swamps, rarely growing in open water. The relatively large flower is conspicuously pale, sometimes almost white.

Distribution – endemic – North Id. Recorded in the past from Kaitaia to Wellington, it now appears to be confined to the lower Waikato and the Central Plateau: South Id. Nelson district: Chatham Is.

Flowers – November-February, insect pollinated



2: *Pterostylis paludosa* (growing in wet areas)

A slender plant of swamps and bogs. Sepals short, acuminate. Labellum-tip constricted, flat or twisted. Stigma broadly cordate.

Distribution – endemic – central North Id. between Murimotu and Mercer: north-western South Id. locally common.

Flowers – October-January – self pollinated



Montane-alpine plants

3: *Pterostylis humilis*

(low growing – a misnomer, the species was described from dwarfed cultivated plants)

Leaves broad, in a semi-rosette. Flower erect, sepals shortly acuminate, the lateral barely exceeding the galea. Labellum-tip constricted, stigma very large, globose. This is the only orchid I have ever seen actually flowering in the snow.

Distribution – endemic – in subalpine scrub. North Id. Mount Egmont, the Volcanic Plateau, and east to the Kaimanawa Ranges: South Id. Sounds/Nelson district

Flowers – December-January – self pollinated

4: *Pterostylis venosa* (the conspicuous veins on the leaves, the plant was described from dried material)

A semi-rosette plant of alpine scrub. The labellum is narrow-triangular, and sometimes furry

Distribution – endemic – North Id. Mount Egmont southwards (like *irsoniana*, apparently absent from Ruapehu): South Id. Stewart Id.

Flowers – December-January – insect pollinated



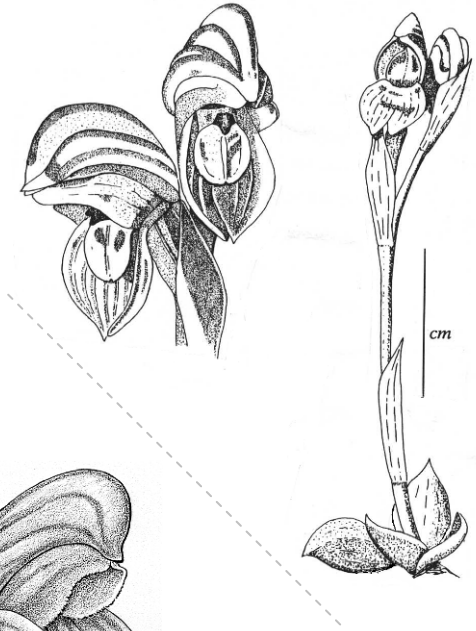
Small plants with a basal rosette and several flowers

5: *Pterostylis tanypoda*

(the elongated pedicel in mature plants)

Distribution – endemic – eastern South Id.
locally common in grass

Flowers – October-January – self pollinated



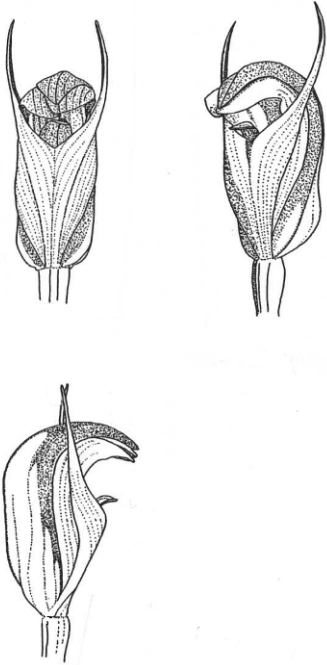
6: *Pterostylis tristis*

(drab coloured)

This is a more slender plant than *tanypoda*, usually brownish or reddish, and the labellar appendage points downward

Distribution – endemic – North Id. Hawkes Bay and the Central Plateau: South Id. – Canterbury to Otago

Flowers – October-January – self pollinated



7: *Pterostylis foliata* (leafy)

Leaves in a semi-rosette, flower slender, short-sepalled, erect

Distribution – Australia – South Australia, Victoria, New South Wales, Tasmania

New Zealand – North and South Is. From Mount Pirongia to Dunedin – usually in grass or open areas in forest

Flowers – October-December – self pollinated

8: *Pterostylis nutans* (nodding – the bent-over flower)

A very distinct species, with large leaves in a basal rosette, and the ovary bent over so the flower faces downward

Distribution – Australia – South Australia, Victoria, New South Wales, Queensland, Tasmania
New Zealand – 3 records to date – Kaitaia 1910: Castor Bay (Auckland North Shore) 1942: Waihaha (west of Taupo) 1995

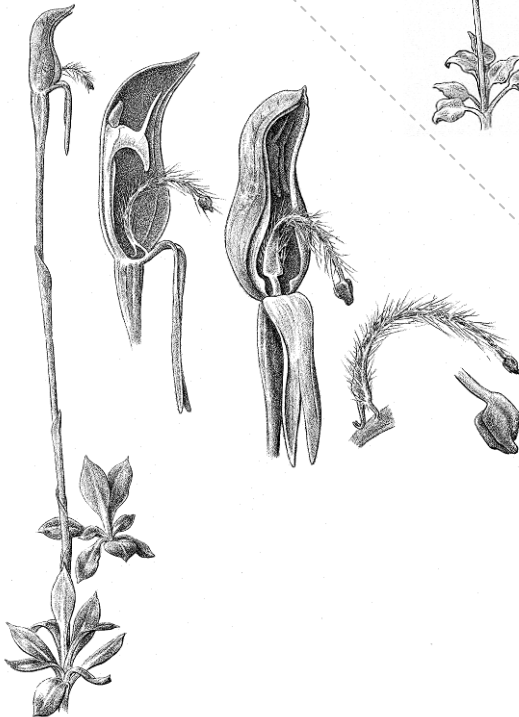
Flowers – August-October – insect pollinated



9: *Pterostylis puberula* (the hairs on the flower stem)

A small plant, it has a basal rosette of trowel-shaped leaves with narrowly winged petioles, and hairs on the flower stem. The dorsal sepal is very short and \pm obtuse. The lateral sepals have a high, rather shallow sinus with a small inflexed lobe, and long erect caudae sometimes thickened at the tips.

Distribution – endemic – Three Kings Is. and near Thames in the Coromandel Ranges. At one time common on the Auckland gum clay, and around Wellington and in the Sounds/Nelson district, only the 2 colonies are now known. I last saw it growing at Silverdale, north of Auckland in 1947
Flowers – September – self pollinated



10: *Pterostylis tasmanica* (from Tasmania)

A very distinct plant. Leaves in a semi-rosette and scattered up the stem. Lateral sepals deflexed. The filiform labelum is covered with long yellow hairs and has a dark brown callus at the tip
Distribution – Australia – Tasmania, Victoria

New Zealand – Three Kings Is. North Id. from the North Cape to the Wai-kato, and about Wellington: South Id. Sounds/Nelson district
Flowers – October – self pollinated



“Orthoceras strictum”

drawing by DI Morris, Fig.3 of Curtis WM. *The student's flora of Tasmania part 4A: Angiospermae: Orchidaceae.* Govt Printer, Hobart, 1979.

With its short floral bracts, this is closer to O. novae-zeelandiae, and appears to be the same plant painted by Nicholls, and photographed in Jones et al [see J92 pp2-6] - Ed.

historical reprint

From TF Cheeseman's *Illustrations of the New Zealand Flora*, Vol.II, Government Printer, 1914.
Drawings by Miss Matilda Smith, engraved by John Nugent Fitch.
These are now *Anzybas rotundifolius* and *Singularybas oblonga*.

CORYSANTHES MATTHEWSII AND CORYSANTHES OBLONGA

FAMILY ORCHIDACEÆ.]

[GENUS CORYSANTHES R.BR.

Corysanthes Matthewsii, *Cheesem. in Trans. N.Z. Inst.* xxxi (1899), 351 ; *Man. N.Z. Fl.* 693.

Corysanthes oblonga, *Hook. f. Handb. N.Z. Fl.* 694; *Cheesem. Man. N.Z. Fl.* 694.

Corysanthes Matthewsii is one of the discoveries of the late Mr. R. H. Matthews, of Kaitaia, who during a residence of many years in the extreme north of the Dominion paid special attention to the Orchidaceæ, and who added several species to the flora. *C. Matthewsii* was first gathered in the vicinity of Kaitaia in 1898; but it has since been found by Mr. H. Carse at Fairburn, between Kaitaia and Mongonui, where it is not uncommon on shaded mossy slopes. It has also been collected by Mr. A. Thompson at Aponga, inland from Whangarei. No doubt it will be found in other localities, for it is not easy to exhaust the orchid-flora of any district, particularly as regards the smaller terrestrial species. Their period of bloom, during which alone they can be positively recognized, is but short; and their habitats are often of a recluse and sequestered nature.

C. Matthewsii is much more closely allied to *C. oblonga* than any other species, but can be at once distinguished by the rather larger flowers; by the much smaller lateral sepals and petals which are never more than half the length of the upper sepal, whereas in *C. oblonga* they are more than twice as long; and by the margin of the lip being either quite smooth or very obscurely denticulated, while the disc is furnished with a thickened patch of close-set deflexed hairs. *C. Carsei*, a species which I have lately described from the same district, is also allied but its flower is longer and often conspicuously deflexed, the dorsal sepal is narrower, and the lip has a curious projecting lamina at its tip.

According to Sir J. D. Hooker, *Corysanthes oblonga* was originally discovered by Allan Cunningham; but, if so, it is curious that it was not included in his "Precursor." It was, however, collected at nearly the same time by Mr. Edgerley in some locality in the North Island, by Mr. Colenso at the Bay of Islands, and by Colonel Haultain in the vicinity of Auckland. Subsequent research has proved that it extends throughout the whole length of the Dominion, from the North Cape district southwards to Stewart Island and the Auckland Islands. It is usually found on moist mossy declivities in shaded forests, and although common at sea-level it ascends as high as 2,500 ft. I have already pointed out the differences between it and its nearest ally, *C. Matthewsii*.

The genus *Corysanthes* contains about thirty-five species. It attains its southern

limit in New Zealand, where eight species are now known. It stretches northwards through Australia to New Guinea, the Himalaya Mountains, and the Philippine Islands and eastwards as far as Tahiti. It has, therefore, the characteristic distribution of most of the genera of the New Zealand *Orchidaceæ*.

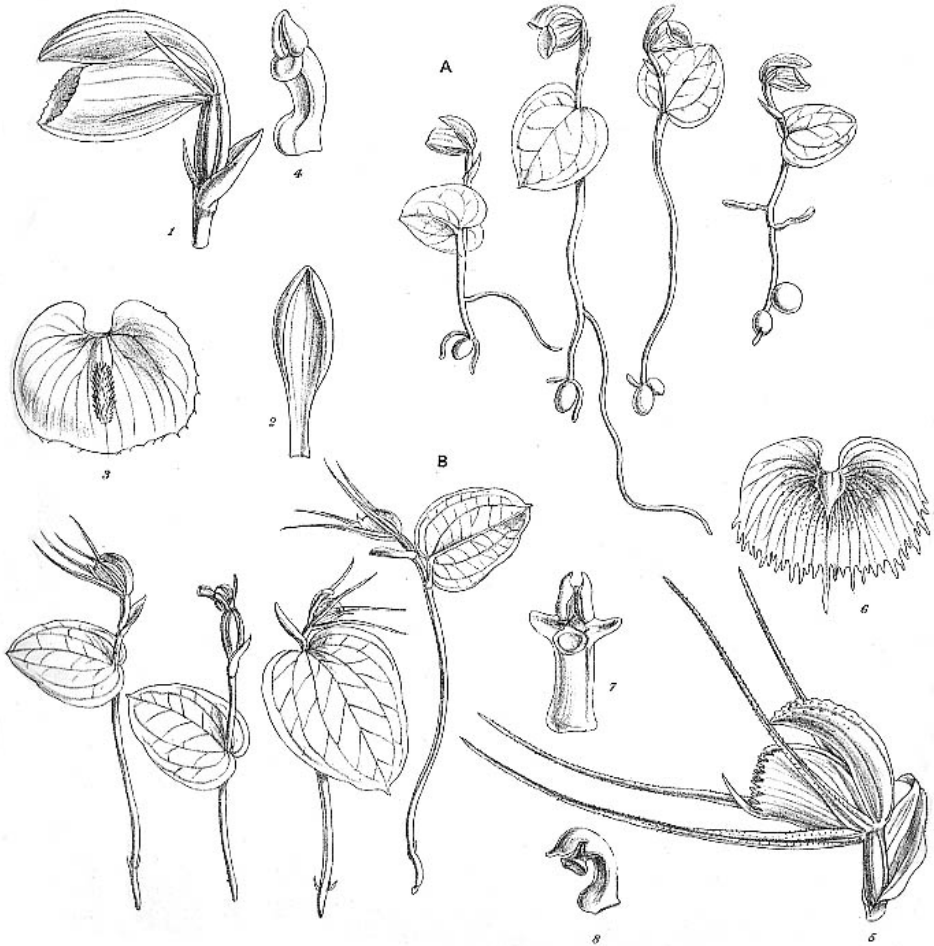


PLATE 199A. *Corysanthes Matthewsii*. drawn from specimens collected by Mr. R. H. Matthews in the vicinity of Kaitaia, Mongonui County. Fig. 1, side view of flower (x 4); 2, dorsal sepal (x 4); 3, lip spread open (x 4); 4, column (x 6).
 PLATE 199B. *Corysanthes oblonga*, drawn from specimens collected by Mr. R. H. Matthews in the vicinity of Kaitaia. Fig. 5, side view of flower (x 4); 6, lip spread open (x 4); 7 front view of column (x 6); 8, side view of same (x 6).

Caladenia identification from marginal calli

Among *Caladenia* (were *Petalochilus*) with twin rows of calli inside the labellum plus reddish barred labellum, the basal marginal calli (BMC) on the labellum midlobe are good for quick identification. Different taxa have 0 to 4 or more numerous BMC but other traits are essential to be certain of your ID. Important other traits are underlined below. *Stegostyla* with disc calli running, right to the tip of the midlobe are not covered here in *Caladenia*. *S. lyallii* has $2n=48$ chromosomes compared with *Caladenia minor* $2n=38$ making hybrids unlikely without chromosome doubling.

All the drawings were traced accurately from back-projected slides then correctly oriented on computer.

Zero to one marginal callus

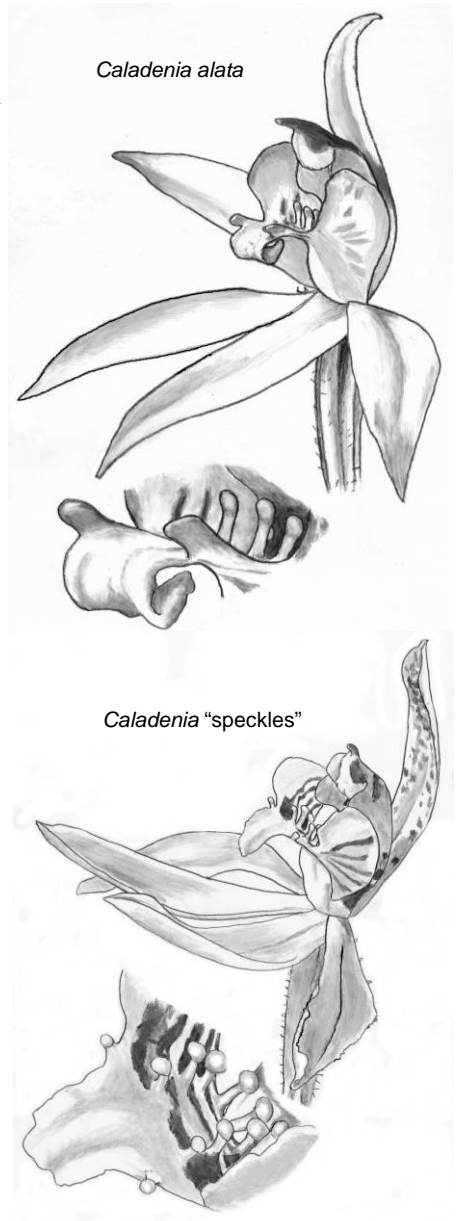
C. alata R. Br. has one golden topped, blade-like callus, reduced at times to a solitary green or golden stump (cover J94) or none at all. Golden midlobe tip curled under, acute, white to pink tepals, solitary flowers open 6 Sept to 24 Oct at Te Paki, mid October at Rainbow Mountain. Scrubby track-sides in dappled shade, sparse.

Drawn from two slides of the same unusually late flower at the Earth Wall, Te Paki at 7 Oct 00.

One only marginal callus

C. "speckles" (disputed) of Allan Ducker's with red stem, bracts and ovary, the last with 3 green stripes, one golden topped, rod-like BMC rising from the white base of the yellow, triangular midlobe with raised midrib. Solitary pink to white flowers, dorsal sepal speckled pale plum inside, tepals acute with a broad but tapering stripe of red glands down the outer midribs. (Journal 94:35). Column top is dark red. Te Paki in kanuka or clay road side. See J82:15, J72:18 Fig. 9, flowers 25 Oct - 10 Nov.

Drawn from 2 slides of one flower on Pink Track, Te Paki from 1/11/99



Caladenia "aff. *bartlettii*



One to 1½ marginal calli

C. aff. bartlettii of Doug McCrae's has one to 1½ BMC, all-yellow and rounded, curling forward then margin bumpy to the tip of the all yellow midlobe with straight cross section to turned down margins. The ½ BMC is a big bump rather than a callus. Note, recurved and rounded sepals, tiny, solitary, pink flowers from Kaitaia 25 Sep to 15 Oct 1912, Sweetwater (very hairy) 26-31 Oct 1989 and Te Paki 31 Oct to 5 Nov, on scrubby track sides, rare. See J94:35 Fig. 6, J78:20 & Plates 11,12.

Whole flower from Caladenia Track, Shenstone Block, Te Paki, 5 Nov 00. Midlobe from NZ Walkway, Scott Point 31 Oct 04.

Caladenia bartlettii



Two marginal calli and rounded sepal tips.

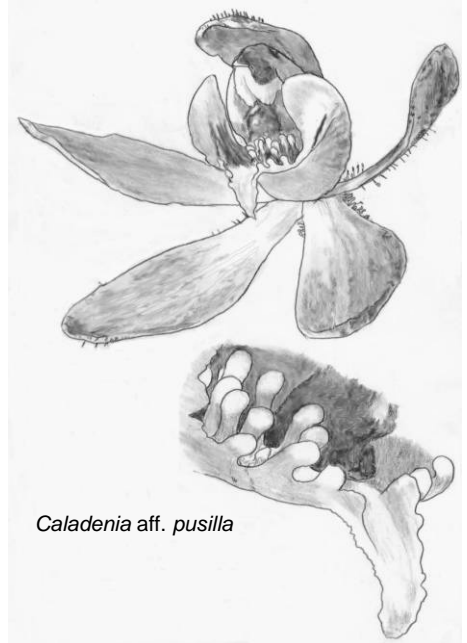
C. bartlettii (Hatch) D.L. Jones, Molloy & M.A. Clem., has two BMC as a rule, sometimes only one, or rarely two on one side and one on the other but always yellow-topped, rounded calli leaning towards the narrow, yellow, trough shaped midlobe. Note, four tepals in a flat plane, cerise all over or cerise pink fading to white at the base. Red (rarely green) stemmed, sparse, Te Paki 27 Sept - 5 Nov, to Nelson in late Oct, favours damp clay soil on track sides. See J82:15, J75:36, top right, J72:27,28.

Drawn from a rare green stemmed flower from Scott Point, 27 Oct 01, midlobe from a red stemmed specimen, 22 Oct 03, below Mangatangi Dam, Hunuas.

2½ marginal calli sometimes only 1½; rounded sepal tips

C. aff. pusilla of Ian St George's, yellow-topped and rounded BMC leaning towards the all yellow, triangular midlobe plus lateral petals turned up at the tips and the dorsal sepal always curled down over the column. Disc calli have red legs and yellow tops, dark red bars in lower labellum wings merge to solid colour on the disc. Tepal backs liberally coated with dark red glands. Solitary pink flowers on clay soil track sides, in a North Island disjunct distribution of Te Pahi 30 Sept (1½ BMC) to 10 Oct, Kaimaumuau J62:24 as *C. minor*, and with 2½ BMC at Awhitu 19 Oct, Te Puke to Rotorua roadside, Moki Rd Uruti 18-23 Oct, J92:13, and Puffer Track Kaitoke, J82:15, rare. See the Puffer specimen in the 1996 Field Guide as *C. minor*.

Drawn from a 11 Oct 02, 2½ BMC flower from Papawiri Hill, Te Pahi; midlobe from 19 Oct 04, Awhitu Central.

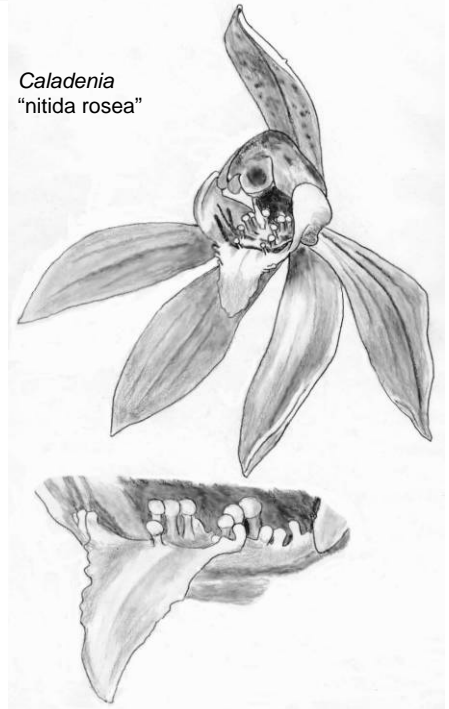


Caladenia aff. pusilla

Three or four marginal calli plus acute tepals

C. "nitida rosea" of H.B. Matthews has 4, 3 or rarely 2 BMC; 1, 2 or rarely, 3 flowers opening singly; dorsal sepal inner not always speckled but otherwise close to the smaller *C. "speckles"*. White to pink, favours mature kanuka in a North Island disjunct distribution of Te Pahi (6 Oct to 6 Nov) J87:25, J77:21, as *Petalochilus aff. fuscatius*; J62:9, Taiharuru, Coromandel Oct 1984; Moki Rd Uruti (18 Dec 03) J92:14. The last had atypical crimped labellum wings, acuminate tepals (not just acute) and no raised midrib to the labellum indicating possibly millennia separation from northern colonies.

Drawn from a Scott Point flower of 27 Oct 01 with 3 BMC; midlobe from a 4 BMC specimen, 18 Oct 96, Shenstone Track, Te Pahi.



Caladenia
"nitida rosea"



Caladenia "chloroleuca"

C. "chloroleuca" H.B. Matthews' disputed taxon, 2-5 flowered, has 3 sometimes 4, yellow BMC with only serrations to the tip of the white triangular midlobe, canoe prow sepals and greenish, labellum wings almost solid maroon inside. At present, only at Te Pahi, mid October J94:35; 72:27, and Moki Rd, late November J92:19. Appears to hybridise with *C. minor* which has only 1 to 2 flowers and spaced red bars in the labellum wings.

Drawn from one slide of a 23 Oct 98 flower by the Shenstone Track, Te Pahi.



Caladenia "redstem"

C. "red stem" (disputed) of Gordon Sylvester's is all maroon in bud, perhaps a tinge of olive on the tepal backs as at Nelson, has 2 to 5 flowers, off white tepals each with 3 parallel, red veins. BMC are numerous as in *C. minor* with yellow expanded tops. The first one to three BMC uniquely have maroon stems like the disc calli. Known from light scrub along the Puffer Track, Kaitoke (mid December) J66:26, from the Baton Valley, Nelson and Gordon reports it from around Wellington Harbour and spots on the S.I. West Coast.

Drawn from 2 shots of the first flower to open on the Puffer Track, Kaitoke colony, 6 Dec 97.

Numerous (5 to 9) marginal calli all with acute to minutely acuminate tepals

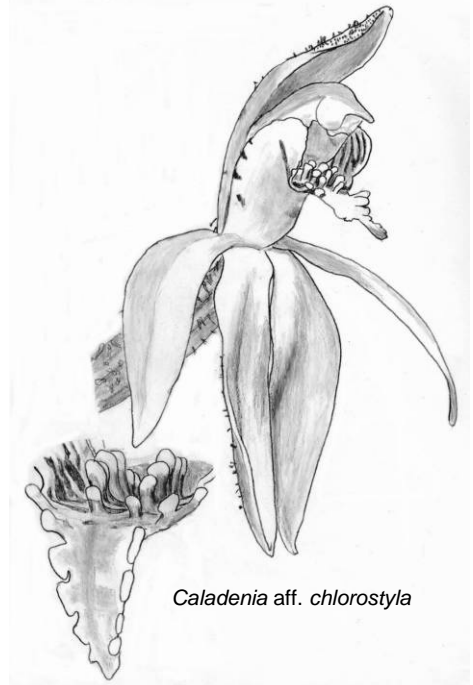
C. minor Hook. f., alias *C. chlorostyla* has 5 to 7 discernable, creamy yellow BMC, usually short and flattened sometimes stalky and bent forward but always reducing towards the tip of the long, narrowing, white to creamy midlobe. Note, 1 to 2 flowers, palest green tepals, hairy back, to the dorsal sepal, bright green stem, bracts, leaf and column back; hence Doug McCrae's tag, *C.* "green column". Thrives in kanuka or beech debris, opens 4-28 Oct at Te Paki J82:15,17, 26 Nov at Whenua Tapu, Wellington and early January at Lake Hauroko. Spaced red bars in the labellum wings and column plus the yellow topped calli, give a break from green on this plant.

Drawn from 2 shots of one flower, 28 Oct 01, track to Radar Bush, Te Paki.



C. aff. chlorostyla of Bruce Irwin's, was included in Doug's *C.* "green column" and the Column's *C. minor* in J72:27,28 but its peak flowering is generally a fortnight later than *C. minor*, it has off white rather than green tepals and has closely packed red glands on the dorsal sepal back. Its green column is red banded inside and has two red blobs on top. BMC are flattened, 1-3 near the base are hooked forward, stems and ovaries can be green (J75:36, Fig. 4, left) or maroon (J75:36 Fig. 5), the latter have 3 green wedges up the maroon ovaries. Flowering mid October at Te Paki, mid December at Pukeiti, late December at St Arnaud to late January at Lake Manapouri South Arm, track sides in kanuka or beech; ref. J92:19; 88:21; 86:32.

Drawn from shots of 2 red stemmers; whole flowers at Cheesemans Track, Te Paki, 13 Oct 02; midlobe at the Brunner Peninsula, St Arnaud, 22 Dec 02 where at first it was taken to be the closely related *C.* "red stem".



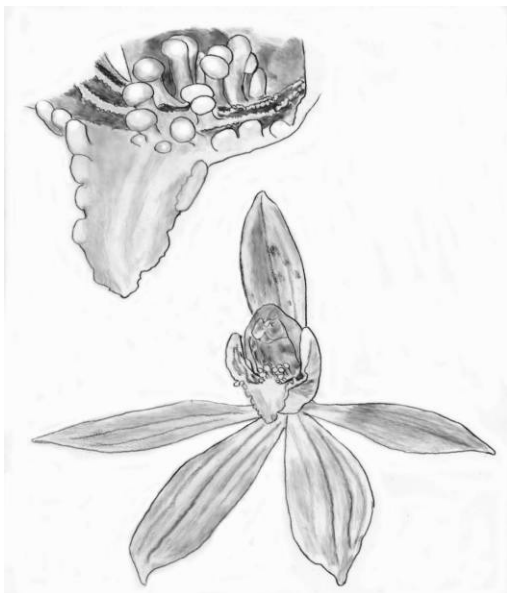
Caladenia nothofageti



C. nothofageti D.L. Jones, Molloy & M.A. Clem., has up to 9 BMC, some in the middle, hooked forward as in closely related *C. aff. chlorostyla*. 1 to 2 almost all white flowers are out in December at the Puffer Track, J66:25 and January (after *C. minor* has faded) at Lake Hauroko, Fiordland. This is not an albino because it has creamy calli tops — which were very dark under ultra-violet light J86:5 — and a grass-green top to the column, J90:26 (open on 23 Jan 04) at Slab Hut near Monowai. This is an exception to the specified “reddish barred labellum” but, some with pale pink bars were at Lake Hauroko, J91:12 on 20 Jan 04.

Flower drawn from Brunner Peninsula, say 30m from *C. aff. chlorostyla* on 22 Dec 02. Midlobe from a pink barred specimen at Lake Hauroko, Fiordland, 20 Jan 04.

Numerous marginal yellow bumps rather than calli



Caladenia aff. variegata

C. aff. variegata (disputed) tagged by the Column for its regular double row of yellow disc calli (J94:36 Fig. 11) with no stray calli. The largest of NZ’s *Caladenias*; single pink flowers (rarely twin) with acute tepals. BMC are either a variable array of bumps or the margin may be entire with one or two rounded notches etc. to the tip of the triangular yellow but white centred midlobe. The midlobe margin is the clearest physical difference from the smaller *C. “nitida-rosea”* and *C. “speckles”* above. But colour-wise, *C. aff. variegata* has that almost luminous green column back, tepal backs have a central, pale green band and a narrower, broken strip of red glands down the midrib. It favours dappled shade in *Pinus radiata* or beech forest from Iwitahi early Dec, J78 Plate 2, top right, to the Aorangis in late Nov, J94:35,36 to Otago J82:15.

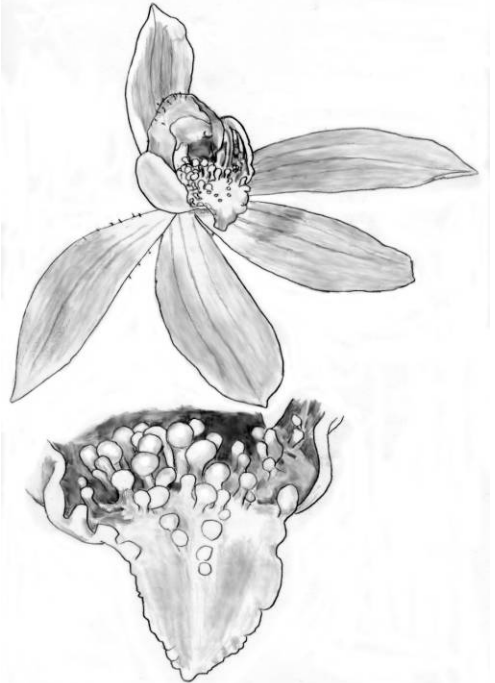
Drawn from a flower at Iwitahi, 13 Dec 97, midlobe from Mill Track, Aorangis, 27 Nov 04

C. variegata Col, an exception to the specified 2 rows of disc calli because stray calli are all round, the 2 rows may be doubled up (J72:27 Fig. 3) or have the whole disc cluttered with calli (Aorangis, J94:36 Fig. 13), which may advance in a chevron down the top of the mid-lobe but not to the tip. Otherwise close to *C. aff. variegata*, growing in the same areas. At Iwitahi, one will predominate some seasons and the other will in other seasons.

Drawn from a flower at Iwitahi, 2 Dec 94, cluttered disc calli from Sutherlands Track, Aorangis, 27 Nov 04.

Moral? Basal marginal calli on the labelum midlobe are good, prime, identifiers of *Caladenia* but other traits need roping in to be sure of which taxon or species you are looking at.

Acknowledgements Many thanks to Doreen Abraham, Trish Aspin, Ernie Corbett, Allan Ducker, Dan Hatch, Bruce Irwin, Brian Molloy, Gary Penniall, Graham Marshall, Phil Mitchell, Mark Moorhouse, Michael Pratt, Kelly Rennell, Ian St George, John Smith-Dodsworth, Sid Smithies, Gordon Sylvester, Georgina Upson and any other great *Caladenia* finders I might have missed. RH & HB Matthews' and Doug McCrae's amateur but enlightened work in this field from earlier times, is also gratefully acknowledged.



Caladenia variegata

australiannotesdavidmconachie

Victorian treasures

by Alan W Stephenson

- from *ANOS Illawara March 2005*

No chance trip this time, this one was organised. My daughter and her partner had informed my wife and me they were moving to Broome (W.A.) to work and were only taking what they could carry on a plane. I arranged to store their bulky goods in country Victoria at the home of a brother with a large empty shed. This coincided well with an AOC meeting which I was scheduled to attend in

Melbourne.

In the normal run of E-mail activity, I was in contact with Dean Rouse of the ANU who informed me he would be in the Genoa district with Michael Duncan of Melbourne, during the weekend I was travelling. They were to undertake orchid surveys in the area, so we agreed to meet on a Sunday morning.

I left Nowra at 4.45 am, had breakfast in Eden and located the pair by mobile phone at Genoa about 9am. After speaking with Michael he said, "If you haven't seen *Petalochilus aurantiaca* (Syn. *Caladenia*

aurantiaca) you had better be quick as Dean is going to pick the flower to study in Canberra". Therefore, after locating the nominated track, I walked quickly for almost two kilometres until we met. Only two plants were available, so I hurriedly photographed one and we returned to the vehicles to see *Arachnorchis tessellata* (Syn. *Caladenia tessellata*). I had looked for this species in the Huskisson area several times, without success, as it is most likely extinct in the general Jervis Bay area and I would be prepared to go anywhere to see a plant in flower. This usually happens when forests of *Pinus radiata* are planted over its habitat. Before I saw *A. tessellata*, we saw and photographed *Chiloglottis valida*, *Pterostylis nutans* and *Glossodia major* in flower, with leaves of other *Chiloglottis* species noted and at least two species of *Thelymitra* in tight bud.

In a few minutes we were at the site of *A. tessellata*, *A. sp. aff. fitzgeraldii*, *Diuris pardina*, *Stegostylis clarkiae* (Syn. *Caladenia clarkiae*) and the mysterious *Thelymitra mathewsii*. Unfortunately, *T. mathewsii* had recently finished flowering but Michael opened the flower sufficiently to see the beautiful, veined, deep violet colour of this strange species, which has a leaf like a coiled spring. Also in flower was a form of *A. tentaculata*, which was similar to, yet different from, the many other forms of this variable species. Then a short walk to see the local form of *Dockrillia striolata* beside a small waterfall. This area is inhabited by black snakes and numerous water dragons and two of these were engaged in a show of superiority, lifting their heads and endeavouring to appear larger and more impressive than each other.

Three well spent hours later I had seen five species which were new to me, so quite contentedly I continued my interrupted trip with more than half my journey yet to go.

The next day I contacted an old school friend (Margaret McCulley) and arranged for a walk through a Heath Land Reserve in my old hometown of Wonthaggi. This area contains some rare species of *Arachnorchis* and

numerous other species of note.

Immediately the walk began, we encountered *A. fragrantissima* subsp. *orientalis*, *Diuris orientis* and two *Thelymitra* species in bud. *A. parva* was the next species and it is similar to *A. tentaculata* but plants are smaller with a single flower. They are minute but the pollinators can pick the differences. A large colony of *Pyrorchis nigricans* leaves was seen but apart from one deceased plant, no flowers were visible. Two distinct forms of *Prasophyllum elatum* were seen, one a darkish form but the other was an alba type, something I had not seen before, along with what I identified (correctly or incorrectly) as *P. frenchii*, another species new to me. Also in the same vicinity was a single plant of *Thel. ixioides*, partially open but enough to photograph.

Then came a darkish form of *Lyperanthus suaveolens* and two old favourites, *Pterostylis nutans* and *Glossodia major*. The weather was fine but not warm enough to have all the *Thelymitra* open but we did manage to see *Thel. flexuosa*, a small (10 mm) yellow species not seen in NSW. Then we encountered a *Thelymitra* species in a cage of gutter guard, obviously to protect it from the local Macropod population. It looked a very robust plant with a large number of buds and not being familiar with the local species, identification was impossible.

Michael had given me some GPS figures to look for plants of *Arachnorchis fragrantissima* (two subspecies), which also were in cages, as these plants are very rare and known from only a few sites. The plants were located and these are the same group of plants I had seen four years prior but this time I was able to take digital photos as well as the normal slides. These are absolutely beautiful specimens and photographing them was a pleasure.

At the same time as we came upon a large expanse of *A. tentaculata* we also saw two plants of *A. cardiochila*. One colony of *A. tentaculata* numbered 20 plants in a half a square metre. These were in various stages of

flowering with many plants exhibiting two flowers. *A. cardiochila* has a heart-shaped labellum, from whence it gets its name. Some confusion surrounds these particular plants, as they might actually be *A. tessellata*. I am also informed by a higher authority, the *A. fragrantissima* subsp. *fragrantissima* is an unidentified species. (Confusion reigns.)

During the walk, we constantly encountered one species throughout many sections of the Heath Land. *Diuris orientis* is a very colourful orchid but I did notice it was not in the more

protected areas, only in those areas subject to good breezes, which came directly from Bass Strait, only one kilometre away.

This reserve is the subject of constant study by at least two local persons with more than a passing interest in protecting the rare species within its boundaries. Numerous scientists from the Victorian Department of Sustainability and Environment also visit regularly. I recommend a walk, as it will definitely enlighten most orchid lovers but please exercise best conservation practices.

Colin Ogle wrote, “The article in the latest *NZNO Journal* (J94) about Michael Pratt’s finding of *Caladenia alata* at Rainbow Mountain sent me back to my notebooks and slides (and took me back 35 or more years too!)

“I lived in Te Puke 1964-68 and botanised largely on my own, being unaware of other botanists in the Bay of Plenty who were interested in orchids or other herbaceous native plants. I visited Rainbow Mountain several times in different seasons to catch as many orchids in flower as possible and also to list other plants there. In 1975 I led an Easter trip for the Wellington Botanical Society to the Rotorua District and we camped in the pine forest just east of Rainbow Mountain. Tony Druce was on that trip and, with his help, my plant list was extended greatly, although because it was autumn we did not add any flowering orchids. The list became part of Druce’s extensive collection of unpublished plant lists, as ‘Rainbow Mountain (Mt Maungakakaramea) SSE of Rotorua; List 87’. These lists are held in the library of Landcare Research NZ Ltd, Lincoln.

“The *Caladenia* and *Thelymitra* orchids that I recorded at Rainbow Mountain by sketches and/or 35 mm slides in the late 1960s contained several whose identities I was never sure about. However, when I look

at the cover of the *NZNO Journal* 94, one of my slides seems to be *C. alata* too. Since I was sending that one, I thought you might as well see the other slides from Rainbow Mt, including two *Calochilus* species, *C. robertsonii*, *C. paludosus* and several *Thelymitra*. Obviously the names I wrote on the slides and in the notebook need considerable updating – my authorities in the 1960s were Cheeseman’s *Manual of the NZ Flora* (1925) and Hatch’s *Auckland’s Orchids*.”

Inside back cover

Colin Ogle’s Rainbow Mountain orchids

Fig.A: *Caladenia alata* (labeled *Caladenia carnea* ssp. *minor*) dated 10 Nov 68.

Fig.B: *Calochilus robertsonii*

Fig.C: *Caladenia atradenia* (labeled *Caladenia carnea* ssp. *minor* forma *calliniger*)

Fig.D: *Calochilus paludosus*

Fig.E: *Thelymitra nervosa*.

New Zealand orchid stamps, 1990
—15 years later is it time for a new set?

Outside back cover

Fig.F: *Dactylorhiza sambucina*, red and white forms, Mt Mezenc, Auvergne, France



