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#107

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photo Margaret Menzies, Waitere track, Omoana, 7 September 2007.

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NEW ZEALAND NATIVE ORCHID GROUP

The Type Locality

2. Turakirae Head and *Dendrobium lessonii* Col.

By Ian St George

In 1882 William Colenso described *Dendrobium lessonii* [1], a plant he had regarded as different from *D. cunninghamii* since 1848. The chief difference between this and *D. cunninghamii*, he claimed, was the 4-crested labellum (compared with 5 for *D. cunninghamii*), along with smaller and fewer flowers, usually only 2 on a peduncle (not a panicle), different colouring and dwarf terrestrial habit.

In 1906 Thomas Cheeseman wrote, "I cannot separate Mr. Colenso's *D. lessonii* from the ordinary state of the plant, even as a variety [2]. Thus *Dendrobium lessonii* Col. is presently regarded as a synonym for *Winika cunninghamii* (Lindl.) M.A. Clem., D.L. Jones & Molloy.

Colenso's description

***Dendrobium lessonii*, sp. nov.**

Plant epiphytal and terrestrial; an erect and pendulous, diffuse slender shrub, often much-branched; *branches* 6 inches to 4 feet long, wiry, terete, hard, and brittle; main stems ⅓ of an inch in diameter; colour of stems and branches, some darkish-umber-brown, and some bright yellow, glossy and horny, ringed with dark scar-like joints, ½-1 inch apart, under the dry scarious sheathing leaf-bracts, which long remain. *Leaves*, alternate, ¾-1¼ inch long, 1–2 lines broad, 3–6 lines apart, sub-linear-lanceolate, or sub-ovate-acuminate, broadest near base, sessile, spreading, often falcate and twisted, coriaceous, semi-rigid, smooth not glossy, pale or yellowish green, margins entire, obscurely 10-nerved, midrib sunk and obsolete, somewhat concave, suddenly slightly thickened on the under side 1–3 lines from apex, with a slight corresponding notch in each side, tip obtuse, vaginant, sheaths truncate, longitudinally and regularly striated, and finely corrugated transversely. *Flowers*, white, membranaceous, few, scattered, usually 2 (sometimes only 1, very rarely 3) in a short loose raceme on a stoutish erect peduncle shorter than the leaves, always bursting at a right angle from the internode in the branchlet, and generally alternating with the leaves, never axillary nor opposite to a leaf; peduncle glabrous, shining, with 2–3 rather distant sheathing bracts, truncate and obtuse; pedicels, 2–3 lines long, bracteoles sheathing, acute; *perianth* nearly 1 inch in diameter, open, expanding, segments of equal lengths; *sepals*, ovate-acuminate, 5-nerved, margins entire, upper one the smallest, the 2 lateral ones with a very small round spur at their base; *petals* recurved, oblong-ovate, obtuse, with a minute point, margins also entire; *labellum* 3-lobed, the 2 lateral lobes small, oblong, obtuse, conniving, margins finely notched; middle lobe large, longer than broad, veined, sub-rotund (or sub-panduriform or broadly obovate), apiculate, margin sub-crenulate with a slight notch on each side, sides conniving, and 4 longitudinal elevated and shining green (or yellow-green), lamellæ near the base, which are bluntly toothed or crested; *column* slightly winged near apex, light green; *pollen masses* yellow. *Ovary*, 2–3 lines long, green, shining, obscurely striate.

Hab. In forests, Norsewood, Hawke's Bay district, North Island, high up in the forks of pine trees (*Podocarpus spicata*), and sometimes on the ground in dry stony hills under *Fagus* trees, flowering in November; 1879–1882; also among rocks near the sea at Cape Turakirae (the south head of Palliser Bay), 1845–6: *W.C.*

Obs. I.—The main branches of this plant are often very regular and spread out flat, bearing a bi-tri-pinnate frond-like appearance, from the side branchlets of equal length springing at about equal distances from the main stem; a few leaves on stout and strong young shoots are 1¾ inch long and 2¼ lines broad; the branchlets and peduncles shoot alike erumpent at right-angles with the stem. Although I have (rarely) seen a raceme bearing 3 flower-buds, I

have never seen one with all three open, the upper one seemed to be abortive; which is also often the case when there are but 2. In some flowers (on the same plant) the 2 lateral lobes and the extreme base of the middle lobe of the labellum, the throat and column, are dark pink; in a few others the same parts are slightly speckled with pink.

Obs. II.—I have long known this plant, and, though I early obtained specimens with a few unopened immature flowers from the rocks at Palliser Bay in 1845, and subsequently assiduously sought for good flowering specimens, I never detected any such until 1881, when my long previous suspicions of its proving to be distinct from the northern form (*D. cunninghamii*) were fully confirmed—I having well known and very often admired and gathered that elegant species in its native forests, where it is often to be met with. There is much however at first sight, and with only immature flowering specimens, to confound this species with that plant; indeed, it is only by careful examination of several fresh specimens, dissection and comparison, that their specific differences are perceived, which are chiefly in the labellum, its form and the number and size of its lamellæ (which in *D. cunninghamii* are always 5); the colour, too, of its flowers is widely different, these are also smaller and much fewer in number, usually only 2 on a peduncle, and never assume the panicle form; and also its dwarf terrestrial habit.

Obs. III.—I believe this plant to be identical with the *D. biflorum* of A. Richard, which was originally discovered by Lesson, the naturalist of the French expedition under D'Urville, in Tasman's Bay, Cook Straits, in 1827, and published by Lesson and Richard, with a very full description and a folio plate, in 1832; and, therefore, I have great pleasure in naming it after its original discoverer. That New Zealand species, however, was confounded by them with *D. biflorum* of Swartz, (then a very little known species, discovered by G. Forster when with Captain Cook in the Society Islands), which species, though very nearly allied, bears only two lamellæ on its labellum. On R. Cunningham re-discovering the Northern New Zealand plant, (which now bears his name,) it was described by Lindley with a plate, as being quite distinct from the *D. biflorum* of Swartz. Lindley, however, believed Richard's New Zealand South Island plant to be identical with Cunningham's North Island one, *D. cunninghamii*. And I think that Sir J. D. Hooker, subsequently adopting Dr. Lindley's opinion, also believed Richard's South Island plant to be the same as our Northern one; which it certainly closely resembles at first sight in many particulars, although Richard's life-size plate with dissections shows a difference, particularly in its 4-crested labellum.

Lindley's description of *D. cunninghamii* accompanied a description and a plate of *D. pierardi.* He wrote "*basi 5-lamellato*".

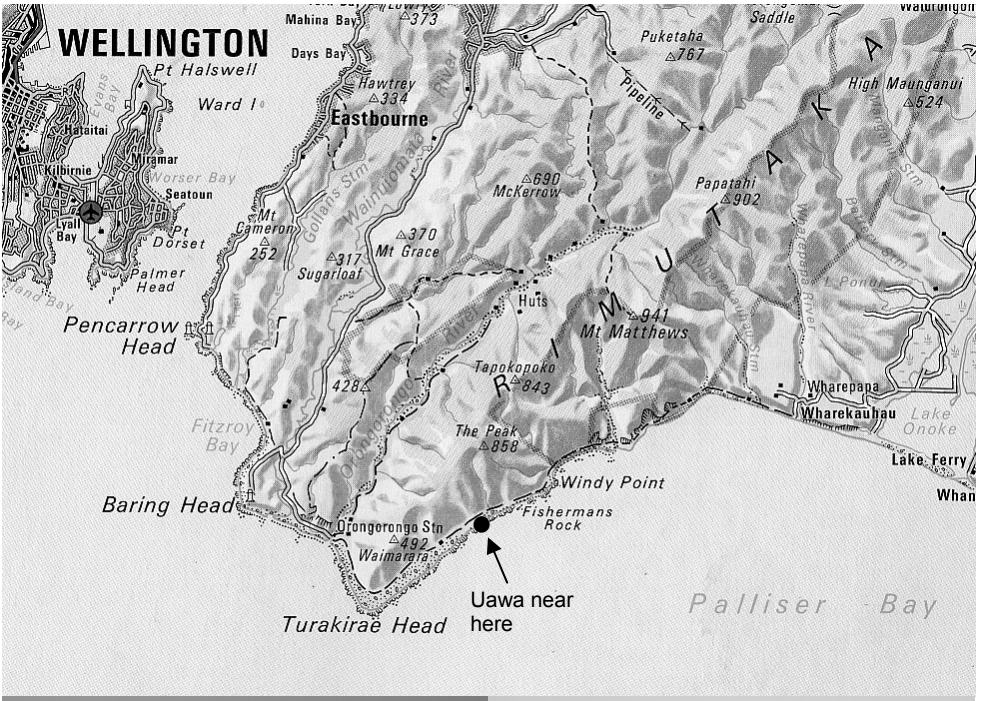
Several specimens (many from Norsewood) are in Herb. Colenso at WELT [3], among them Colenso's earliest collection, from Cape Turakirae, sent to Hooker in July 1848, and probably collected when he was at the Cape in October 1845 on his biannual walk from Hawkes Bay to Wellington [4].

Colenso rounded Turakirae Head 19-20 April and 27 October 1847, and 28-30 April 1848. Of those the plant would have been flowering only in late October 1847, so that seems the likely collection. His diary entries: *26-27 Oct Uawa.*(village W. side Palliser Bay) *27 Oct … at Waimarara, a small stream, we halted… resuming our journey… over the heavy sands and craggy rocks, through the sea and over the cliffs and heights until nearly 9, p.m., when we reached Pitoone (Petone).*

The Turakirae specimen is WELT no. 22584, labelled "1808 D. saxosum"; #1808 is listed in Colenso's letter to Kew of July to September 1848, with the note, "Dendrobium saxosum, W.C., rocks at Turakirae. I had long passed this, believing it to be *D. Cunningh.,* but now I think it to be very distinct". Colenso must have wanted Hooker to accept the name *Dendrobium saxosum* Col., and was disappointed.

It was his second attempt to get Hooker to recognise the plant—# 1740 in the same letter is annotated, "*Dendrobium*, ditto (ie, clayey hills, Tararua); Epiphytical, on large trees. A sp. apparently near *D. biflorum,* certainly distinct from *D cunninghamii: - D. Tararuensis*, W.C."

He must have gone on a bit about it, for there is an entry in Augustus Hamilton's diary of 1 Jan 1883, "At two I called on Colenso….



Turakirae Head, looking SE from the Orongorongo side

Entry to the reserve

Of the Dendrobium I heard the whole history. He describes it this time in the Transactions. It differs from the southern? (*he means northern—Ed*) form by only having four ridges on the lip. There is a similar species in the North, pink and having five ridges [5].

Hooker's omissions gave Colenso the later opportunity to name the plant for Lesson.

WELT No 24262 is also annotated by Colenso, "*Dendrobium* – Smaller plant. Leaves few – not striated, sessile, distant, blunt obscurely – 5–7?-nerved; flower never axillary 1- or 2, peduncle long, bract long, subulate; see Lindley - ?. c. spn. in bottle from North".

WELT No 52419a has been chosen as the lectotype by Clements et al. No locality is given.

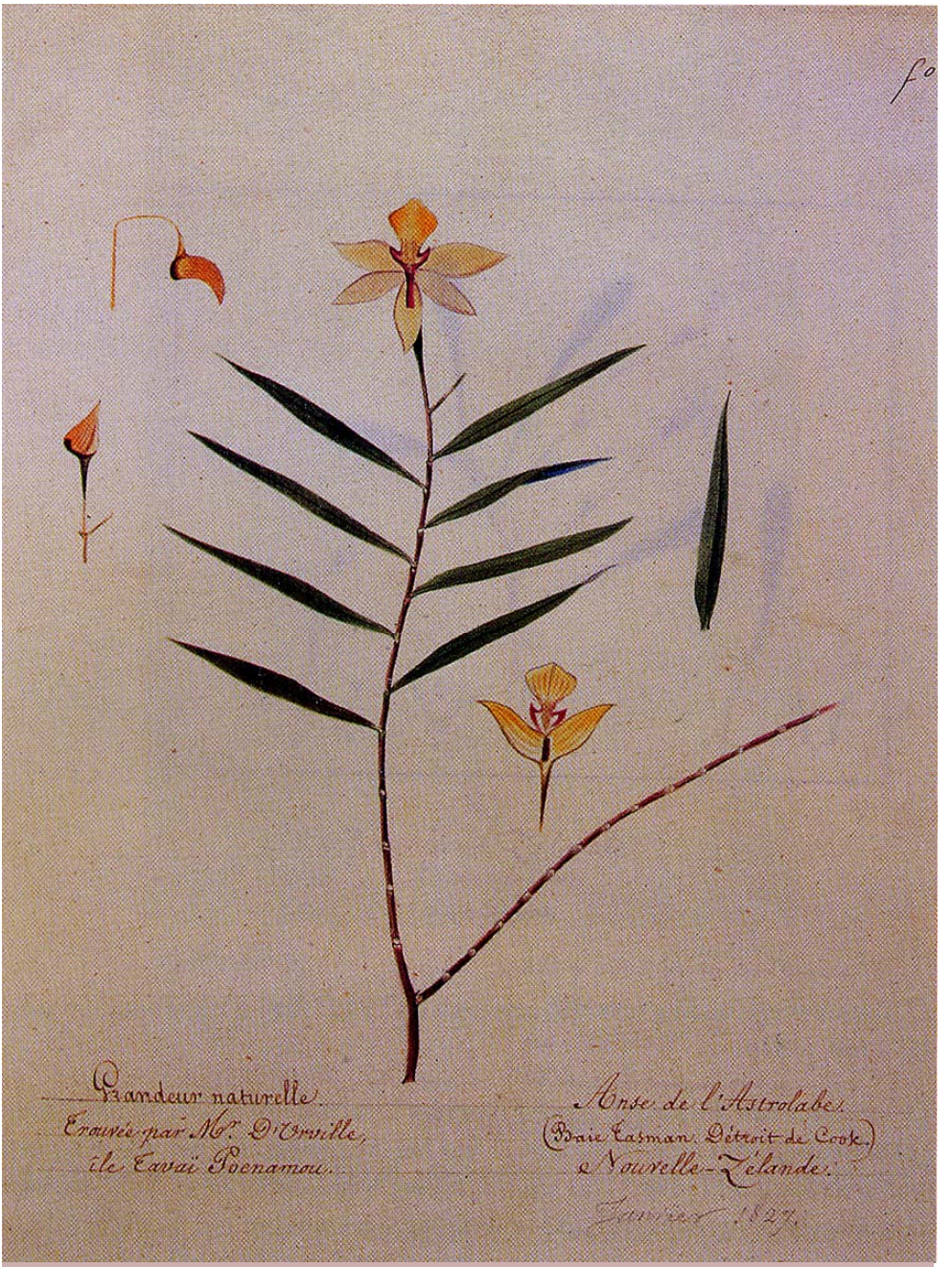
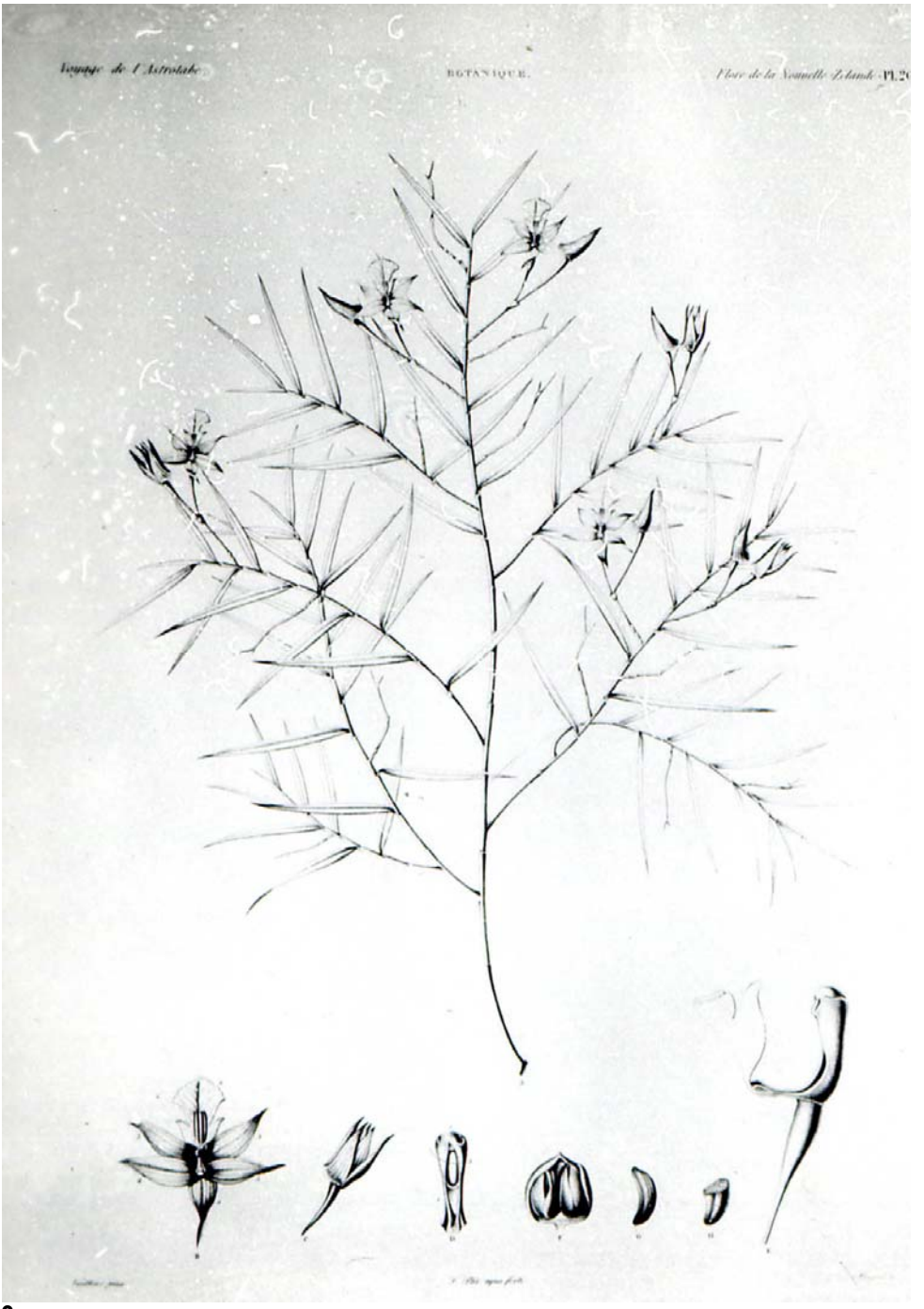


Fig.1: Watercolour by René-Primavère Lesson from his manuscript journal in the Bibliothèque Municipale de Rochefort: "Tasman Bay, Cook Strait, 27 January 1827"

Fig.2: a house-sized rock at Turakirae Head, thatched with *Dendrobium lessonii.*
Fig.3: the flower of *Dendrobium lessonii*, the central groove on the labellar disc clearly visible (inset: detail of the labellar disc of a southern plant [above] and a northern [below]).


Voyage de l'Astrolabe
BOTANIQUE.
Flore de la Nouvelle Zélande

Lesson's illustrations (p.7, 9)

Dumont d'Urville found the plant at Astrolabe Harbour, "parasitic on trees, in NZ woods". If that is the place we now know as the Astrolabe roadstead, it is 15km north of Motueka, between Adele Is and the coast.

Achille Richard and René-Primavère Lesson's description of the labellum includes the words, "*in medio 4-cristatum*" (4-crested in the centre) [6]. Hooker's description of *Dendrobium cunninghamii*, on the other hand, states "disc with five lamellae", as did Lindley's. Colenso was right so far.

Pierre-Adolphe Lesson's watercolour is shown as **Fig.1** (it must be his: he was the brother who accompanied d'Urville to the South Island). D'Urville recorded the find in his 16 January 1827 diary entry: "Among the parasitic plants, I noticed some fine Epidendrum or Dendrobium".

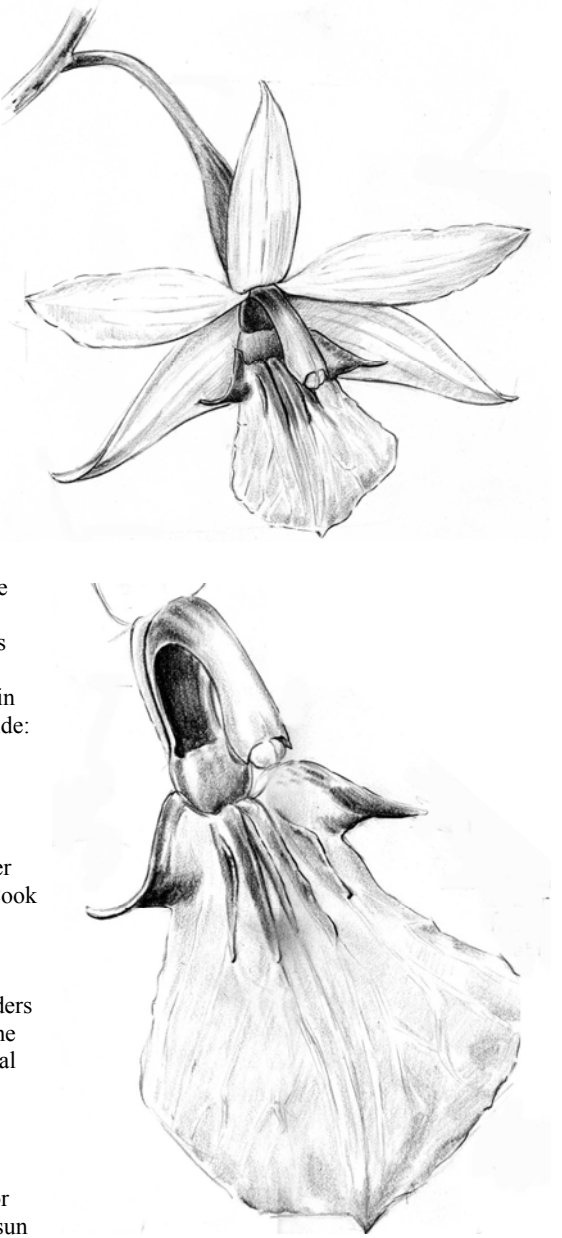
The engraving made from the drawings is shown on the next page. The detail of the flower at lower left shows a central sulcus in the labellar disc with two ridges to either side: 4 ridges.

What is at the type locality now?

Turakirae Head is at the west end of Palliser Bay, extending down into the windswept Cook Strait. In the 1840s the track around Cape Turakirae was the main walkway between Wellington and the Wairarapa [7].

Its raised beach levels and massive boulders are witness to the elevation of the land in the great earthquake of 1855 (Colenso's original intended epithet *saxosum* means "of rocky, stony places"). That earthquake effectively ended the use of the track in favour of the Rimutaka Hill route.

The headland is not a hospitable place for orchids. Nonetheless on 19 November the sun was blazing down and a soft sea-breeze cleared the air. Cray floats and seals bobbed in the calm blue sea, and the snow of the Seaward Kaikouras glistened to the southwest.



Winika cunninghamii
from
Bruce Irwin's drawings of New Zealand orchids.
NZNOG, Wellington, 2007.

Pterostylis banksii in damp spots, stunted *Thelymitra longifolia* and *Microtis unifolia* in hollows in the rocks. A fragrant *Earina mucronata* (I had never smelt it before) was flowering in a crack in one large boulder, and mats of *Ichthyostomum pygmaeum* covered large areas of others.

Then further round toward the Wairarapa I saw it: a rock as big as a house, virtually roofed with *Winika* (**Fig.2**)**.** They were short, stunted colonies, yellow-green, but in full flower (**Fig.3**).

The flowers are exactly the same size and structure as those I have photographed from the South Island and around Wellington and the Wairarapa: the poor habitat has had no effect.

These flowers have a central groove on the labellar disc; they lack the 5th central ridge found in plants from the north, though looking back over my photographs, and others from the collections of Eric Scanlen and the late Bob Goodger, that central ridge is not completely constant in northern plants either, though all the ridges are more robust and conspicuous than in the southern plants.

Of course, nowadays a lot of northern plants end up in southern collections, and vice versa, so for a populay cultivated plant like *Winika*, only wild populations count.

Bruce Irwin's drawings (at right) show the five ridges quite clearly,

Conclusion

Four ridges or crests or lamellae? or five? A midline groove or a midline crest? Is it a critical point? Was Colenso right, and thus should we be calling the southern form "*Winika lessonii*"?

Or was Cheeseman right, and are these all *Winika cunninghamii*?

It's a legitimate question. Some molecular biology might be helpful here.

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Daniel Oliver (1830-1916)
Pterostylis oliveri

Daniel Oliver was herbarium keeper at Kew during the latter part of the 19th century.

He was born at Newcastle-on-Tyne in 1830, the son of Andrew and Jane Oliver, members of the Society of Friends, and educated at the Friends' School at Wigton. He developed an early interest in natural history, and came into contact with other North Country enthusiasts when he joined the Tyneside Naturalists' Field Club. Later, when Lecturer in Botany in the medical school of the University of Durham, he made "herborising" excursions in the north counties and in Ireland. An early discovery added a new genus to the Irish and British flora, and he also published several short papers on mainly British plants. He was elected a member of the Edinburgh Botanical Society in 1851, and in 1853 the Linnaean Society of London.

In 1858, after writing to Sir William Hooker, he was invited to Kew where he worked energetically and diligently for a pittance on the mechanical work of classifying and elaborating the herbariums and library. He also initiated free lectures on botany and other subjects to the young gardeners of Kew. Officially appointed Keeper of the Herbarium and Library in 1864, he held the position until he relinquished it in 1890. Concurrently, from 1861 to 1888, he succeeded John Lindley as Professor of Botany at University College, London, supplementing his meagre Kew stipend. His many publications ranged from the botany of remote and little known parts of the world to official guides to the Kew museums and gardens, and were written in simple, clear language, within the understanding of all. Daniel Oliver's main scientific work was carried out at the Kew Herbarium, assisted by the contribution of a wide network of collectors, and he became well known as a systematic botanist of the highest order.

However, Daniel Oliver was enchanted as much by the beautiful forms of nature as by their arbitrary grouping for study. His holidays, often in France or in the county of his birth, Northumberland, were largely spent sketching, and his retirement leisure was devoted to gardening, painting in oils and collecting illustrated works of the old masters in botanical literature. He was a quick, methodical worker with a penchant for punctuality, and although of a retiring nature, had a wide circle of friends. He was averse to personal honours such as medals and other emblems being given for services that he considered duties to God and man, nevertheless had several prestigious awards bestowed upon him.

In describing *Pterostylis oliveri,* John Buchanan wrote, "I have much pleasure in dedicating this plant to Professor D. Oliver, F.R.S., of Kew, in acknowledgment of valued assistance in my botanical studies".

After a long life with hardly an illness, Daniel Oliver died in December 1917, at the age of 87, survived by Hannah, *née* Wall, his wife since 1861.

From a watercolour; reproduced from *Bruce Irwin's drawings of New Zealand orchids*, NZNOG, Wellington, 2007.

Pterostylis oliveri Petrie *Trans. NZ I.*26:270 (1894)

The dorsal sepal is deflexed as in *P. patens*, but the lateral sepal tips are long and erect, diverging at a narrow angle (ie, not pointing back and down as in *P. patens*); labellum narrow triangular. Stem sometimes decumbent as shown. Found in montane to sub-alpine open scrub and low bush. Flowering December to January. Confined to the South Island. Conservation status: not threatened.

Notes etc

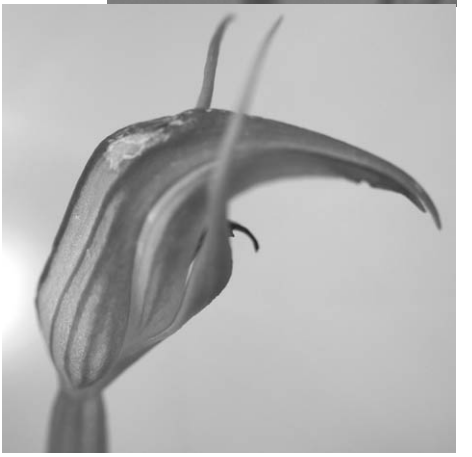
Sincere thanks from those members of the Group who attended the **Taranaki field days** 9-11 November in association with the AGM: we thank Ken Davies and Ernie Corbett, who organised good accommodation, ably guided interesting field outings, and orchestrated a generally fine time. And John Dodunski who allowed us to look at his extraordinary collection; and the members who put together a great "pot luck" dinner, Mike and Emma Duncan for their excellent talk on Australian orchids; and Eric Scanlen for his 3D show (I missed it, sad to say, but I hear it has got even better), and George Fuller for bringing in his stunningly wellgrown specimen plants.

The field excursions to city streetside plantings revealed healthy *Thelymitra longifolia* and *Microtis unifolia*; it's a nice aesthetic juxtaposition – wild orchids in city streets – but I have to say Ken and Ernie missed the big colony of *Earina mucronata* on the great old oak in the yard of the Cathedral Church of St Mary, its roots nourished by your editor's great great grandfather's grave.

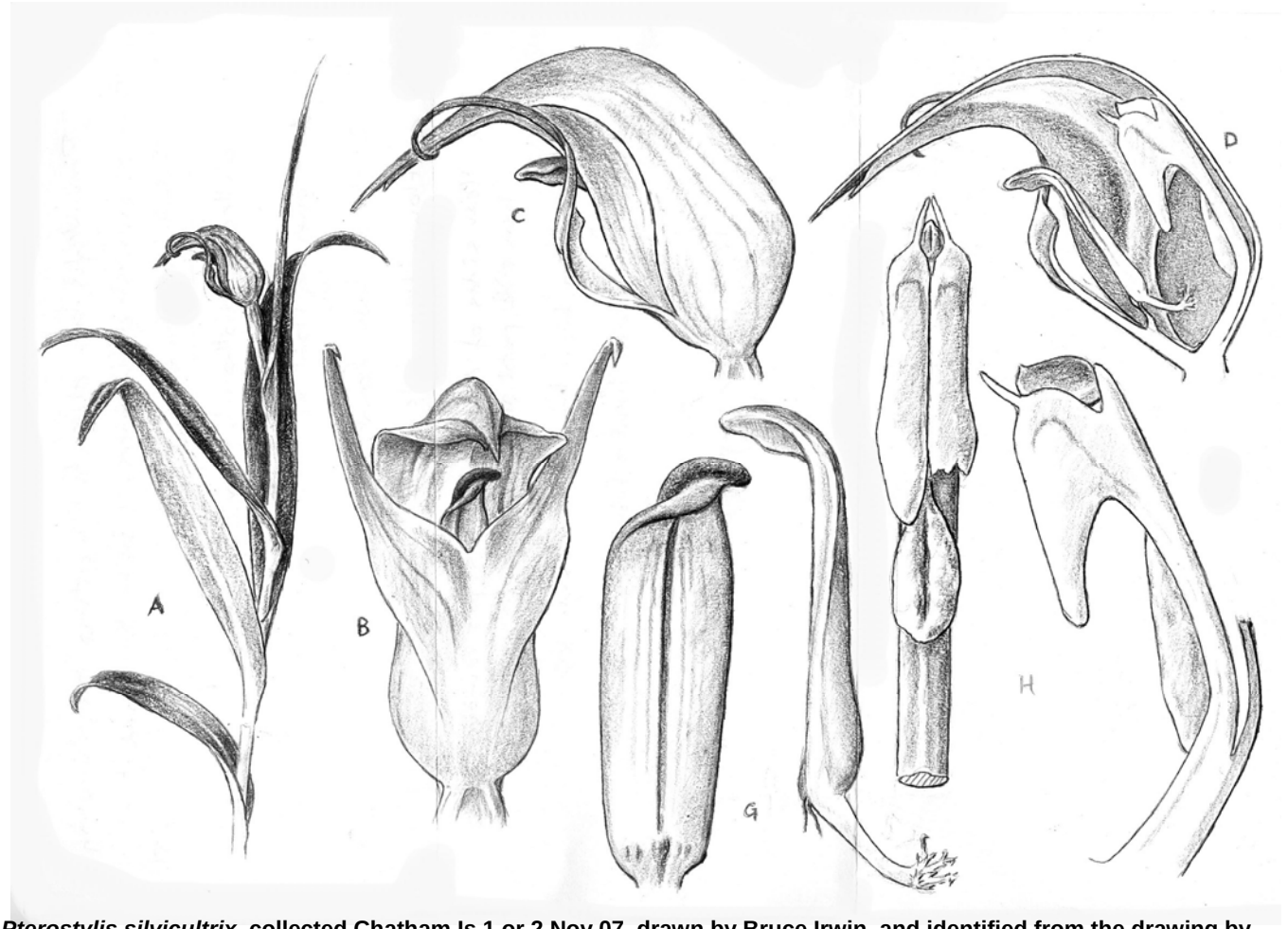
The Pukeiti gardens revealed *Earina mucronata* fl., *Nematoceras* "Trotters" fl., *Singularybas* fl., *N. rivulare* agg. seed, *N. macranthum* and *N. trilobum* agg. aborted fl., *Pterostylis* aff. *montana* fl., *P. cardiostigma* bud. N. Egmont next day showed us *Pterostylis venosa* in flower, *N. acuminatum* fl., *N. trilobum* agg. ("tricraig"?) fl.

I had heard that the little Taranaki *Pterostylis* "sphagnum" John Dodunski discovered, was self-fertile and had a nonirritable labellum. We visited John, examined a healthy specimen of *P.* "sphagnum", noted the sharply forward-leaning stance (rare in a selfer), and triggered the very irritable labellum (see photographs). Rumour duly scotched.

There's another rumour, that *Pterostylis venosa* has a furry labellum. I had not seen the North Island



Above: anterolateral and lateral views of *Pterostylis* "sphagnum" from Taranaki.
Below: lateral view of *P. graminea,* Wellington region.



***Pterostylis silvicultrix,* collected Chatham Is 1 or 2 Nov 07, drawn by Bruce Irwin, and identified from the drawing by Brian Molloy.** A. flowering plant x ½; B flower from front x 2; C flower from side x 2; D Near side dorsal, lateral sepals & petal removed x 2; G Labellum from front & from side x 4; H column from front & from side x 4

plant until this Taranaki weekend, but was quite certain the South Island plant (as I knew it from around Dunedin and Queenstown) did not have such a labellum, so wondered if the North Island plant was perhaps a different entity. Close examination of a flower from Taranaki, however, persuades me that (1) it doesn't have a furry labellum, and (2) it's identical with the South Island plant. Rumour 2 (where did *that* one come from?) thus scotched.

Dorothy Cooper founded the Group in 1982, and she handed over to me five years later. I have been Convenor of the Group for 20 years, and I am pleased David McConachie has now agreed to take the role. Bob Dylan, the Rolling Stones and I are all getting a bit long in the tooth, and it is good to hand over to youthful and capable talent (I don't want to wait until I fall out of a coconut palm).

I do want to recognise and applaud those who accepted office on the Group's Executive: David McConachie (Chair), Garry Penniall (Secretary), Judith Tyler (Treasurer), Brian Tyler, Eric Scanlen, Graeme Jane. Without people prepared to do this work, enterprises such as ours simply founder: I wish them wisdom in good governance ("govern" is from *gubernator*: a rudder - and indeed their task is to steer the Group on a proper course).

I continue as your humble editor (*Editor humilis*), and of course the Journal is your native orchid mouthpiece, not just mine: feel free to share your knowledge, ask your questions, pose your conundrums, contribute your expertise, argue the point, challenge the logic of wayward contributors, and exploit this publication as a proper forum for the great debate that we call science.

Kevin Matthews has sent some interesting photographs—several of different colour forms of ***Thelymitra sanscilia*** (**Fig.4, 5),** one of them apparently derived from *T. colensoi* (**Fig.6**), growing alongside it; a white *T. aemula* (**Fig.7**); a white *T. pulchella* with blue stripes (**Fig.8**); a *T.* aff. *pauciflora* with a magenta post-anther lobe (**Fig.13**); *T.* "darkie" (**Fig.11**); *T.* "sky" (**Fig.12**). His shot of thrips carrying *Thelymitra* pollen are food for thought: "Yesterday while out at Ohia I observed thrips crawling over *Thelymitra* fertile flower parts. The NZ flower thrip visits a large range of flowers both native and exotic. John Early has identified these tentatively as *Thrips obscuratus.* You can see pollen attached to the thrip's right side abdomen in the *Thelymitra pulchella* photograph" (**Fig.9, 10**).

Mike Lusk sent (2 Dec 07) "a couple of photos of what we think is *Pterostylis venosa* (**Fig.14**)…. I had seen it a couple of years ago while doing a Ruahine crossing and got a dud photo. So I went back in early Nov and was pleased to find good numbers, all at or on the high points of Maharahara 1095m and Matanganui 1074m. The track at that level is a corridor through almost pure and very dense leatherwood (*Olearia colensoi*) with the orchids growing along both edges. It wasn't possible to see far off the track as the leatherwood was not only dense but festooned with moss, so that even the few ferns were struggling."
I think these are P. humilis, but its difficult to be certain without looking at the stigma—Ed.

Mark Moorhouse emailed (29 Nov 07), after having earlier found **a strange *Stegostyla* bud**, "Returned twice to Sherry River before finding bud in final stages of opening today. A small amount of assistence revealed what appears to be an extremely late and rather unusual variation of *S. lyallii*. All *lyallii* normals in the area finished flowering a week ago. Two striking features. The labellum midlobe is virtually callus-free down both its sides, is very narrow, and triangular, but does have fine bumps along its edges. Two calli appear each side at the base of the labellum wings

"The flowering bracts are quite abnormal, *cf S. lyallii*. The lower bract is extremely long, rolled into a terete form, The upper flowering bract is also very long, just overtopping the ovary, strongly triangular and fully sheathing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at its base. Petals are narrow-ovate, 5 nerved, dorsal extremely long, relatively narrow and acute at tip. Dorsal sepal also sitting at atypical angle for local *lyallii*, being held almost vertically (**Fig.15**).

"I do have another photo taken some years back at Mt Robert, St Arnaud of a similar plant. I did wonder if any Aussie spp match, but could only find one pic of *S. alpina* taken in Tasmania with much similarity.

"First reaction is, Oh it's deformed. But in fact it's perfectly formed and very reminiscent of *Adenochilus* midobe tip. Is a sterile cross of *Adenochilus* and *S. lyallii* possible? These species do have a brief overlap in flowering times here. And in both the instances I have run across, both species were present. I am first to concede it's a pretty wild theory, but *Adenochilus* is closely enough related to have begun it's botanical life as a *Caladenia* so I don't see a cross as totally ridiculous."

Mark emailed again, "Now for some more excellent news. After two seasons of fruitless searches, we were privileged to find another ***Stegostyla* 'minor'** about a mile from the known two specimens that came up on Upson's Block this season. This plant is extremely scarce and truly in danger of extinction before it reaches official recognition as a new species if current drought conditions prevail for another season or two. This specimen is slightly shorter and blunter in the dorsal overhang dept. than our other finds but otherwise has all the *S.* 'minor' hallmarks. Flowering now! (**Fig.16**).

"Habitat for *S.* 'minor': Tall open manuka/ kanuka in a montane situation, shallow gradient and pockets of light, and the presence of small mosses are important, don't search steep banks, etc unless they contain flattish hollows. If there's a bit of blue mudstone about, all the better but not a criterion.

Normally *S. lyallii* and other smaller Caladenias present, so this basically says they like similar conditions. They tend to be solitary, rather like *S. atradenia*, and are fertile. They set seed, so must frequently self. If you are looking in areas where there are numbers of *S. lyallii*, it is very easy to recognise them using the green-flushed dorsal with red stipitate glands as first point of recognition on what otherwise might be mistaken for a small S. *lyallii*, after that, an examination of labellum will reveal long gracefully curved lateral calli on the midlobe base, and two rows of long stalked calli down the middle and extending but diminishing onto the midlobe.

"Please encourage others to have another look at their favourite *S. lyallii* haunts. We need help to establish a population base big enough to send a sample to the herbarium. I believe the ranges behind Wellington are similar enough to warrant looking there, as are wetter parts of the inner Marlborough sounds where *S. lyallii* almost reaches sealevel, no doubt as a result of the ria coastline formation".

Rebecca Bowater emailed (24 Nov 07), "I found this white orchid (**Fig.17**) on the Bridle track at Denniston Westport this week on a mossy bank. Is it ***Singularybas oblongus* white form**?" Well, it is a white form of that aggregate, certainly – and not an albino (look at all the colour in the leaf). Rebecca noted other normal red plants within a metre. By an extraordinary coincidence, Jeremy Rolfe emailed within an hour, "Attached are photos of white-flowered *Singularybas* from the Waitakere Ranges (**Fig.18**). I was with Jeff McAuley of Oratia Native Palnt Nursery when we found up to 20 plants. We did not find any 'normal' *S. oblongus* amongst these plants, although it was common in similar habitat a few hundred metres beyond the site of the white-flowered plants."

Drymoanthus flavus seems nowhere to be common, but that may be because it prefers the small outer branches of forest trees. It was certainly profuse on 2-6cm branches of a fallen kamahi in the Tautuku forest, Catlins region on 28 November (**Fig.19**). It was equally at home on small coastal totara in a thicket at Surat Bay (**Fig.20**). *Pterostylis*

auriculata was plentifully in flower there too (**Figs.25, 26**).

At Upper Morrison's Creek, Leith Valley, Dunedin, the ***Nematoceras iridescens*** were still in flower on 27 November (**Fig. 21**).

At Shag Point north of Dunedin there was an extensive patch of what I take to be ***Nematoceras papillosum*.** This is one of the *N. macranthum* variants, characterised by the pale lower part of the labellum, and the very papillose leaf and labellum. See **Figs.22-24**).

Kevin Matthews emailed (10Dec07), " I have a **new site up here for *Pterostylis puberula*** on the the Rangaunu Harbour and west of Ohia. The colony has at least 30 plants with 7 bearing mature seed pods. I will follow the colony with interest next flowering season, hopefully it's more extensive in the close area".

At http://www.abc.net.au/science/news/stories/2005/1499533.htm you can read that c**limate change affects flowers too.** Dr Marie Keatley of the University of Melbourne has examined records for more than 20 years, including 13 of the warmest years ever recorded in Australia. Her records of 56 plant species in Victoria show a shift in all their flowering dates, which could affect cross-pollination; 24 species began flowering on average 2 weeks earlier over the past 22 years, while the remaining flowered about 3 weeks later.

The *Orchadian* of December 07 carried this story:

"**Tourist Road orchids slashed by Sydney Catchment Authority**.

"There are well known populations of rare Orchids along Tourist Road, Kangajoon in the Southern Highlands. The SCA, which is charged with managing the area, is well aware that there are rare Orchids and other Endangered Species present here. They have been told that by local environmentalists and have even commissioned biologists to survey the area, as a result of that advice.

"They might argue that this slashing was

necessary for fire prevention However, in previous years they have done this slashing in late winter. This year, they have done it in the height of Orchid-flowering season. This is a calamity.

"With many fine Orchids in full flower this year, this is a calamity. All those plants will have had their flower heads, or seed capsules destroyed. That means none of these plants can set seed for future years. None of them.

"The plants tubers will survive, but with the loss of leaves, the plants will have been weakened. If they are slashed again next year, at this time, the plants are likely to die out.

"This is disastrous for the Orchids. And given that the SCA knows about these plants it is an act of wanton vandalism on their part."

Denis Wilson ANOS Robertson

Credit where credit is due, wrote Bruce Irwin (15 Dec 07), "All NZNOG members probably agree with me that the main purpose of our Journal is to disseminate information about our native orchids. The orchids cannot disseminate that information by themselves. The editor depends on NOG members and people of similar interests for copy. His editorials, often based on his extensive reading from the world at large supplement the efforts of those contributors. Should the editor be given credit for the spectacular growth of the Journal in recent years? Certainly he should, together with all contributors great and small. However, I should like to mention the enormous contribution of a NOG member, along rather different lines

Some years ago, about the time digital cameras arrived on the scene, Brian Tyler suggested that all my orchid drawings should be recorded, so that if the originals were destroyed by fire or other disaster, the information they contained would not be lost forever. I had often thought of the problem, but perhaps I was putting too much importance on my drawings. Here was somebody with similar thoughts to my oen and he wasn't just suggesting action, he was asking if he might do it. I must mention that neither Brian nor I had any idea of producing a book. The plan was to safeguard the information contained in the drawings and to make them available on the internet, whatever that might be. The book was Ian St George's brainchild.

Brian took home the large folder of Corybas drawings to photograph. After some months he admitted the task was more involved than expected. To use an American saying, I had placed my drawings "every which way" on the paper, some on their sides, some upside down, some even the right way up. My scribbled notes were also haphazard, sometimes right over parts of other drawings. Even so Brian asked for more folders.

Eventually proof sheets of pages arrived, so I had the task of checking Brian's typed notes against my original scribble. That wasn't easy. Constant shuffling through the folders to check some small point had smudged my barely legible scrawl. Though I found quite a few mistranslations, I was impressed by how much effort he had put into erasing my scribble and replacing it with "now legible" type. Generally too, all drawings were right way up.

Several times I was asked how my book was coming on. I disowned it. I said it was Brian's book, my drawings were merely his subject. I noted in pre-publication notices, that all 30 copies of the book would be signed by me. Why not Brian? That was just another problem Brian had to solve. All 90kg of books travelled in Brian's car from Levin to Tauranga and back so that I could sign them. One wag asked if signing all those copies had given me writers' cramp.

The book is an unusual one. Jean Coe, aware that the original drawings were not prepared with publication in mind, wrote in a very perceptive critique, "It was a jumble of sketches and private notes but is now rearranged and published for the preservation of the valuable material it contains…" Unfortunately no mention is made that it is Brian who deserves any credit, but believe me, that is the truth.

Thank you Brian.

Maori, Pasifika and low income children are blighted by poor health status, Tariana Turia, health spokesperson for the Maori Party said in a press release on 27 November 2007. She went on to extend the metaphor: "**The delicate, exquisite beauty of the native orchid flower, Winika, is an appropriate image to demonstrate the complexity of environmental impacts upon children.** This beautiful putiputi grows out of the strength provided from its source – a rock, a tree, a foundation" said Mrs Turia. "Indeed so striking is the flower that Tainui named one of their prized waka taua, *'Te Winika'*, after the fine orchid which grew on the totara tree which formed the hull of the canoe. This is an inspiring image of hope from which to consider the outcomes of this latest report from the Paediatric Society's analysis into childhood diseases" said Mrs Turia. "If we can create supportive and healthy environments, to ensure all of our communities are equipped to be sites of wellbeing, then the health of our children will blossom". She concluded, "There is no escaping from the inevitable conclusion, that if we are to truly care for all our treasured orchids, including our native species, every effort must be taken to invest in strong monitoring approaches and comprehensive indicators of wellbeing".

There's **an interesting reference to *Nematoceras hypogaeum*** in Augustus Hamilton's diary. Hamilton was a teacher, who in the 1880s was living at Petane, and who went on to be Registrar at the University of Otago, and later Director of the Dominion Museum. Colenso had observed in his description, "I have known this plant for some years, but never found it in flower until the spring of 1883, mainly owing to its peculiar manner of growth, and its very early flowering…. It grows pretty thickly scattered in beds, showing its small glistening leaf just above the mosses and *débris* of fallen *Fagus* leaves (*F. solandri*), but flowering specimens are very scarce, not one plant in twenty bearing a flower." [1] Hamilton wrote (1 Jan 1883), "A little orchid has puzzled him very much as he cannot get any flowers, the shape of the leaf is peculiar. It grows on the banks under birch trees." He sketched the leaf [2].

Colenso referred to his *Corysanthes hypogaea* in a letter of 14 Nov 1883 to David Balfour of Glenross Station (who had sent him specimens of *Corysanthes papillosa)*, "Your tin with bottle and Orchid in spirit pleased me much; if possible let me have more flowers, fresh, put into damp soft & clean Moss, in a box, match box will do – never mind leaves or roots. It may prove to be a new spn. We have 4 or 5, Corysanthes – curiously enough, the one I had so long sought, & only got by going to the Bush in Sept, is very near to yours, but much smaller." [3].

1. Colenso W. A further Contribution towards making known the Botany of New Zealand. Trans N.Z.Inst. 1883; 16: 336.
2. O'Rourke R (ed). A diary of the late Augustus Hamilton. Vol III 1 Jan-28 Apr 1883. Te Papa 2005.
3. Colenso, William. Letters to Balfour, 1875-1889. Ms 88-103-1/07. Alexander Turnbull Library.

Bob Bates wrote (NOSSA Journal Dec 07) on "***Thelymitra cyanapicata* Jeanes, another lost orchid species rediscovered:** After reading Andy Young's article in the Oct issue of the NOSSA journal concerning the rediscovery of *Thelymitra matthewsii* in SA, on Kangaroo Island we can report on some more good news re the rediscovery of a second 'lost sun orchid' in SA.

"When the endangered sun orchid *Thelymitra cyanapicata* was described by Jeff Jeanes in 2005 this Adelaide Hills endemic had not been seen this century. The Type location near Kuitpo on private property had been gradually destroyed since 1990 and the only other population in an unplanted section of Knott Hill FR had apparently disappeared under feral pines. These feral pines and the adjacent plantation were clearfelled in 2005-6 and the area had been ploughed and sprayed with herbicide ready for replanting (illegally

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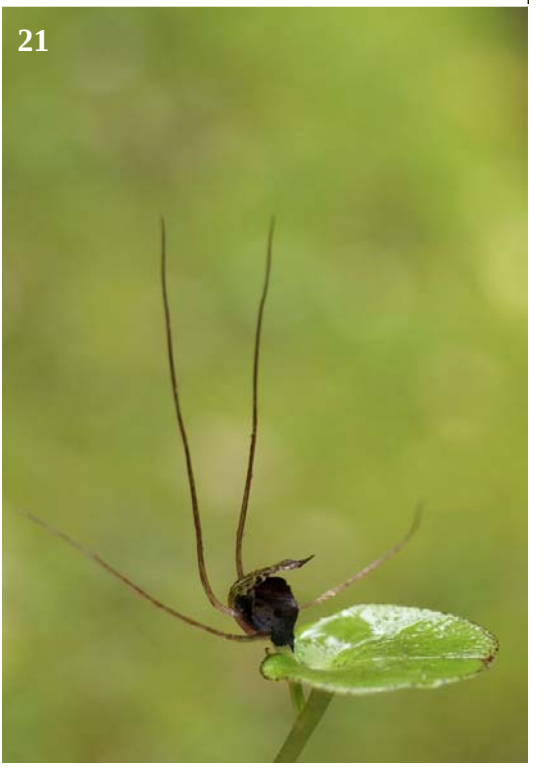
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in this case as the sun orchids occurred on a peaty sand bog that had never been cultivated). Amazing as it may seem government departments are allowed to clear wetlands, an offence that would incur a huge fine to a private individual or company. Surprisingly NOSSA members noticed in May 2007 that sun orchid leaves were appearing all over the clearfelled areas. DEH, TPAG, NOSSA and Forestry SA officials met and it was decided the plants would be marked in case any were the by now critically endangered *T. cyanapicata*. Surprisingly the area was replanted with pines anyway. Many plants were covered with plastic domes for protection in September. At flowering time I visited and found that among the seven species of sun orchid flowering in this small exclusion zone there were at least three *T. cyanapicata*! It was not extinct at least. As there was a similar block of felled pines nearby with thousands of sun orchid leaves and many rare plant species I checked it out and sure enough next to a *Viminaria* bog was a large population of almost one hundred *T. cyanapicata* along with some ten other sun orchid species. Scattered plants of *T. cyanapicata* occurred over the whole block. This small block rich with rare native plants lies between a native forest reserve and the road. It was visited by government officials, TPAG and NOSSA in midoctober and it was determined that as it was only a small area with rich diversity it would not be planted to pines but be added to the reserve system as a special *Thelymitra cyanapicata* wetland reserve. It all sounds great but I have since heard that the block was sprayed with herbicide. If this is the case then we have a government department knowingly destroying rare plant habitat, a critically endangered orchid and a small wetland. Let's hope that this did not happen. In any case NOSSA will be fighting to ensure that the area with the endangered orchid is saved. Many thanks to those who have been involved so far in the effort to save the species."

Pat Enright emailed (3Jan08), "Here is the full list of orchids to date for the Mangatainoka Valley. I will go back next year to update the eariler orchids especially the *Nematoceras*. *Aporostylis bifolia, Caladenia chlorostyla* (unc) (flowering 22/12/07), *Earina autumnalis, Earina mucronata, Gastrodia cunninghamii* (full flower 2/1/08), quite sweetly scented, *? Nematoceras longipetalum, ? Nematoceras macranthum, Pterostylis banksii, Pterostylis cardiostigma* (unc), *Pterostylis montana* agg. (sensu Moore) (flowering 22/12/07), *Simpliglottis cornuta, Singularybas oblonga, Thelymitra hatchii* (unc) (flowering 22/12/07), *Thelymitra longifolia* agg. (two forms), *Winika cunninghamii*." *Mangatainoka is where Tui beer is brewed – Ed.*

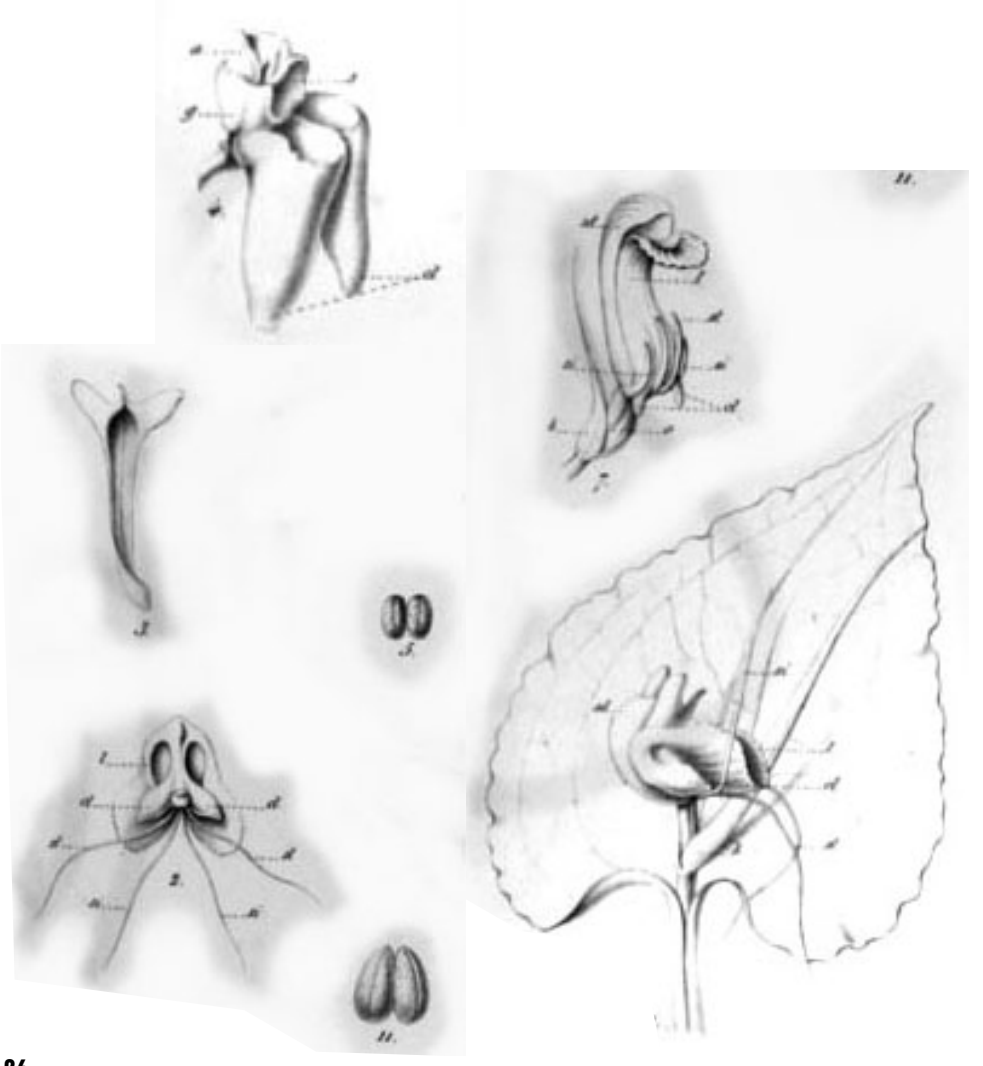
Pat also found, in the Waiohine valley, Tararua SFP, the **pink-ciliated *Thelymitra* aff. *hatchii*** previously reported by Margaret Menzies from a Taranaki site now destroyed, and by your editor from Mt Holdsworth, Tararua SFP.

In a superb paper entitled **"Contributions to a chromosomal atlas of the New Zealand flora—39. Orchidaceae" (*New Zealand Journal of Botany* 2007; 45: 611-684), Murray Dawson, Brian Molloy and Ernst Beuzenberg** discuss and illustrate the chromosomes of most of the New Zealand orchids: "Somatic chromosome numbers are documented for the majority of the New Zealand indigenous Orchidaceae, with counts for 80 species, 23 taxonomically indeterminate taxa, and 3 hybrids in 34 genera. Related chromosome counts are provided from elsewhere for comparison". Murray Dawson has agreed to write a synopsis of the main points in a forthcoming paper in this journal. The work to a large extent supports the DNA-based taxonomy of Jones, Clements and Molloy, but there are some surprises, revealed almost in passing, and these too will be the subject of an explanatory piece by Brian Molloy in a future issue.

Close relations: orchids like ours

Corysanthes picta from Karl Ludwig von Blume (see Editorial p2 last issue).

For a good photograph, go to www.orchidspecies.com/corybpictus.htm.



Original papers

Orchids at Iwitahi

By Chris Ecroyd

This list is an interim one: comments are invited, and vouchers are needed — photographs or specimens.

1. Adenochilus gracilis Hook.f.
2. Aporostylis bifolia (Hook.f.) Rupp & Hatch. Two types "green leaf" and "spotted leaf".
3. ? Caladenia alata R.Br. (syn. *Petalochilus alatus*)
4. Caladenia atradenia D.L.Jones, Molloy & M.A.Clem**.** (syn. *Stegostyla atradenia*). Was originally recorded as *Caladenia iridescens*.
5. ? Caladenia bartlettii **(**Hatch) D.L.Jones, Molloy & M.A.Clem. (syn. *Petalochilus bartlettii*) From Robbies list**.**
6. Caladenia chlorostyla D.L.Jones, Molloy & M.A.Clem. (syn. *Petalochilus chlorostylus*).
7. Caladenia lyallii Hook.f. (syn. *Stegostyla lyallii*) Two "forms", one small.
8. Caladenia variegata Colenso (syn. *Petalochilus variegatus***)** From Robbie's list.
9. Calochilus robertsonii Benth. Sparse.
10. Chiloglottis cornuta Hook.f. (syn. *Simpliglottiscornuta*)
11. Chiloglottis trapeziformis Fitzg. (syn. *Myrmechila trapeziformis*) Planted.
12. Chiloglottis valida D.L.Jones (syn. *Simpliglottis valida*). Vagrant
13. ? Corybas acuminatus M.Clem. & Hatch (syn. *Nematoceras acuminatum*).
14. Corybas cheesemanii (Kirk) Kuntze. From Robbie's list.
15. Corybas macranthus (Hook.f.) Rchb.f. (syn. *Nematoceras macranthum*).
16. Corybas oblongus (Hook.f.) Rchb.f. (syn. *Singularybas oblongus*) (from Robbies list)
17. Corybas trilobus (Hook.f.) Rchb.f. (syn. *Nematoceras trilobum*) Three types "green" form, "red" form, "bronze leaf".
18. Earina autumnalis (G.Forst.) Hook.f From Robbie's list.
19. Earina mucronata Lindl.
20. Gastrodia cunninghamii Hook.f.
21. Gastrodia minor Petrie
22. Gastrodia aff. ***sesamoides*** R.Br.
23. Mi crotis parviflora R.Br.
24. Microtis unifolia (G.Forst.) Rchb.f.
25. Orthoceras novae-zeelandiae (A.Rich.) M.A.Clem**.,** D.L.Jones & Molloy
26. Prasophyllum colensoi Hook.f.
27. Pterostylis alobula (Hatch) L.B.Moore (syn. *Diplodium alobulum*)
28. Pterostylis banksii A.Cunn.
29. Pterostylis cardiostigma D.Cooper
30. Pterostylis foliata Hook.f. (From Robbie's list.)
31. Pterostylis* sp. cf. *P. graminea Hook.f.
32. Pterostylis* sp. aff. *P. montana Hatch (From Robbie's list.)
33. Pterostylis patens Colenso
34. ? Thelymitra carnea R.Br. ("This may have been a bright pink pauciflora" Max Gibbs).
35. Thelymitra Xdentata Moore (record from Max Gibbs)
36. Thelymitra formosa Colenso (See Journal 102 - Eric Scanlen) Sparse
37. Thelymitra sp. aff. ***T. ixioides*** Swartz (from Max Gibbs)
38. Thelymitra longifolia J.R.Forst. & G.Forst.
39. Thelymitra nervosa Colenso was known as *T. decora*.
40. Thelymitra pauciflora R.Br.
41. Thelymitra pulchella Hook.f.

A West Coast odyssey

By Gordon Sylvester

Canterbury Orchid Society discussed the possibility of organising an orchid crawl sometime during 2007. After some discussion Melanie Bridgen was elected to organise this event for the members. The eventual destination was Lake Mahinapuna and any other that appeared en route. A notice was posted in the NZNOG *Journal* advertising the trip.

On 17 November Melanie arrived at Gordon Sylvester's place to look at some likely sites. Among those looked at, were Londonderry Rock, Kapitea Dam and its environs and Kelly's Stream. There was plenty of material available mostly in developing bud or no flowers present at all. But enough to give Melanie some idea of what may be available later.

Sat 23 Nov dawned typical wet coast weather; by the time formalities had been completed at the motel there was a definite improvement.

We convoyed out to Lake Mahinapuna, where lunch was taken by the 23 persons present. Some investigation was carried out around the carpark margins. Nothing was noted. After lunch we started to drift down the track to Swimmers beach. It was not too long before the first finds was made and duly recorded to the tune of clicking cameras. A patch of *Pterostylis banksii* drew a lot of comments. One group was discussing the possibility of finding a couple of other species when one of the men looked at his feet and noted he was standing on the particular species under discussion, along side was a another piece of the branch with another piece of *Ichthyostomum pygmaeum* and also a *Drymoanthus adversus*. Shortly afterwards David McConachie reported finding *D. flavus* in flowerpod stage and *I. pygmaeum* on trees standing in the margin waters of the lake.

The evening was spent socialising at a Society member's place in Shantytown enjoying West Coast hospitality and a BBQ.

Sunday morning showed a light showery morning, everyone arrived at Gordon's place to look at the relocated *P. cernua*. Then moved on to the Kapitea dam looking on the long grassy bank. Several species were noted, none in flower. Moving onto a nearby site where there was about 50 or 60 *P. cernua* in full flower creating a great sight for the photographers.

The next stop on the tour was Kelly's Stream; this stop lasted about three hours. Then onwards and upwards to Arthurs Pass where a stop was made in the alpine herb fields. A short refreshment stop later to refuel the coffee intake then out to Greynes shelter track, where the group split up and went their various ways.

The composition of the group was from Wellington, Kaikoura, Christchurch, and Timaru.

Both Gordon and David spoke about and showed publications of the NOG. As a result the small supply of membership forms soon dried up

Plant list

Kelly's stream Otira Cockayne walk

Saturday, 10 Nov 2007

Kumara: *Drymoanthus flavus, Microtis unifolia, Winika cunninghamii, Earina mucronata*.

Londonderry Rock: *Chiloglottis cornuta Earina mucronata, Earina autumnalis, Winika cunninghamii*.

Kapitea Dam: *Thelymitra hatchii, Thelymitra cyanea?, Microtis unifolia, Thelymitra spp*.

***Stantons Road* :** *Pterostylis cernua,* immature *P.* spp.

Kelly Stream: immature *P.* species, 3 different species, *Pterostylis oliveri, Nematoceras hypogaea. N. macranthum, N. longipetalum, N. acuminatum.*

17 Nov 2007

The other end (SH 73) showed the *Pterostylis* has an *australis* flower with narrow leaves; there are *P. australis* plants in the area but what is the other side of this plant?

Sat 23 Nov 2007

Lake Mahinapuna: *P. irsoniana, P. graminea* agg. *P. banksii, N. hypogeaum, Earina autumnalis, E. mucronata, Winika*

cuninghamii, D. adversus, D. flavus, I. pygmaeum, M. unifolia

Lake Kaniere: *Singularybas oblongus*, in addition to the list from Lake Mahinupuna

Sun 24 Nov 2007

Kumara: *M. unifolia, P. cernua, P.* "Peninsula"

Kapitea Dam wall*: T. paucifolia, T. hatchii, M. unifolia.*

Stantons Road: *P. cernua, M. unifolia, T. hatchii*

Kelly's stream: *E. autumnalis, C. cornuta, P. oliveri, N. hypogeaum, N. longipetalus, P. australis, P. irsoniana. P*. put. hybrid, *N. trilobus, N. acuminatum, P. australis* x *P. irsoniana.* See comments above.

Twin Creeks Otira walkway: *A. bifolia, Prasophyllum colensoi* (in bud) *Adenochilus gracilis, Waireia stenopetala*

Greynes Shelter Walk*: C. cornuta, N. trilobum, P. oliveri* very much later than on the other side of the hills.

Canterbury Tales

By Gordon Sylvester

A short notice trip was organized to Okuti Valley Banks Peninsula for Sunday 9Dec07. On Saturday *en route*, we decided to call in to Kelly's Creek again to look at those pesky *Pterostylis*, only to find that DoC had been busy with a weedeater cleaning up the track margins of the nature walk and (yes you have guessed it) those orchids. Relocated back to the other end of the track and - yes busy there as well. Eventually found several specimens a little distance from the track. All specimens now displaying *P. oliveri* flowers with *graminea* width leaves looking like *P. australis*. Is this now a *P. oliveri* x *P. australis* hybrid? Some plant showing the *oliveri* flower were collapsing onto the ground. Need more observations next year. What an excuse!

Moved on up to Otira River track at the top of Arthurs Pass. Here *Caladenia lyallii* was in flower. Other specimens noted were *Aporostylis bifolia, Waireia stenopetala* both in leaf stage in sheltered locations.

Arrived at John Campbell's place in Lyttleton and spent the night there. Awoke on Sunday morning to a light drizzle. We decided to go anyway: the rest of the party could make its own mind. Melanie arrived at John's and we were away to Little River. Several other vehicles joined us including one couple who had visited Hugh Wilson's property on Saturday.

The weather had cleared up to a warm sunny morning. We all obtained lunch and drink supplies and moved back to Okuti Reserve. Long groans were heard about the lack of orchids in the reserve. All that was seen on the steep sides were a *P. graminea* type leaf with developing ovaries; the flower was too collapsed to look at the column. Exiting he reserve onto an old access road we continued our climb. Noting some very immature *Thelymitra longifolia* and another V sectioned leaved species. The first *Caladenia minor* showed its small flower out of the grass verge and attracted the cluster of cameras. A little further up, a single *Gastrodia minor* was seen in full flower in the grass on a dry bank under manuka: a new record for the Peninsula. Back to the vehicles for lunch and relocation to Oka Road. It was then proposed we go to the top of the hill for a final look in the Montgomery Reserve.

The day ended in the Hilltop tavern admiring the view over Akaroa Harbour before returning to the parked up vehicles and home.

Species observed

Sat 8 Dec at Hugh Wilson's property

Pterostylis aff *graminea, Nematoceras* undetermined, *Chiloglottis cornuta, Thelymitra longifolia* and *Thelymitra cyanea.*

Sunday 9 Dec Okuti Reserve

Pterostylis graminea agg. *Nematoceras macranthum, Thelymitra longifolia, Thelymitra intermedia, Caladenia minor, Gastrodia minor*

At Montgomery Reserve

Pterostylis graminea agg, *Pterostylis areolata*

All were in ED 57.03. The group well satisfied with the trip.

Elementary: ED Hatch

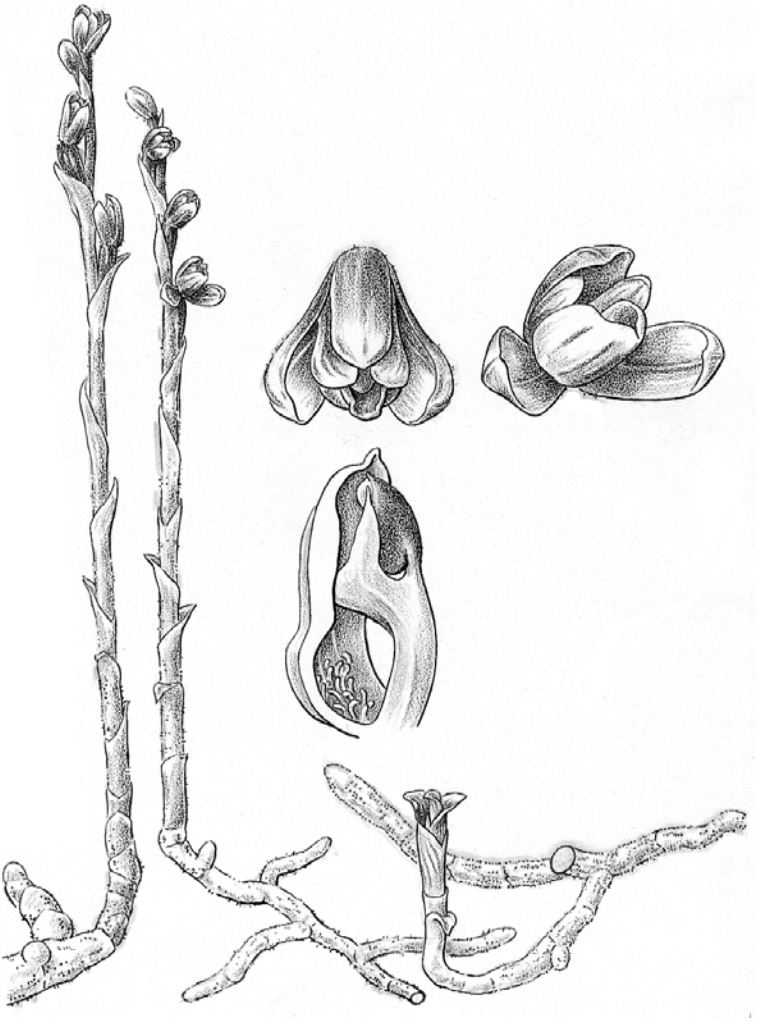
16. Miscellaneous terrestrials 5.

Drawings by Bruce Irwin and Ian St George

Cyrtostylis
(the curved column)

14: *Cyrtostylis oblonga*
(the oblong leaf)
A slender plant with a single sessile basal leaf and 3-4 pinkish flowers. Grows in open mossy places in forest.
Distribution – endemic – Three Kings Is., North Id., southwards to the Waitakere Ranges and Rangitoto Id.
Flowers – September-October – insect pollinated.

15: *Cyrtostylis reniformis*
(the kidney-shaped leaf)
Distribution – Australia – Tasmania, South Australia, Victoria, New South Wales, Queensland
New Zealand – North Id., North Cape to Kaitaia, and about Wellington.
Flowers – July-October – insect pollinated.



Danhatchia
(E.D. Hatch)

16: *Danhatchia australis*

(southern – it was originally placed in the Asiatic genus *Yoania*). Rhizomatous, non-green, parasitic on the puffball fungus *Lycoperdon perlatum*, which in its turn grows in mycorrhizal association with the roots of taraire, nikau or *Pseudopanax lessonii* Plant at flowering an erect, hairy, sometimes branching stem, with several colourless stem bracts. Flowers 1-7, rarely opening and then only briefly. Sepals and petals with conspicuous cream-coloured tips. Dorsal sepal eventually shorter than the petals, which continue to lengthen after the flower opens. The plants flower at erratic intervals, sometimes not appearing for several years. **Distribution** – endemic – North Id., from Waipoua State Forest southwards to Pirongia mountain, including, Fanal, Great and Little Barrier, and Waiheke Is.: South Id., Sounds/Nelson district. **Flowers** – December-February – self pollinated.

The Column: Eric Scanlen

1. Diggers Valley orchids

Dear reader, are you one of those people that get despondent with every new form of native orchid that turns up? Just another one to learn up and complicate matters further? If you are, then, whatever you do, do not go to Diggers Valley out of Herekino. However, Gloria and the Column did go to Gary Little and wife, Asta Wistrand's Forest Homestay**,** for three nights where at least five of the orchids in their great piece of native forest, and on the nearby roadside, did not comply with the accepted descriptions. The Column was actually beside himself with glee, and rushed around getting photos of those that were open, which wasn't too many in a late season, on 8-11 October 2007. What were these surprises? All five are detailed below.

Singularybas oblongus "early white top" (**Fig. 27**, Gary's from 29 August 06) had the two last old flowers by a track near the road on 8 Oct. 07, showing the near white dorsal sepals on an otherwise normal looking purple labellum. But, at this time, had it been the s.s. form, the whole colony would have been in peak flowering. Lying prone on the track and peering down the labellum tubes to the column, the Column, with a X20 lens, saw no bed of "dentiform papillae" which identifies *S.* "aestivalis" and many of its hybrids with *S. oblongus* s.s. Gary's photo, **Fig.28**, of one in bud on 16 Sept 06, shows the dorsal sepal shutting the labellum like a car boot-lid! Any self respecting *S. oblongus* s.s. has a bud form opening like puckered lips as in **Fig.29** which the Column got in Oct 1960 at Otau Valley in the Hunuas. Notice the edge of a threepenny bit, for scale! 47 years later, who has heard of such a coin? Notice also whence arise the filamentous tepals; sepals stay at the front, petals at the back, in reverse order to all the *Nematoceras.* Getting back to *S. oblongus* "early white top", it also shows at Pukepoto, between Kaitaia and Ahipara, according to Kevin Matthews' photos but all had been devoured by predators when he took the Column there on 12 Sept. 07.

Chiloglottis cornuta "khaki calli", no joke, on 10 Oct. 07, in a large colony. No doubt the reader is aware of specimens with darkest brown calli inside the labellum, plus the frequent alba form with only green calli? Well this colony, under mature kanuka, by Gary's west boundary fence, had no dark calli, no green calli, only khaki calli! See for yourself in **Fig.31.** Otherwise the plants look normal except for unflowered juveniles with *only one leaf*! **Fig.30**, by Kevin Matthews, from east of Kaitaia Airport, shows the layout of the calli. He **too,** has found numerous single leaved juveniles.

Note that *C. cornuta* "khaki calli" is not restricted to the Kaitaia-Herekino area. At Awhitu, by Boiler Gully Rd and 5.5 km away, in Kemps Road Reserve at Matakawau, the same single leaved juveniles were amidst colonies of just-opening flowering plants also with the khaki calli, on 17 November. The Column had to open one to check callus colour.

Back at Diggers Valley, a solitary, three leaved specimen, showed up in bud in Gary's colony. His photo of it on 29 Oct 07, shows the three leaves quite clearly in **Fig.32,** after he'd carefully cleared the kanuka brush which made the plant unusually tall at 135mm. Three leaved ones have occasionally been reported, also in *C. cornuta s.s.* especially growing close to normally three leaved *Pterostylis humilis* on the central plateau where their unflowered plants then become indistinguishable.

Incidentally, the Column lectured a NOG field party in the Waitarere *Pinus radiata* Forest (on 10 Oct 01) that *C. cornuta* had only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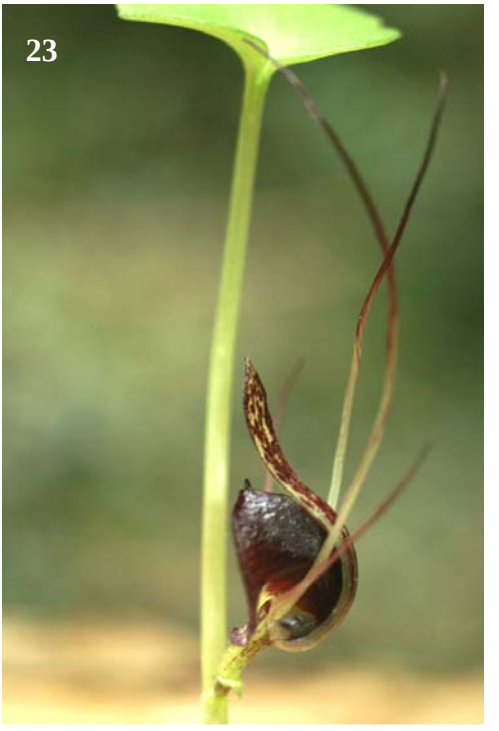
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dark or green calli, never in-betweens. So the first thing to show up there was one with green calli at the front and khaki at the back! Its photo has no depth of field — yet it was from a film camera — so it is not shown here. That forest has since been harvested so "khaki calli" may not exist there now. Has anyone spotted the likes of these khaki ones with single leaved juveniles, elsewhere in NZ? Do please let the Editor know if you have.

On 9 Oct 07, two twin flowered *Stegostyla atradenia* (**Fig.33**) were in a colony of about 10 plants, also right beside the track but at the eastern boundary. Twin *S. atradenia* were a first for the Column in 50 years of orchid hunting but word is that they do show up elsewhere from time to time. Examining the peduncle with the X20 lens, revealed crowded, colourless hairs ±0.3mm long by say 0.02mm diameter with red glands atop at ±0.025mm diameter. But the unbrowsed flowers bore testimony to the efficiency of the microscopic hairs in keeping insect larvae, slugs and snails at bay. The leaf (not the *Lycopodiella*) on the contrary, was virtually bald.

Allan Ducker's *Caladenia* "speckles" only different, in moss, at arm's length from the back deck — that's the Column's kind of orchid hunting! Gary's photo of 27 Oct 07 (**Fig.34**). Two flowers instead of the usual one and less dark red on the column back. The namesake speckles inside the dorsal sepal are smudged but the solitary marginal callus shows at the base of the labellum midlobe. This is its southernmost location to date. Gary could feel justified in tagging it separately if he felt so inclined. Several other *Caladenia* were also in bud on 10 Oct.

Those multicoloured, multiformed *Orthoceras*, reported in J106, will be all at Gary's and Asta's finger tips, later in the season.

Thelymitra, the Column's target genus, were of course late this year at Herekino, but varying leaf forms, in bud, promised many and varied taxa. *Acianthus* and *Corybas cheesemanii* in seed, *Cyrtostylis oblonga* in leaf, *Pterostylis banksii* in flower, spent ***Diplodium. alobulum*** and five well known epiphytes, rounded out a nice array in a 2½ day stay, before Hughie sent her down and stalled proceedings.

So you can see why the Column advises those who get confused with new taxa definitely to stay away from the Forest Homestay and leave it for the connoisseurs to gloat over.

2. *Nematoceras* at Te Kauri Lodge

Any orchidologist, keen on a range of *Nematoceras* could do well to visit the Hamilton Junior Naturalists' Te Kauri Lodge on a bush clad ridge-top, along the road to Kawhia.

Ian Reid organised a field trip for the Column and himself, through Lodge Custodians Graham and Susan Egerton, for a few days from 16 October 07. The weather was dicey so they did some orchidising on the way in, whilst it was still dry. Kaimango Road took them south off the Kawhia Road and wound through the hills to DoC's Kihi track down a ridge to the west. A huge colony of some unknown and unflowered *Nematoceras trilobum* aggregate drew a spark of interest on the roadside but, on the road batter, right at the intersection — on a damp patch where one would expect this ridge to be dry — was a huge colony of a dark-flowering form of *Nematoceras macranthum*. This aggregate has at least four distinct taxa according to the Column's photos and Dr. Clements' paper on *Nematoceras* [1] so the Column chose a healthy looking specimen to photograph (**Fig. 35**) inside and out because, unlike northern specimens with flowers beneath the leaves, these had their dark flowers sometimes above, sometimes below and sometimes level with the leaf.

The sectioned flower showed the egg pocket in the labellum channel, peculiar to *N. macranthum* and *N. trilobum* agg. but very little of the pollinia was showing in the

camera's viewfinder. The Column's trusty X20 lens revealed why; the pollinia were partially obscured by the earthly remains of a tiny fungus gnat, firmly stuck by its head to the stigma. There are no records of which gnat pollinates these taxa so he made a diligent effort to photograph the microscopic fly with 105mm of extension tubes as you can see in **Fig.36**. The unfortunate insect had been unwittingly dismembered by the Column's razor blade. Two hind legs showed above a legless thorax with one wing attached to the right and its slender abdomen above the wing and to the right of the legs. No eggs show in the photos but it can be assumed that the gnat had been duped into the orchid by a pheromone telling her it was a specific(?) toadstool and thus to lay her eggs in it. The gnat had sadly got stuck in the stigma instead of contacting the pollinia, as nature programmed, and met an untimely end, its pollinating work incidentally interrupted.

Susan kindly posted the insect and orchid (which the Column had left in the fridge!) to John Early, Entomologist at the Auckland Institute and Museum. But after the long week-end, John found the half orchid reduced to mush and the gnat's bits recognisable only as Mycetophilidae i.e. one of at least 40 species in the fungus gnat family. Can any of our readers get any closer to which species of fungus gnat? Orchids tend to be choosy with pollinators so some of those 40 species will no doubt be attracted to different *Nematoceras* taxa but checking them out promises to be a tedious task unless observers make a better fist of matters than the Column did! Any gnat found should be kept dry and intact then sent to an entomologist ASAP! Please do not carve up every *N. trilobum* and *N. macranthum* that you see to find failed pollinators. Far better would be to rig up your camera by a suitable flower with a shutter triggering beam. Then the gnat will take its own photo(s) entering and/or exiting the flower with pollinia stuck to it, of course. Crack of dawn is probably the best time. Have fun!

At the lodge, which is huge and seats about 72 in the dining hall, there are well maintained tracks leading in different directions down both side of the ridge, all in native bush. The same *Nematoceras trilobum* leaves as from Kaimango Rd, were throughout; not a flower to be see this season but about four new seed capsules and chewed-off scapes did turn up out of a million odd plants. Next year! That afternoon, *N. acuminatum*, in seed, were in a spot south of the lodge, along with a lonely *Chiloglottis cornuta*, only in leaf. *Singularybas oblongus* nearby was just in early bud, then the rain drove the doughty tourists back to the lodge for dinner. Baked beans again! Ian had inadvertently left the promised casserole at home.

19 October, in the windy drizzle, the intrepid pair tottered down the steps of Devlin's Track, across the road for the Lodge and skirting some huge limestone blocks further along. Thick along the base of the limestone were masses of dark *N. macranthum*, somewhat the same as the Kihi Track taxon and in peak flowering. The minor differences, however left the Column itching to get his camera to work but not in the drizzle. More round leaves, along the bases of the limestone blocks, were *N. iridescens* and *N. orbiculatum* that Ian had previously photographed but they weren't showing flower at this time. Even the *Microtis unifolia/parviflora* had no flowers after an unseasonable dry spell a few weeks back seemed to have upset the orchids. Fortunately, *Pterostylis banksii* were open along the driveway as were *Earina mucronata* at the Lodge. *E. aestivalis* promised a good show when its tight little buds open around New Year and Ian has seen *Drymoanthus adversus* thriving in the branches.

The weather and the forecast ruled out other planned forages so the bedraggled pair took their farewells and departed a most promising orchid site.

Reference

Clements MA, Phylogeny and Biogeography of *Nematoceras* Hook.f. (Orchidaceae) with special reference to their existence on New Zealand and Australian subantarctic islands. PowerPoint address at Hobart, 2006

Book review: David McConachie

Wild orchids of the lower North Island, Field guide. By Peter de Lange, Jeremy Rolfe, John Sawyer and Ian St. George. Published by Department of Conservation, 2007. ISBN 978-0-478-14222-8

Peter de Lange is the primary author and John Sawyer, the guiding force behind this publication. Jeremy Rolfe and Ian St. George round out the quartet of authors. The area it covers includes the entire Wellington Conservancy, excluding the Chatham Islands, and is extended on its northern margin up to the southern bank of the Manawatu River as far north as Dannevirke before angling out to the coast.

This field guide contains 72 out of 106 orchid taxa recognised by de Lange et al., in the New Zealand indigenous vascular plant checklist published in 2006. In the introductory chapter there is an acknowledgement of the diversity of opinion about the appropriate orchid classification and nomenclature to use for New Zealand orchids. The nomenclature used in the book follows that proposed in the latest papers by Jones, Clements and Molloy published from 2002 onwards. This varies from that used by Ian St. George in his annual list, the latest being published in NZNOJ 106, December 2007. There was also a decision not to use tag names, instead they are included in species aggregates.

The book consists of four sections viz., Introduction, Orchid conservation, Wild orchids of the lower North Island, and the Field Guide proper, which has two subsections: How to use this field guide followed by the alphabetically arranged species descriptions.

In the section on Orchid conservation there is a general review of Management objectives which "involve ensuring all indigenous species continue to survive in the wild throughout their known range". This is followed by "Threats to orchids", which include collection of plants, vegetation succession and competition, habitat destruction, tree senescence (for epiphytic orchids) and animal browsing. Then there is a look at "Management requirements", the options in this subsection are listed in no particular order but include surveying and monitoring, database management, legal protection of habitat, plant and animal control. The section finishes talk about "Sites of national significance". These are areas we would call GLOS and the authors call species-rich orchid areas, which are areas "… that, for their size, support a disproportionately high number of orchids." One example is the Eastbourne Hills with 33 orchid species. Also important, are "Sites that support threatened or uncommon orchids" such as *Plumatichilos tasmanicus*. Of course, these sites are not identified in this book.

"The Wild Orchids of the Lower North Island" section primarily consists of a table listing all the taxa in the book along with each one's common name and name in Moore and Edgar's Flora Vol. 2, if any. There is also an indication of those species that haven't been recorded in the area covered in the last 10 years. A second table lists "Threatened and Uncommon Orchids in the Lower North Island" and shows the National and Regional status of these orchids.

The "How-to-use" subsection of the Field guide has several different "orchid finders" which list the orchids in the following subsection according to several criteria. "Orchid types: epiphytic… spider orchids… orchids lacking chlorophyll.

Altitude: coastal (0-10m), lowland (10-300m) … alpine >1100m sorted by habitat open ground, grassland… beech forest …

Flower colour: white… mauve… red

Flowering time: e.g. (January-March)

The page numbers of the species' descriptions are included in the lists."

The Species description subsection consists of two pages per species, and for each species contains Name and common name, Distribution - with a small distribution map included, Description - often based on the description by Lucy Moore in Flora Vol. 2, Recognition: key details to help differentiate from related species, Habitat, Flowering and fruiting times, and for threatened and uncommon orchids, their Status. There are also at least two photos per species. Many of the photos have been taken of plants within the region covered in the book; however 32 species are illustrated only by photos taken in other locations around New Zealand.

Only two photos showed any printing problems, they appear to have been over-enlarged. There were also a few typos, but nothing too distracting.

While the book has been primarily written for the lower North Island, it still covers a wide range of orchids and is a useful companion to the NZNOG Field Guide. It deserves a place in the library of anyone interested in Native orchids.

Note: A longer review by Murray Dawson was published in the New Zealand Journal of Botany 45: 731–733, 2007. The book is available to NZNOG members at the discounted rate of $15: see advertisement in J106—Ed.

Illustrations for "The Column"

Inside back cover

Fig. 27. *Singularybas oblongus* "early white top" by Gary, open on 29 Aug. 07, doesn't look too unusual and has no dentiform papillae (bed of prickles) inside the labellum.

Fig. 28. *Singularybas oblongus* "early white top" by Gary, in bud on 24 July 07, at Diggers Valley, its dorsal sepal, in late bud, is like a car boot lid.

Fig. 29. *Singularybas oblongus* sensu stricto, with pursed mouth for comparison, in bud in the Hunuas in Oct 1960. Note, edge of three penny bit and sepals that do not cross back behind the petals as they do in *Nematoceras.*

Fig. 30. *Chiloglottis cornuta* "khaki calli" also has a non-flowering, single leaved, juvenile form.

Fig. 31. *Chiloglottis cornuta* "khaki calli" by Kevin Matthews from east of Kaitaia Airport showing calli layout.

Outside back cover

Fig. 32. A rare, three leaved *Chiloglottis cornuta* "khaki calli". Lanky, due to removal of kanuka brush support to show that the three leaves definitely come from one stem.

Fig. 33. Twin flowered *Stegostyla atradenia*, 9 Oct 07, opens one flower at a time. This has two ragged rows of darkest red disk calli extending right down the midlobe, enough to separate it from the similar Aussie *S. iridescens* with four ragged rows of calli. The *Lycopodiella* leaf is purely for scale.

Fig. 34. *Caladenia* "speckles" by **Gary** with its single marginal callus at the base of the labellum midlobe, varies somewhat from the Te Paki and Kaimaumau specimens, notably in having two flowers and, inside the dorsal sepal, only pink smudges in lieu of the speckles for which Allan Ducker tagged it.

Fig. 35. *Nematoceras macranthum* agg. Near Te Kauri Lodge.

Fig. 36. The remains of a fungus gnat, dismembered by the Column's razor blade while making a sagittal section of the *Nematoceras* pictured in Fig. 35.


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