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native orchid journal

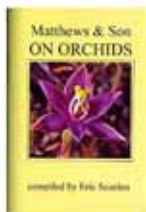


#104

New Zealand Native Orchid Group: publications available

Field guide to the New Zealand orchids

Latest (2006) edition available now
Members: \$15; nonmembers \$25 in NZ.



Matthews & Son on orchids

Eric Scanlen interprets the letters of R.H. & H.B. Matthews to T.F. Cheeseman, as well as 17 manuscript descriptions in Number 14 of the NZ Native Group's *Historical Series*, 2006. Available now: \$10.

Owen Gibson's orchid paintings

Watercolours and line drawings of New Zealand native orchids Number 15 in the New Zealand Native Orchid Group's *Historical Series*, 2006. Available now: \$25.



New Zealand native orchids

The book that started the revolution. Dorothy Cooper's evergreen classic on orchids around Wellington. The last few copies given to us for a koha by the Wellington Orchid Society. \$5 is a bargain.

Bruce Irwin's drawings of NZ orchids

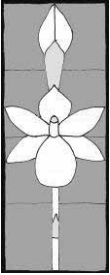
The orchid drawings of a genius, gathered in about 750 pages, in a single volume, limited edition, each copy signed by the artist. Meticulously compiled and annotated by Brian Tyler. Publication is likely to be July 2007, and the cost about \$150.



The NZ orchids: natural history and cultivation

An oldie, but still a goodie, the 1990 classic, with its clear instructions on NZ native orchid growing. Still available, and still selling; \$5.

Enquiries for NZ Native Orchid Group publications should be made to
Brian Tyler, 4 Byrd St, Levin, New Zealand: bandj.tyler@xtra.co.nz.
Prices include packing and post to addresses in New Zealand.
Postage abroad will be extra.



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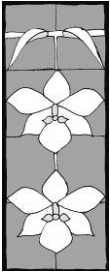
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1. Bruce Irwin's genius & our most ambitious publication yet

The Group has just published its most important project to date. The 750+ page limited edition volume of Bruce Irwin's orchid drawings is a monumental work, a tribute to the artist—and to the collator Brian Tyler. It has been funded from profits on earlier publications, in turn made possible by the generosity of those who gave their energy and time.

The events and dates of Bruce Irwin's orchid life have been related elsewhere [1, 2], so here I will state simply that he is a distinguished orchidologist who has used a uniquely keen talent to reconcile apparently inimical opposites.

He has the questioning, proof-seeking, searching, doubting, disbelieving mind of the true scientist, the analyser, the anatomist, the dissector. And yet he combines that quest for understanding structure and function with the eye of the artist, the beauty-seeker, sensitive to colour, to form, to pattern, to the overall shape and character of things, not just their component parts. And to those he adds the finely honed skill of the man who has mastered his craft, who knows without thinking how to convey the three dimensional shape of a thing

with pencil on paper.

That is the nature of the best botanical illustrators of course [3, 4]. They show, along with Keats, that art and science are inseparable (*Beauty is truth, truth beauty, - that is all ye know on earth, and all ye need to know*) [5], but to those two they add craft, and so in their rare ability they encompass all three. Science, art, craft, the plant illustrator's trinity.

Bruce Irwin has illustrated New Zealand native orchids for most of his long life, at first in delicate watercolours, but later as detailed pencil drawings, as often of whole plants as of microscopic dissections; they are exquisite, and Dan Hatch has referred to his "genius with the pencil". Some of his work has been published in books [1, 2, 6-9], and botanical journals, and he has been a frequent contributor to the *New Zealand Native Orchid Journal*. But a substantial body of his later drawings has not been published, and is now made available, along with a selection of earlier watercolours.

Some of the drawings are finished, ready for publication, but perhaps more vigorous and interesting are the working notes, the sketches and jottings plainly memory aids, informal messages to himself, often about fine nuances of colour of a flower part ("pale cinnamon", "sienna", "honey colour", "lightly cooked biscuit colour"); a *Prasophyllum* has a darkish green stem, and "flowers a rather similar green with indigo/purplish flushes"), often comparing a physical quality to a more familiar object (a texture "like half cooked bread", bulges at the base of a *Pterostylis* flower the shape of a "Rubens bottom", a projecting part like a "schnozzle", a rough texture described as "sugar coated", the swellings at the base of the lip of the newly discovered *Drymoanthus flavus* like "two young bosoms"). When he feels uncertainty or perceives inaccuracy his jottings express it ("very subtle blends of form and tone hard to portray" he writes of the labellum of *Adelopetalum tuberculatum*) – he never

stretches or simplifies the truth to make a point, but admits doubt freely – as a scientist should.

You cannot fully understand a clock until you pull one to bits and put it back together again. You cannot properly understand an orchid until you dissect it and reconstruct it in the drawing of it. The botanical illustrator learns his plant thus, and in doing so learns to discern departures from the familiar. Bruce Irwin has played a part in the recognition of several new New Zealand orchids – among them *Thelymitra sanscilia*, *Molloybas cryptanthus*, *Pterostylis irsoniana*, several *Nematoceras* in the *rivulare* and *trilobum* groups, *Pterostylis irwinii*, several *Pterostylis* in the aff. *montana* group, and more.

Other highlights of his orchid life have included

- He has been a recipient of the Allan Mere, the John Easton Award, and the Wellington Botanical Society Jubilee Award;

- *Pterostylis irwinii* and *P. irsoniana* were named for him;

- His artistic and innovative orchid displays for the Tauranga Orchid Society have won national and local awards;

- He is involved with the Te Puna Quarry Park near Tauranga;

- He designed the NZ Native Orchid Group's logo;

- He is a Life Member of that Group.

The handwritten annotations, meant only for his own eyes, have been transcribed painstakingly by Brian Tyler, for whose long hours at the keyboard we should be very grateful. The (now legible) notes give us an insight into the private and fascinating world of the artist-scientist.

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Bruce Irwin's drawings of New Zealand orchids

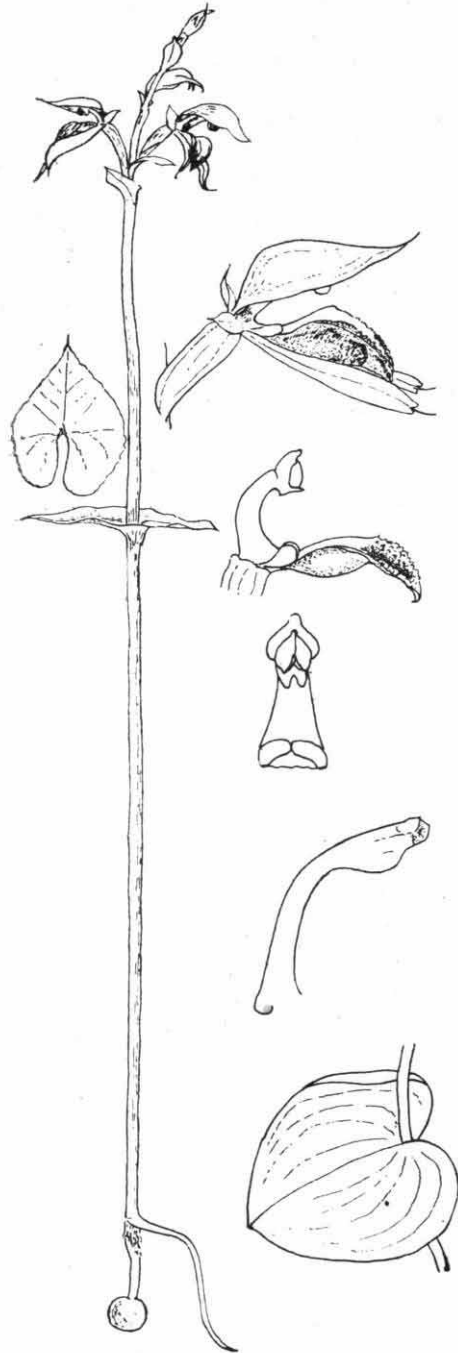
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2. *Acianthus sinclairii* variations

I always thought Dan Hatch's father's drawing of *Acianthus sinclairii* from the *Transactions* [1946-7; 76: 572, (reproduced at right)] had a much more tuberculate labellum than any I had seen. Hatch described the labellum: "...the distal portion studded with minute reddish papillae".

Plants I had seen flowering in early June in the cool Eastbourne hills near Wellington had nothing like that degree of colour or papillosity (Fig.1, 2), but redstemmed plants flowering in early May up the warm coast near Plimmerton had dark flowers with very papillose labella (Fig.3, 4).



3. Victorian orchids

David McConachie phoned and told me this is exactly what we want in New Zealand.

Jeffrey Jeanes and Gary Backhouse have extensively revised their book, and presented it in a new format. *Wild orchids of Victoria, Australia* is a triumph: superb layout, the full range of species, including colour variants, aff. and tagnamed taxa. The descriptions are brief and to the point. There is the usual introduction, glossary and key.

But it is the photographs that stand out. These are excellent, clear, explanatory shots with several photographs of each taxon, mostly taken without flash, in habitat, with natural backgrounds. A few bear the telltale signs of Photoshop sharpening and colour adjustment, but these are a distinct minority.

This is a treasure, and the Victorian orchid enthusiasts are fortunate indeed to have it.

Acianthus sinclairii
Plimmerton,
early May

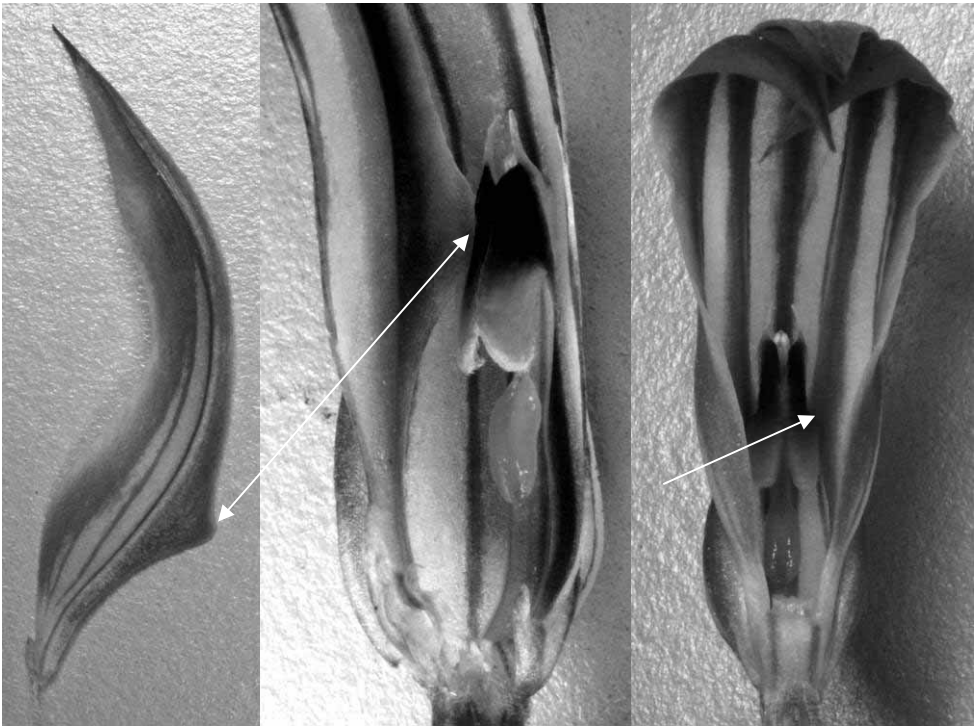


Acianthus sinclairii
Eastbourne,
Early June



very near to *C. Robertsonii*, Smith.
Calochilus campestris Rotorua
Nov. 13. 1903 H. 1320 H. 1321

HB Matthews was a prolific orchid photographer. This is his of *Calochilus robertsonii* from Rotorua. His mistaken identification of the plant as *C. campestris* is interesting, in view of his manuscript name for *C. herbaceus*: *Calochilus "viridi-sanguineus"*.



4. The posterior protruberance on the *Pterostylis* petal

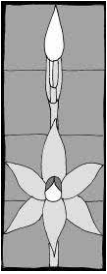
Many *Pterostylis* flowers have petals with a triangular lobe a third of the way up the posterior edge (arrowed in the photographs of *Pterostylis alobula* above). Some Australian species have a trichome, a hairy area, in the same place [Jones DL, Clements MA. A review of *Pterostylis*. *Australian Orchid Research* 2002; 4: Fig.1.7].

We understand roughly the pollination mechanism in *Pterostylis*, with the irritable labellum flinging the fungus gnat back, the gnat crawling down toward the light coming into the base of the “window flower”, then up past the stigma into the cavity formed by the column wings, and on up that narrowing passage to brush pollinia from the anther before escaping, pollen-laden, to visit the next flower.

We surmise the gnat is attracted by pheromones but nobody has done the analysis of volatile compounds necessary to prove that, and we don't really understand the function of many of the curious structures that have evolved inside the flower.

The fimbriate labellar appendage may be a lever or it may be sexually attractive to the gnat—we just don't know. The “horns” on top of the column wings (and the upward/forward pointing anther cap tip) may act like the tines of a crayfish pot in reverse to prevent the gnat entering from above and effecting self pollination.

What about the triangular petal lobes then? I think they act as an additional guide to the gnat, blocking the possibility of an exit to the side of the column, and, with the triggered labellum, blocking the possibility of re-entry by that route.



VariOus cOntrivances

The New Zealand terrestrial orchid flora are unique because most can self pollinate: the various contrivances by which the New Zealand orchids are fertilised by themselves are recounted here.

Waireia stenopetala

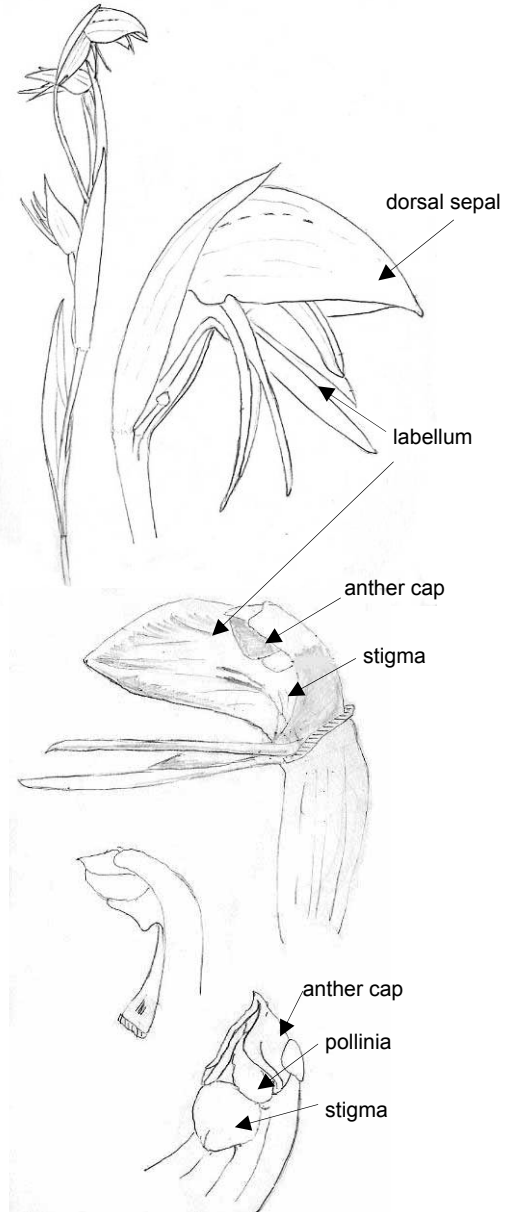
This alpine plant flowers in a harsh, cold, windswept, insect-poor environment, above the tree line. It is tough, leathery, all green, the combined floral bract and dorsal sepal forming a long cover to protect the reproductive parts of the flower from the elements. The rest of the floral segments almost fill the opening as they emerge.

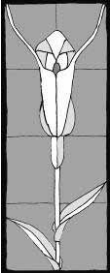
The flower parts are nicely adapted for self pollination.

The proximal part of the labellum is quite tightly pressed against the column, leaving little room for falling pollen to escape the stigma. The stigma is immediately below the anther cap, and I could not find a rostellum to separate the two. The pollinia readily dislodge from the anther cap and easily slip down onto the stigmatic surface.

To effect cross pollination, an insect would have to find its way into the flower through the small opening between dorsal sepal and labellum, then insert itself between the labellum and the column, then somehow remove pollinia without allowing any to contact the stigma.

Impossible!





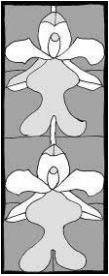
Close relations: orchids like ours

Adelopetalum argyropum

painted by Ferdinand Bauer, engraved by A Gebhardt,
published in S Endlicher's *Iconographia Generum Plantarum* (1838).



Thelychiton argyropus E.



13. Miscellaneous terrestrials 2.

Drawings by Ian St George

Calochilus

(the beautiful labellum)

5: *Calochilus herbaceus*

(grass-like – presumably the linear leaves)

Flower greenish-yellow with red markings and labellar fimbriae; apex of the labellum shortly ligulate and naked at the tip; column-wings with a prominent callus like an eye, on either side at the base. In some plants the red pigment is absent and the flowers are white

Distribution – Australia – Tasmania.

New Zealand – North Id., North Cape to Albany

Flowers – October-December – self pollinated.





6: *Calochilus paludosus*

(growing in swamps)

Apex of the labellum with a long, naked ligule; column-wings without basal calli

Distribution – Australia – Tasmania, South Australia, Victoria.

New Zealand – North Id., from Kaitiā southward. South Id., Nelson/Westland

Flowers – October-December – self pollinated.

7: *Calochilus robertsonii*

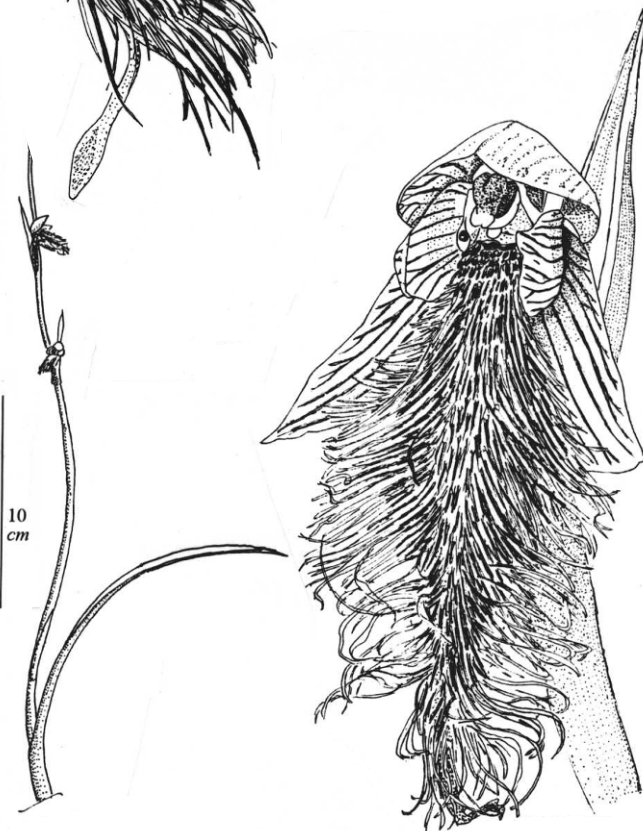
(J.G. Robertson)

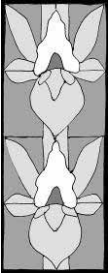
Apex of the labellum with a short ligule, variously naked or fimbriate; column-wings with a single large callus on either side at the base.

Distribution – Australia – Tasmania, Western Australia, South Australia, Victoria, New South Wales, Queensland.

New Zealand – North Id., from the Waikato district southwards; South Id., Nelson district

Flowers – October-December – self pollinated.





EPONYMOUS ORCHIDS: Val Smith

Brian Peter John Molloy (1930 -)

Molloybas cryptanthus

Orphaned at an early age, Brian Molloy developed an independence and strength of character that helped him pursue a career doing what he loved – working with native plants. He was born in Wellington and brought up in Waikanae and at Palmerston North, where he received his secondary education at Marist Brothers High School, followed by a Diploma in Agriculture at Massey College in 1950. With little chance of getting onto a farm in the postwar years, teaching agriculture seemed a reasonable alternative, and he took his Diploma in Teaching at Christchurch Teachers College. A few sessions with large classes of children changed his mind, however, and he continued with his own studies, graduating M.Sc. (Hons) in Botany at Canterbury University (1960), and Ph.D. in Plant Science at Lincoln College (1966).

The years 1956-1958 were noteworthy also for his sporting achievements – he played rugby in the New Zealand Universities team that beat the Springboks, and was a member of the All Blacks team that toured Australia. In 1957 he married Barbara Anita O'Neill, which was to give them three daughters and a son.

Until 1969 he was a research officer with the Department of Agriculture, working on tussock grassland, weeds and pasture ecology, and then

moved to the Botany Division of the DSIR (now Landcare Research), specialising in plant taxonomy, nature conservation and soil and vegetation history, until his retirement in 1995. He has also been to the forefront of many conservation organisations, and instrumental in the acquisition of new protected areas and extensions to existing parks and reserves.

Although he regards himself as a general botanist, Brian Molloy has done extensive work and is a recognised authority on New Zealand orchids, conifers and some of the daisies. He has written over 100 scientific papers, most of them on botanical subjects. In 1983 Johns and Molloy's book *Native Orchids of New Zealand* and his own *Ferns in Peel Forest*, both with text aimed at the nonspecialist, were published. *Riccarton Bush: Putaringamotu*, with contributions from acknowledged experts, was edited by Brian Molloy and released in 1995.

In 1990 Brian Molloy was awarded the Loder Cup for his contribution to conservation and the study of native plants, and in 1992 received the Community Service Award. A new kowhai species, *Sophora molloyi*, "as tough as old boots and like its namesake Brian Molloy, hardy in all extremes of weather," was named in his honour in 2001. The following year a new orchid genus was named *Molloybas* in "well-deserved recognition of the man who has contributed so much to New Zealand orchids".

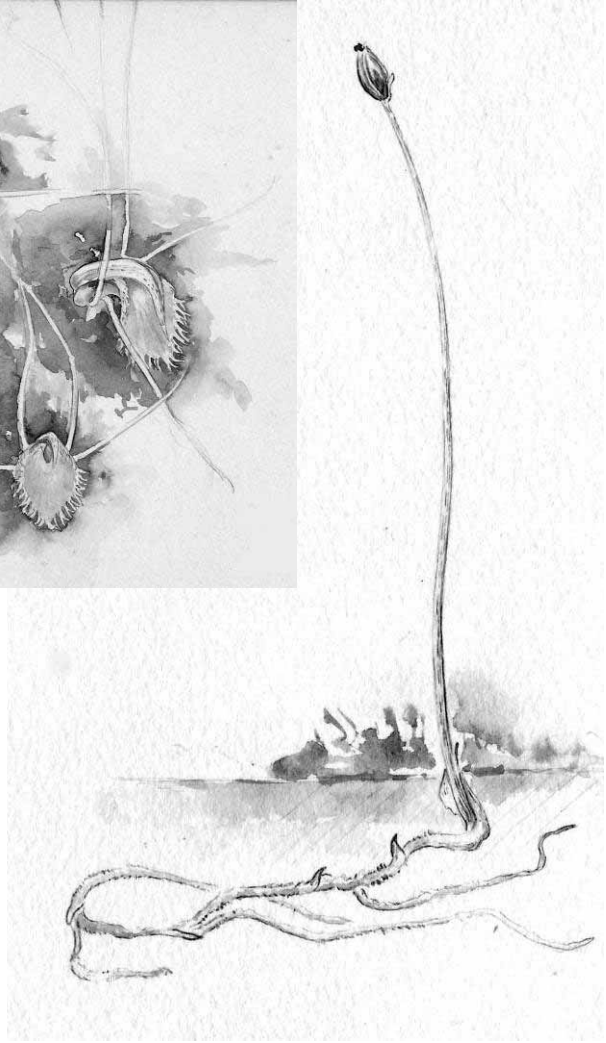
Molloybas cryptanthus (Hatch) D.L.Jones & M.A.Clem. *Orchadian* 13(10): 448 (2002).

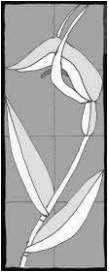
Molloybas is a monotypic New Zealand genus. *Molloybas cryptanthus* ("hidden flower") is a curious leafless orchid lacking chlorophyll. It is usually found growing with mosses, almost entirely beneath manuka or beech litter on the forest floor. The flower is almost colourless, but may be flecked with red or brown; the petals and sepals are long, and often emerge above the surface of the leaf litter; the labellum is wide and deeply fringed. *M. cryptanthus* flowers in July to September and its elongated seed stems (up to 15 cm) appear above the ground in November. This rarely seen plant has been known since the 1880s, but was not described until its rediscovery near Warkworth in 1949 by Owen Gibson and Bruce Irwin.



▲ ***Molloybas cryptanthus*;**
watercolour by Bruce Irwin,
reproduced in "Bruce Irwin's
orchid paintings". NZ Native
Orchid Group's *Historical Series*
2004. 13: 16.

***Molloybas cryptanthus*;** ►
watercolour by Owen Gibson,
reproduced in "Owen Gibson's
orchid paintings", NZ Native
Orchid Group's *Historical Series*
2007. 15: Plate 5.





Australian notes: David McConachie

Recovery after burn-off near Mount Lofty

By Rosalie Lawrence (from NOSSA Journal, Vol.30, no.11 December 2006)

A NOSSA excursion was organised for 1 pm on Saturday 18 November. Susan Secomb and the Lawrence family turned up for the event and pooled their plant identification skills as best they could. Though a warm day, it was a pleasant stroll down to the burnt area which was located just over the road on the Cleland side 400m west of Mount Lofty summit. It is primarily stringy-bark woodland.

There was an appreciable difference between the unburnt and burnt area as we cast our eyes over both sites. One was thick, dull dense undergrowth with a dark aspect whilst the burnt area was light lush and verdant with the sun softly streaming through – a most inviting place. So, in spite of drought conditions since a controlled burn earlier this year, considerable regrowth has taken place.

The main objective, of course, was to find evidence of orchids, although we were not expecting to find much. It was therefore with great delight that we eventually found some capsules of *Thelymitra* species. All told there were about six locations found along the tracks at the edge of the controlled burn. No evidences of *Thelymitra* sp were seen along the track in the middle of the burnt area as also was none seen on the unburnt side

of the peripheral tracks.

Though looked for, it was disappointing not to find any shoots of *Dipodium roseum*. We had observed some on 5th December 2005 in the vicinity of the youth hostel near the margin of the area that has been burnt since.

Apart from orchids, many species of plants had either germinated or regrown in the burnt area. Black Rapier Sedge had recovered and small plants were ubiquitous. Trigger plants in flower were striking whereas gentian blue *Lobelia* flowers were a surprising find, almost hidden from view. Tussock Grasses (*Poa* species) were common. Banksia seedlings were abundant in many areas, as were Holy-leaf Flat Pea (*Platylobium obtusangulum*). *Lomandra* tussocks had recovered well and some were flowering. Fresh regrowth of Native Cherry (*Exocarpos cupressiformis*) had occurred at the base of the burnt remains. A total of 36 native species of understorey plants was noted in the burnt area.

Not many conclusions could be drawn from only one visit and we could only assume that the burnt area resembled the surrounding bush before. It will be interesting, however, to monitor this site in the future, especially to see which orchids come up and flower next year. Being so close to the city it should be convenient to monitor.

Small golden moths survey - was it a success?

By Colin Rowan (from ANOS [Vic] Bulletin Vol 39 no. 5 November 2006)

The major charter of A.N.O.S. Vic. is the conservation of orchids and, as a result, we are often called upon to help in orchid surveys around Melbourne and country Victoria. So, on a hot and very windy day (the 19th of September), twelve members gathered on the western outskirts of Melbourne, to help Karen

Lester of the DSE to extend the known range of *Diuris basaltica* (Small Golden Moths Orchid). The orchid is found in only one spot in a small grasslands area near housing. Two years ago only 16 plants could be located.

A number of surveys of other orchids in other areas has often led to disappointment as, during the day, absolutely no orchids were seen, let alone the target orchid of the day. So we started the day wondering what would happen this time.

Starting at the known plant colony, the first thing we noticed was the small size of the orchid, how strong the wind blew, and how many other little yellow flowers abounded in the area.

This was going to be hard work.

A line search was organised, a difficult task for any A.N.O.S. member, and off we went. Within 20 metres of the baseline, the first orchid was seen and marked. Soon everyone

was sighting the orchids and so, as usual, we degenerated back to a rambling mob. The initial supply of 80 markers soon ran out and more had to be made on the go. Pink tapes tied to larger grasses were also used to help mark our finds. This survey, everyone realised soon enough, was going to produce amazing results.

To escape the wind, we stopped in at a local member's house for lunch. Here we planned how we would GPS all the markers we had just put out. Breaking up into small teams, with each team having a GPS "expert", the task was taken up. It was noted later that we also should have appointed snake watchers as there were three sightings after lunch - all over 6 feet (1.8metre) long.

In a rough tally, it was estimated we had found over 500 new plants - with another 100 or so in the original colony. So this survey was considered a very successful day indeed, and obviously a good year for the orchid as well.

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Thelymitra variegata

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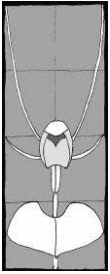
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HistOrical reprint

— 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.

CHILOGLOTTIS CORNUTA AND TOWNSONIA DEFLEXA.

FAMILY ORCHIDACEÆ]

[GENERA CHILOGLOTTIS, R.BR.
AND TOWNSONIA, CHEESEM.

Chiloglottis cornuta, Hook. . *Fl. Antarct. i*, 69 : *Cheesem. Man. N.Z. Fl.* 690.

Townsonia deflexa, *Cheesem. Man. N.Z. Fl.* 692.

Chiloglottis cornuta... was first collected during the Antarctic expedition of Sir J. C. Ross, having been gathered on Campbell Island by Dr. Lyall, one of the naturalists attached to the expedition, in December, 1840. The first record of its occurrence in New Zealand proper was published by Mr. T. Kirk in 1870, his specimens having been obtained at Northeote, in the immediate vicinity of the City of Auckland, a locality where it still exists, although in fast-diminishing numbers. Almost immediately afterwards it was observed by several botanists in various portions of both the North and the South Islands, and at the present time it is known to extend through almost the whole length of the Dominion, from the North Cape district southwards to Stewart Island, the Chatham islands, Antipodes Island and the Auckland and Campbell Islands. In fact, there are few districts in the Dominion where it cannot be obtained, although it is rarely present in considerable numbers. It is usually found amongst humus in moist shaded places, and ranges from sea-level to quite 3,000 ft.

In Sir J. D. Hooker's original description of the species, published in the "Flora Antarctica" (vol. 1, p. 69), he makes the remark, "I am inclined to think that the glands on the disc of the labellum will be found to prove a variable character." This surmise has been fully verified, both as regards specimens from the islands to the south of New Zealand and from New Zealand proper. I find that the number of the glands varies from 6 to 12, and that the glands themselves are very inconstant in size, shape, and position. Facts like these show that such variable organs are of little value in the discrimination of species, unless they are accompanied by other and more stable differences.

In addition to *C. cornuta*, the genus *Chiloglottis* contains six or seven Australian species, one of which (*C. formicifera*, Fitzgerald) also extends to New Zealand.

The charming little plant figured in this plate under the name of *Townsonia deflexa*, was discovered in the vicinity of Westport by Mr. W. Townson in the year 1904, and up to the present time has been gathered by no other botanist. As stated in the Manual, the generic name commemorates the services rendered to botanical science by Mr. Townson, who more than any other person has contributed to the elucidation of the flora of the south-western portion of the Nelson Provincial District. Among the discoveries made by him are the following species illustrated in this work: *Aciphylla Townsoni* (Plate 62), *Dracophyllum Townsoni* (Plate 130), *Gentiana Townsoni*



Plate A. *Chiloglottis cornuta*, drawn from specimens collected at Maungatapere, Whangarei, by Mr. H. Carse. Fig. 1, side view of flower; 2, lip, showing glands; 3, front view of column; 4, the same with the wings spread open.

Plate B. *Townsonia deflexa*, drawn from specimens collected at the vicinity of Westport by Mr. W. Townson. Fig. 5, side view of flower; 6, front view of same; 7, petal; 8, lip (the ridges much too conspicuous); 9 and 10, front and side views of column; 11, dehiscent anther.

(Plato 139), *Veronica divergens* (Plate 148), and the plant now figured.

Mr. Townson informs me that *T. deflexa* occurs on the spurs of Mount Rochfort, Mount Frederic, and the Paparoa Mountains, which collectively form the coast ranges immediately to the north and south of the mouth of the Buller River. It ranges from 1,500 ft. to 2,000 ft. elevation, and is usually found on the mossy surface of rocks and logs under the shelter of *Leptospermum* and *Olearia Colensoi*, its colour harmonizing so closely with that of the moss that it is easily overlooked. It blooms in November and December, and when fully mature the flowers have a purplish tinge. It should be mentioned that the radical leaves are usually produced on special caudicles, and not at the base of the flowering-stem.

In the Manual I regarded *Townsonia* as a close ally of *Adenochilus*, relying principally on the structure of the column and the close similarity in habit. Dr R. Schlechter, who has recently published some interesting notes on the genus (Fedde, Repertorium, ix, 249) suggests that it should be placed in the vicinity of *Acianthus*, with which it agrees in the smooth undivided lip, devoid of any projections or protruberances beyond two or three obscure ridges. He also points out that the Tasmanian *Acianthus viridis* Hook. f., is very closely allied to *T. deflexa*, and must be placed in the same genus. *Townsonia* is therefore a genus of two species—one confined to the South Island of New Zealand, the other endemic in Tasmania. Dr Schlechter also traces an affinity to the genus *Stigmatodactylus*, which has three species, found respectively in Japan, India, and Java.

Dr Schlechter considers *Townsonia* to be an Antarctic type (*typisch antarktische*). But surely he uses the term in an entirely different sense from that understood by most New Zealand botanists. Genera like *Colobanthus*, *Acæna*, *Azorella*, *Nertera*, *Phyllachne*, *Rostkovia*, *Oreobolus*, &c., which have species in the extreme south of South America, New Zealand, Tasmania, and the circumpolar islands, may well be called Antarctic, and we are entitled to speculate on their probable previous existence on the Antarctic Continent. But in the case of *Townsonia*, whose nearest allies are the genera *Acianthus*, *Adenochilus*, and *Stigmatodactylus*, which have a purely Australian, Melanesian, and Malayan distribution, the term seems inappropriate. And especially is it so when we consider that the *Orchidaceæ* of New Zealand show absolutely no relationship to the few members of the family found in the extreme south of South America.

South Island orchid trip

Members of the Canterbury Orchid Society extend an invitation to members of NZNOG for 24-25 November.

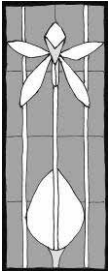
We plan an early morning start from Christchurch, maybe a stop this side of Arthurs Pass where the club found orchids some years ago, and then our overnight base at Lake Brunner.

We're staying at a lodge at the lake (presumably at Moana), and we will probably have dinner at a member's place.

I have hired two 12 seater vans and I know some will travel by car.

People are bringing their own food. I anticipate those taking the vans, the lodge and their own food will do it for \$100 max and maybe a lot less.

Contact Melanie Brigden, 11A Kimberley St, Casebrook, Christchurch, phone 03 359 9289 email lenb@ihug.co.nz.



Notes etc

The cover picture is Georgina Upson's photo of Mark Moorhouse's *Stegostyla* "minor" from Baton Valley. Eric Scanlen wrote, "Only four known plants remain there after two dry seasons. See Mark's reports in *Nsltr* 6 from Big Bush SF and in J95:15,31 with Georgina's pic in J101:31. It is clearly *Stegostyla* with the wide dorsal sepal and calli advancing right down the midlobe top but it is notably different from the *S. lyallii/ atradenia* set. So, be alert for this unnamed and rare taxon on forest edges in November, especially in Nelson."

Mike Lusk emailed (26 Feb 07), "I live in Havelock North and am a keen trumper and amateur botanist with, along with a tramping friend, a particular interest in native orchids. I am keen to join the group and would be grateful if you could send details. Being recently retired I hope to spend a lot more time in the ranges, and it would be good to link up with others who share our interest. Last weekend I was in the Kawekas, just north of the Comet hoping to see *Thelymitra* 'Comet', which neither of us have been able to find on the Comet. Somewhat to my surprise I was able to photograph, just after a massive hour-long thunderstorm and while it was still raining, some still open flowers of I think 2 different *Thelymitras*, but neither are, I believe 'Comet'. One in particular I can't identify either from your book or from the *Field guide* 2005 so I would like to email the image

it to someone (? you) for ID. I had a quick look in the Blowhard Bush on the way home but all the *Thelymitras* there were long past flowering. As a matter of interest both of us work with 'Friends of Te Mata Park' and have now identified 7 different orchids there." (*The Column takes up the story from here* — see p. 28 — Ed.)

Bruce Irwin is off to the Chathams botanising in early November. We predict he will recognise *Pterostylis silvicultrix* as being the same as another *P.* aff. *montana* taxon he has seen on the mainland, and will therefore be able to name the latter.

Tricia Aspin emailed, "I was talking with Peter de Lange last week and he said that it was now considered that taraire was not the essential factor for the occurrence of *Danhatchia australis* but that nikau was, even though he has seen it under Spanish heather. Anyhow Just before last Christmas I was invited to join a group of Auckland botanists to conduct plant surveys of Motukaikoura, an island to the west of Port Fitzroy on Great Barrier Is. During the course of surveys one area covered was a valley system covered in taraire dominant forest. I was with Ewen Cameron and Mei Nee Lee from AK and a young entomologist, Aidan O'Donnell at the time. There was a dense canopy of taraire and *Danhatchia australis* was mentioned and so I said 'Just sit down and if it is there we'll see it.' It felt right and sure enough just behind me were 4 stems in flower although none were open. We were thrilled as the species hadn't been recorded on this island. When the rest of the group joined us another 3 more were found. Now, the most interesting part is that in this location there is not a single nikau in sight! In fact there is just one adult nikau recorded and that is on the other side of the island. Methinks this orchid has much yet to be discovered as far as mycorrhizal

connections go. Incidentally, I have found this past season to have a very poor showing of *Danhatchia* at Matakawau with only 8 stems showing over 2 colonies.”

Rob Suisted (Nature's Pic Images: New Zealand nature and scenic photography, and comprehensive stock library, Business email: robsuisted@naturepic.com) sent the *Prasophyllum colensoi* in Fig.5. Rob emailed, “It was filmed on Enderby Island, Auckland Islands, on 26 January 2007. Many seen, but most where past their best. You might also like to have a look at the following link to all orchid shots I have online: http://www.naturepic.com/NewZealand/result_search.asp?search=orchid. On another note, while at Macquarie Island last week I spotted an orchid in a sample container in the doctor’s surgery which they have collected as a new species?. From the short talk I had with the Dr on Macca, he was pressing several samples, had one in preservative, and said the holotype was back in Oz. `Twas very small like a spider orchid, but I didn’t have a good look.” *No doubt it was Nematoceras sulcatum. The Enderby Island Prasophyllum looks exactly like the taxon on Turoa skifield – Ed.* Rob also sent photographs of *Aporostylis bifolia* and *Waireia stenopetala* from the main island in the Aucklands group. Rob previously worked on the Auckland Islands on NZ sealions (was the National Marine Mammal Advisor at DOC), and has done Government representative work on the tour boats, and lately has been a guide and lecturer on www.orioncruises.com.au to Antarctica, having done five trips in the last year - to Mawson’s historic hut, and to Scott and Shackleton’s.

Graeme Hill wrote (28 March), “I’ve just returned from going bush and around Ohakune saw plenty of orchids. Not many in flower of course and the sun orchids had shut up shop due to the weather. It was truly miserable just before the lahar came down. Great timing on my part. However, I found this little baby (Fig.6) and plenty like it

around a small patch behind some tea-tree scrub in the Rotokura eco reserve.... *Orthoceras novae-zeelandiae*?” *Yes indeed, overmature, but still very late – Ed.*

I was searching NZNOG archives for something else entirely, when I came across Max Gibbs’s magnificent photograph of a fungus gnat bearing pollinia from a *Pterostylis* (Fig.7). Is this the only photograph in existence of that activity?

An Index covering all journals is now available free on line in Adobe pdf format. Six sections cover NZ species, related species, NZ orchid sites, keywords, contributors and feature articles. Email to Eric Scanlen: eascanlen@xtra.co.nz, or Michael Pratt michaelpratt@xtra.co.nz. Hard copy available in New Zealand on receipt of \$10 at 4 Sunny Park Ave, Papakura, Auckland 2113. Overseas posting by arrangement.

<http://www.delfinadearaujo.com/on/on31/pages/joaopaulo01eng.htm> is an interesting Brazilian site that illustrates floral anomalies in the author’s collection of Cattleya. In it he makes the interesting observation, “The floral stem and the ovaries are recovered by eyelashes that avoid creeper insects penetrate the flower”. *Now there’s an interesting thought about the function of hairs on orchid stems—Caladenia for instance – Ed.*

The *Orchadian* (2007; 15 (7)) contains descriptions of two new orchids from the Australian Capital Territory (Canberra): *Corunastylis clivicola* and *Stegostyla ustulata*.

Illustrations opposite

Fig.5. Rob Suisted’s *Prasophyllum colensoi* on Enderby Island.

Fig.6: Graham Hill’s *Orthoceras novae-zeelandiae* from Ohakune in March.

Fig.7: Max Gibbs’s photo of a fungus gnat apparently pollinating a *Pterostylis*.





Jeff Jeanes has a paper in *Muelleria* 24:
“Resolution of the *Thelymitra fuscolutea*
complex”.

Kevin Matthews emailed (27 Feb 07),
“Went on a recce with Maureen Young
& Barbara Parrish out to Karikari for the up
coming bot soc Easter field trip. I found 8 only
early flowering *Corunastylis pumila* (Fig.8,
opposite) at a hot spot for rarities in Lake
Ohia. Had a good look under the microscope
and it fits the description bang on. Just love
the crab pincher like column arms, these pretty
tiny wee flowers are a challenge to
photograph. I had to do a lot of stuffing
around to lay the plant over, using sphagnum
for backing and reflective paper to get this
shot....The orchid measures 90mm high with
the 18 flower/flower buds making up 21mm of
that.” Kevin later sent **Fig.9**, noting “Have
been doing a bit of a recce at Kaimaumu
wetland for later in the season.... This
Cryptostylis subulata was growing in/on a
rotting kauri stump. It's worth while noting
that *C subulata* is at some stage of flowering
in the Kaimaumu area all year round. This
particular site is also looking good for a decent
Thelymitra display. I found lots of leaf on old
kauri which will almost certainly turn out to
be *T. malvina*.”

Quite by chance, shortly after I had written
about the two extremes of colour of
Acianthus sinclairii (page 6), Kevin Matthews
emailed (10 June), “I had a very interesting

Illustrations opposite

Fig.8. Kevin Matthews's May flowering
Cryptostylis subulata on a fossil kauri
stump.

Fig.9. His early flowering *Corunastylis*
pumila at a hot spot for rarities in Lake
Ohia.

Fig.10. His red *Acianthus sinclairii* “var
Hukatere”, 90 Mile Beach.

Fig.11, 12. Kathy Warburton's *Gastrodia*
“long column” in her Dunedin garden.

late afternoon up at Hukatere, 90 Mile Beach.
I found lots of orchid leaf, *Thelymitra*,
Microtis, possibly *Prasophyllum* and a small
but thick colony of this lovely **red/purple**
Acianthus sinclairii. All were growing in soft
yellow sand generally topped with a thin layer
of moss as per photo. You will note that the
basal leaf is very basal i.e. hugging the
ground. All plants in the colony had this type
of basal leaf... as opposed to the identification
of the Australian *Acianthus* and our *A.*
sinclairii featuring the basal leaf clearly above
ground level. In addition to this ground
hugging feature the margin of the leaf is
undulate and irregular making the leaf of this
wee colony quite different to other *Acianthus*
that I'm aware of in the north and thereabouts.
The maximum number of flowers counted was
4 with a minimum of 2. They were at various
stages of flower, some having finished, some
with no peduncle which may not proceed to
flower. The habitat is shaded east side of track
with afternoon sun; mainly associated with
very shallow moss, *Thelymitra* and the prickly
mingimingi *Cyathodes juniperina*. I will be
following the progression of the other orchids
seen in the area so will keep an eye on the
Acianthus to see if the basal leaves stay in
contact with the ground as the stem continues
to grow after flowering. At present for my
own reference I'm calling this *Acianthus*
sinclairii ‘var hukatere’.” (**Fig.10**).

Kathy Warburton emailed (19 Feb 07),
attaching photographs of *Gastrodia*
“long column” (dark colour form) from her
Dunedin garden (**Fig.11, 12**); and, “My second
Gastrodia is now flowering, and is very
different from the first. Flowers have a short
column, flowers start off hanging downwards
and appear to be rotating up through
the horizontal to slope upwards, although it is
short, only 250mm with only 16 buds/flowers
to date, I think it is *G. cunninghamii*. On the
whole it appears darker than the *Gastrodia*
‘long column’, flowers are smaller too. We
have detected a light spicy fragrance as
well.” *That is VERY late for G. cunninghamii,*
even in the deep south—Ed



The “trident” abnormality caused by faulty zippering of the lateral petals to the dorsal sepal is pretty common in the *Diplodinium* group of *Pterostylis*. This *P. alobula* behind Eastbourne showed it nicely, as did sporadic plants of both *P. alobula* and *P. trullifolia* thereabouts.

Eric Scanlen emailed, “A few years back, there was a persistent hypothesis afoot that New Zealand’s and Australia’s orchid species were all different. This may have been a reaction to, or an extrapolation of, the number of shared species which dwindled in successive articles in the *Proceedings* and in our esteemed *Journals*. In particular, Peter de Lange has opined that three NZ species which had ‘aff.’ inserted to separate them from their Aussie counterparts, in all probability, should not have. So in the meantime, Peter advises that **the following should revert back to true species** rather than be *affinis* to an Australian one. They are *Microtis* aff. *parviflora* Great Barrier, (J73:29), *M.* aff. *oligantha* Chathams (J77:10) and *Calochilus* aff. *herbaceus* (J76:18). Journal references are for the first mention of the ‘aff.’ taxon now discontinued. There may be others in the pipeline but these

are the most outstanding, for the purposes of the endangered species list and the Column’s list of unnamed taxa published in the *Journals* which has just shrunk to three to 97.”

To be published in July: *Wild orchids in the lower North Island*, a Department of Conservation book by Peter de Lange, Jeremy Rolfe, John Sawyer and Ian St George. A conservation-minded approach to this orchid-rich region. Should be about \$20.

Jeremy Rolfe has a delightful patch of bush behind his house at Stokes Valley, near Upper Hutt. Last year *Pterostylis* (*Diplodinium*) *alveata* appeared on a bank by his back door, and this year he found an **albino** *Corybas cheesemani* among the normally coloured in his small colony a few metres up the hill.

NZNOG AGM: TARANAKI 10-11 NOVEMBER 2007

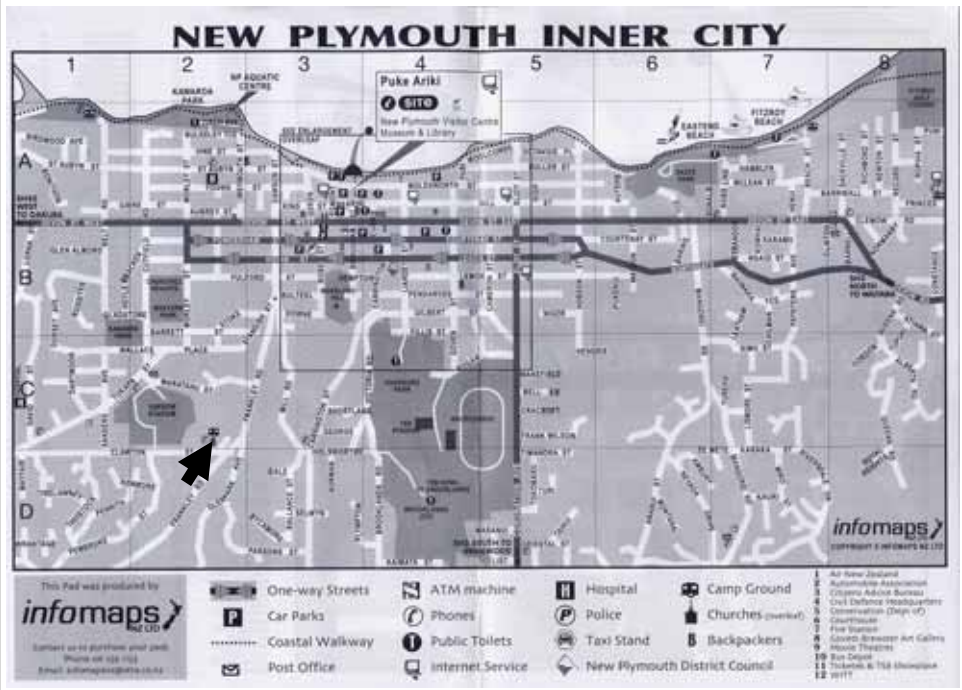
Field trips to Pukeiti Rhododendron Trust and North Egmont.

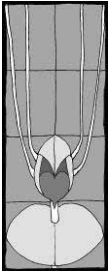
AGM venue and accommodation are arranged for the nights of 9 & 10 November at Egmont Eco Leisure Park 12 Clawton Street New Plymouth (arrowed in map below). Accommodation is bunk room style: \$28 per night with your own bedding, or \$31 per night with bedding provided.

Entry to Pukeiti Rhododendron Trust (\$9) will be the individual's responsibility. Pot luck dinner Saturday night, kitchen facilities available. Members wanting to arrive earlier and /or depart later can make their own booking for the extra time by contacting Egmont Eco Leisure Park, phone 06 7535720 or fax 06 7535782 stating attending NZNOG conference.

Local visits can be arranged for early arrivals on Friday by phoning Ernie Corbett ph 06 7537563.

Full payment is required by 29 September 2007 to confirm accommodation: send to Ernie Corbett 5 Anson Place Westown New Plymouth 4310.





® Column: Eric Scanlon

1. *Thelymitra fimbriata* at Cave Creek

Steve Reekie wrote, "Here are a few more details about the Sun Orchid I found near Cave Creek.

"It was on the 23rd of December, a very sunny afternoon. I was on the track between Bullock Creek and Cave Creek, and found the orchid growing in full sunlight amongst grasses, not far from the edge of the track, just past the Cave Creek memorial and up the hill a little.

"The area is usually pretty damp there, even though it is on a hilltop, and the ground looked as though it was usually quite swampy, but at this time it was abnormally dry."

Steve's Sun Orchid **Fig. 19**, is an unusual *Thelymitra fimbriata* Col. because of its white, not yellow, fimbria on the column arms. You may well ask, "What is *T. fimbriata*?" William Colenso described the flower in 1890 as "violet with dark pencillings..." and "staminodia [column arms] largely fimbriate..." amongst other details and his species is no doubt still legitimate today. T.F. Cheeseman commented in his 1906 Manual that it was "unknown to him" as most of Colenso's species seemed to be but Moore and Edgar, in the 1970 Flora, lumped *T. fimbriata* into *T. pulchella* Hook. f.

J.D. Hooker had in fact described *T. pulchella*, in his 1853 Flora, with "toothed or fimbriate staminodia" but in his 1864 Handbook he reverted to only "the toothed appendages of the column" with no mention of fimbria. The toothed

form is common in the far north where Hooker would have seen it in his three months at the Bay of Islands in 1841. So Colenso was within his rights to describe one of the many fimbriated variants as *T. fimbriata*. Colenso's, Hooker's and Cheeseman's details were all gleaned from Ian St George's invaluable *Historic Series*.

Molloy and Dawson, in a 1998 Journal of Botany, depicted a fimbriate "*T. pulchella*" and showed convincingly that it was an amphidiploid hybrid between *T. cyanea* and *T. longifolia*.

All the Column's *T. fimbriata* from Kao to Te Anau, have yellow fimbria (except for the Albany lot which are tawny) but some unusual *T. cyanea* from National Park wetland (J80:18) and others from Tangiwai have white column arms not yellow. Perhaps one of these with white column arms was an ancestral, parent of Steve's Cave Creek specimens? Has anyone else spotted this taxon?

2. Mike Lusk's North Island orchid SUPs

New member, Mike Lusk first tantalised the Editor and the Column with a photo of *Thelymitra hatchii* **Fig.13**, from near Kiwi Saddle, ER 27, in this Kawekas' SUP (site unreported previously). Mike then scored a hit to the Column, with a CD of *Caladenia* inhabiting the eastern ranges from Kiwi Saddle to Haurangi State Forest east of Wellington as you can read below.

But, *T. hatchii* has the flower inverted and it has stayed open through a cloudburst as evidenced by the water surrounding the column. Mike is glad he photographed it then, under an umbrella because in later visits it was never properly open again. Sun orchids are supposed to close in bad weather to protect their column organs from the wet but it seems they occasionally slip up. You may notice that this specimen differs in detail from others

under the classification umbrella of *T. hatchii*. This is an amphidiploid hybrid of *T. formosa* and *T. longifolia* according to Brian Molloy and Murray Dawson so one can expect variations of both parents to be reflected in the progeny.

A second email of Mike's showed a *Caladenia minor* (*chlorostyla*). **Fig.14** from the Kawekas in late Feb. 2007, showing a good top flower with typical toothed midlobe and green dorsal sepal but the lower flower is a gross mutation, with a vestigial labellum split in two and the two lateral sepals united as one, quite symmetrical but wider than normal. ER27 is also a SUP for *C. minor*. February is very late for *C. minor*, reminiscent of Tricia Aspin's late, one-to-four flowered colony from the Awhitu Peninsula. [J103:12]. Such late flowering and multiple flower heads could well be worth investigating further.

From Mike's CD, and near Kiwi Saddle, was *C. variegata*, **Fig.15**, another SUP. Notice the pink tepals and the typical extra or stray disc calli as originally described by William Colenso. Mike belongs to Heretaunga Tramping Club and had arrived at Kiwi Saddle check point in the Kaweka Challenge mountain race, a day early to test his suggestion to DoC that volunteers could pull seedling *Pinus contorta* rather than let them mature to chainsaw size. Good thinking! During this worthy test, orchids just happened to show up, of course, so demanded attention. Thirty years ago, the Column and party were pulling *P. contorta* around Ruapehu and had vaguely hoped it would be under control by now. Not so, this weed pine is still threatening to take over the tops of our southern N.I. ranges to the exclusion of native subalpine and alpine plants. It has been whispered around that Kyoto protocol people have conspired to plant them to improve NZ's carbon credits would you believe? Where were we?

Down in the Ruahines, near Triplex Hut, ER 33, Mike spotted a *Caladenia minor* **Fig.16**, another SUP. The orchid has unusual, tilted out labellum wings and midlobe teeth not showing at all well in this view, if they exist. Its curled down dorsal sepal is typical of over mature *Caladenia* which might or might not explain its other unusual features.

Further south, in the Haurangi State Forest, was *C. aff. variegata* in **Fig.17**, lacking the stray disc calli of Colenso's species. Notice the unique green labellum wings! These are supposed to be a dazzling white; green should be for the column wings! Also in Haurangi S.F., *C. aff. pusilla*, **Fig.18**, from a SUP and the southernmost yet reported, being some 35km further south than the Editor's from Kaitoke. Notice the typical dark dorsal sepal clamped down on the column, the rounded sepals, three marginal calli to the midlobe base (standard but not illustrated in the *Field Guide*) and turned up petal tips.

For a new member, Mike has excelled himself more than he probably realises with a host of new sites and some variations on accepted taxa that definitely need further investigation.

3. Queens Park orchids

Kelly Rennell once asserted that Queens Park, the pride and joy of Invercargill, had five species of native orchid growing there. The Column had been there and to the nearby Andersons Park on a *Gastrodia* "holiday" in Jan/Feb 2004 [J91:16] and saw only the *G. "long column"* that Kelly pointed out. That was an education in itself with robust plants growing and seeding under the darkest Rhododendrons and weak pale ones in both the bark gardens and rising through prostrate *Erica* bushes. The pale ones in the open seemed to be sunburnt and not producing any seed. Perhaps they need the continuous chilling of the deep shade to set seed?

Kelly has recently sent photos to support his claim for the two most interesting species. His 2005 email said in large part -

"This summer my trips have mainly been confined to Queens Park Invercargill. I now have found five orchid species in the park.

"1 *Gastrodia minor* (**Figs. 20, 21**) about 30 plants in total, most of which set seed capsules. First found about 21 Dec 04.

"2 *Gastrodia* 'long column' in excess of 200 plants throughout the park (among

Rhododendrons, among pine trees and in various new shrubs planted. Pines have been cut down and the stumps remain. Mostly mid-January. Many seed capsules although not all plants set seed.

“3 *Chiloglottis cornuta* Several dozen plants in an area of pine trees found early Jan but had finished flowering some with capsules.

“4 *Microtis unifolia* common; regarded as a weed by the gardeners.

“5 *Pterostylis* sp. (Fig. 22) The leaves are compact and the flower does not have long lateral sepals (looks rather like the *Pterostylis silvicultrix* drawing p82 of the 2001 *Field guide*) only saw 5 plants but they were earlier than the *Gastrodia*. I would estimate peak flowering was Nov. I also saw both *G. cunninghamii* and *G. “long column”* at Anderson Park. The *G. cunninghamii* was earlier than the *G. “long column”*. Where I put the netting enclosure around three plants last year two flower spikes arose this year and where we found the one out by the gate, alongside the *Erica*, there were three plants this year. I have noticed that the plants growing out in the open tend to be lighter coloured than the ones under shade as one might expect.”

Kelly’s *P. silvicultrix* is a convincing image of the Chatham Islands’ species although slightly over-mature with shrivelled tepal tips. The short lateral sepals, dorsal sepal tip bunched with lateral petal tips, that characteristic labellum and the broad floral bract all look too good to be true. Could it be? The Chatham species had to have come from somewhere.

It’s nice to see good flowers on *Gastrodia minor* too. The Journals are strangely lacking in this fairly common and smallest of the *Gastrodia*s. Notice the tiny column in the sectioned flower. It is obviously equipped for self pollination even though the flowers all open and those ridges of convincing looking pseudopollen on the labellum, lead back towards the column. Still trying for insect pollination seems likely. Self pollination is only ever a fall back survival mechanism for plants because they lack the adaptive advantages that cross pollinated plants obtain. For *G. minor*, either the pollinator has disappeared or mutation, such as

the abbreviated column, has at one fell stroke made insect pollination unlikely and self pollination possible. If the mutation notion were responsible, one can speculate that the nonmutated original with a long column has disappeared from loss of a pollinator?

Interesting that the gardeners regard the self introduced, Australian *Microtis unifolia* as a weed. You and I could be arrested for pulling up orchids in a park but the gardeners can pull barrow loads of “weeds” without a thought. Kelly might be able to sift through a wheelbarrow of weeds for three specimens of this *Pterostylis* to send to Dr Molloy for positive ID!

Inside back cover (photographs by Mike Lusk—see p25)

Fig. 13. *Thelymitra hatchii* not previously reported from Kiwi Saddle in ER 27. Why did this sun orchid stay open in the wet?

Fig. 14. Late flowering *Caladenia minor* (*chlorostyla*) from Kiwi Saddle in late Feb. 2007. Not previously reported from ER27.

The top flower is typical, the lower has a gross mutation.

Fig. 15. *Caladenia variegata* from near Kiwi Saddle, site previously unreported. Note the extra disc calli typical of this species.

Fig. 16. *Caladenia minor* from near Triplex Hut in the Ruahines, ER 33. Site previously unreported. Note the unusual turned out labellum wings and the dorsal sepal hooded over the column typical of over-mature *Caladenia*.

Fig. 17. *Caladenia* aff. *variegata* (without the extra disc calli) with nonstandard green labellum wings from Haurangi State Forest, ER 37.

Fig. 18. *Caladenia* aff. *pusilla* also from Haurangi S.F., the furthest south reported to date. Note the three marginal calli to the midlobe base, dark dorsal sepal hooded over the column and upturned petal tips all typical of this taxon.

Outside back cover

Fig.19. Steve Reekie’s Cave creek *Thelymitra fimbriata* with unusual white fimbria on the column arms.

(photographs by Kelly Rennell)

Fig.20. *Gastrodia minor*.

Fig.21. *G. minor* flower in section.

Fig.22. *Pterostylis* with aff. to *P. silvicultrix*.

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