

THE  
NEW ZEALAND  
NATIVE  
ORCHID  
JOURNAL

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AUGUST  
2013.

# AGM 2013: GORDON SYLVESTER

## ST ARNAUD 22 TO 24 NOVEMBER

At the 2012 AGM held at Kaitoke we resolved to look a little further afield for a venue for 2013. St Arnaud was suggested and enquiries were to be made. The inquiries have now been made and the Executive has decided the next AGM will be held at Red Deer Lodge St Arnaud.

The Lodge (4 View Road) is situated across the street from the DOC centre about 200m from the general store. It sleeps 28 persons and the trustees have made it quite clear that is the absolute number that will be allowed to stay.

There are motels, two backpackers hostels, two camping grounds and houses for private rent scattered through the village. The village has about 250 beds available but early booking is recommended.

We are in the middle of organising catering for the group for the duration of the AGM. Please advise Gordon Sylvester [southcol@xtra.co.nz](mailto:southcol@xtra.co.nz) of your intention to attend the camp, and whether you require accommodation at Red Deer Lodge or will seek accommodation elsewhere in the village—and whether you require catering. It is important we know about any allergies attenders may have, for the caterers. The nearest medical facility is at Murchison or at Wakefield, Nelson.

Transportation can be arranged through Mark Moorhouse of Nelson [memopob@yahoo.com.au](mailto:memopob@yahoo.com.au) who has offered free minibus transport from Nelson Airport and return providing flights are coordinated among members so all arrive within a few hours of each other. Please direct your interest to Mark so he can coordinate suitable times to book flights, the sooner the better price options for all.

Or you can travel across on the Inter-Island

ferries to Picton and make your way to St Arnaud by road. Look at the Internet for transport and Trampers Transfers Buses or consider carpooling a rental from Picton if crossing by sea.

What is there to see? the Brunner Peninsula has given up its secrets to three of our members in 2002. There are bush walks at Kerr Bay close to the Lake Camping Ground. In addition there are plenty of sites nearby many of them within walking distance of the Lodge. Minibus transport to sites at Mount Robert, Tophouse Reserve, Red Hills Track, Rainbow ski-field and if time permits Station Creek, Teetotal and Porika Track. This will produce several uniquely local taxa such as *Nemato-ceras trilobum* 'darkie'. Several of these local sites have not been explored in any depth and the local members will appreciate a hand to do so. At least 40 species have been recorded locally so there is plenty of potential for an enjoyable event.

This will be one of the few times the AGM has been held in the South Island and the South Islanders are keenly looking forward to an interchange, putting names to faces and sharing their experiences and local varieties.

Please bring any images of *Pterostylis australis* you have, preferably on memory stick or in digital form—if not hard copies as prints. As its identity has been a contentious issue for some time, a productive debate and picture show is proposed as an item of the AGM. We need your images and opinions, so bring anything you feel falls under the greater *Pt australis* umbrella.

It is an alpine environment and we can have all four seasons in one day. Wet weather gear and cold weather gear is essential luggage here at this time of the

year. Insect repellent is strongly advised. The local black gnats are very active during daylight hours especially if there are no breezes. Antihistamine cream may not be a silly idea. You will need to bring a sleeping bag with you, if you are staying in the Red Deer Lodge.

The dates are from Friday 22 to Sunday 24 November 2013.

Bring your camera and we will see you all there.

Mark Moorhouse is especially interested in the various forms *Nematoceras* and *Pterostylis* take in the locality.

**Previous observations from St. Arnaud and Lake Rototoi.**

Adenochilus	gracilis
Aporostylis	bifolia
Caladenia	minor
Caladenia	nothofageti
Caladenia	chlorostyla
Gastrodia	"long column"
Gastrodia	cunninghamii
Nematoceras	orbiculatum
Nematoceras	trilobum agg.
Pterostylis	australis
Pterostylis	irsoniana
Pterostylis	irwinii
Pterostylis	montana
Pterostylis	montana agg.
Pterostylis	montana (sensu Moore)
Pterostylis	aff. montana agg.
Pterostylis	"peninsula"
Pterostylis	graminea agg.
Singularybas	oblongus
Singularybas	oblongus agg.
Stegastyla	aff. alpina
Stegastyla	lyallii
Thelymitra	formosa
Thelymitra	longifolia agg.
Thelymitra	pauciflora

# THE HATCH MEDAL 2013

This medal was struck in 2009 in memory of E.D. "Dan" Hatch and his orchid work.

It is awarded annually to a person who has made an outstanding contribution to New Zealand orchidology, as outlined in the Group's aims.

This person can be nominated by any member of the Group and if there is more than one nomination, be determined by the Executive.

The first recipient of the Medal was Ian St George in recognition of his tireless work on the *Journal* and *Historical Series*, as well as the many years he spent as chair of the Group.

In 2010 the Medal went to Bruce Irwin in recognition of the many decades he has spent illustrating New Zealand's native orchids as well as other plants and the knowledge arising from his observations that he has freely shared.

The 2011 Medal was awarded to Dr Brian Molloy, New Zealand's premier orchidologist, who has described more new species than anyone before him.

The 2012 Medal went to Eric Scanlen for his outstanding orchid photography and writing and for his work for the Group.

**Who will the 2013 recipient be?**

**Nominations are open.  
Email the Secretary, Gael Donaghy: [gdonaghy@clear.net.nz](mailto:gdonaghy@clear.net.nz)**

## Annual Meeting, NZ Native Orchid Group, YMCA Camp Kaitoke

Apologies: Val Smith, Wilma Fitzgibbon, Ina McLellan, Bill Liddy, Brian Molloy, Ernie Corbett, Gary Penniall, Michael Pratt, Mary and Bob Watson, Bob MacNab.

Present: David McConachie (Chair), Ian St George, Karen and Alisdair Nicholl, Cara-Lisa Schloots, Pam Shearer, Carlos Lehnebach, Judith Tyler, Brian Tyler, Claire Francis, Graeme Jane, Mike Lusk, Margaret Menzies, Glyn Wren, Eric Scanlen, Gordon Sylvester, Gael Donaghy (minutes), 2011 Annual Meeting Minutes were circulated on the Camp Information.

David started the Annual Meeting with a minutes silence for Bruce Irwin. Ian is looking after Bruce's binocular dissecting microscope. It is available to any member who wishes to look at orchids close up. Contact Ian if you are interested.

### Chairman's report – David McConachie

David noted with sadness with the passing of Bruce Irwin in January, 2012. The digitising of the Goodger slides is underway. Discussion with Landcare on integrating the NZNOG data with their database is underway. There is a link to the Landcare interactive key from the website. David thanked the committee for their support, and indicated he was happy to stand again.

Report moved: David McConachie, seconded Ian St George. Carried.

### Treasurer's Report - Judith Tyler.

Judith distributed the accounts. A copy will be lodged with the Companies Office (we are an incorporated Society). Some of the people who chose the email option are starting to come back to hard copy subs. Balances in bank account are at a similar level to last year. Note that NZNOG are exempt tax. Because of the increased cost of postage, Judith suggested that the subscription be increased to \$25 for the 2014 year. Moved: Judith Tyler. Seconded: Eric Scanlen. Carried. Balance of accounts at end of financial year is \$15,192.71.

### Elections:

**Chair:** David McConachie nominated by Ian St George, seconded Gordon Sylvester. Gordon moved that nominations be closed. Carried.

**Deputy Chair:** Gordon Sylvester nominated by Brian Tyler, seconded Eric Scanlen. David McConachie moved that nominations be closed. Carried.

**Treasurer:** Judith Tyler nominated by Claire, seconded Glyn, David McConachie moved that nominations be closed. Carried.

**Secretary:** Gael Donaghy nominated David McConachie, Seconded Gordon Sylvester, David moved that nominations be closed. Seconded by Ian St George. Carried. Committee: Ian St George, Graeme Jane, Bill Liddy, Brian Tyler, Michael Pratt, Eric Scanlen, Mike Lusk – Claire moved that committee be elected en bloc, seconded by Judith Tyler. Carried with the proviso of the acceptance by the absent committee members (Bill Liddy and Michael Pratt).

**New committee members.** Cara-Lisa Schloots – nominated Gordon Sylvester, seconded Eric Scanlen. Pam Shearer – nominated Brian Tyler, seconded Ian St George. Alisdair

Nicoll – nominated Ian St George, seconded Margaret Menzies. Carried.

Meeting adjourned at 6:50pm for a break.

### Presentations

Presentation of the Hatch Medal – for his contributions to orchid knowledge - Eric Scanlen.

Eric has done a huge amount for the Group and for native orchids. Many years ago he began photographing wild orchids in the Hunua Ranges when he was an engineer there; at that time he consulted Dan Hatch. Later he joined the Group, and has contributed significantly in many ways. He is a regular attendee at the Group's field days and week-ends. He is the most consistent contributor to the Journal, with his regular "Column" illustrated with his excellent photographs. He has written and contributed to numbers in the Group's *Historical Series*.

He has been co-editor of the Group's Field Guides over several editions, at first contributing drawings and more recently photographs. His photographs embellish the Group's website.

He has been a pioneer in orchid stereo-photography, and has presented 3-D shows of orchid studies at many weekend meetings; he has been an invited speaker at New Zealand meetings of other groups, and at the Victorian Group of the Australian Native Orchid Society.

### General Business

Proposal for display at the NZ National Orchid Show, 2013 (Gordon Sylvester). Group not to go ahead with this.

Current status of the mapping scheme (Gordon Sylvester). Gordon updated the group and discussed the pros and cons of putting the data on Colin Meurk's website. There has been a request for integration of our data into their data base. Gordon spoke about the confidentiality issues and read out the information. The problem is that some observations are from coventanted properties, and the landowners do not wish the location disclosed. Gordon said that information can be formatted in any way that the informant wishes. Information will be located to a 50m radius on the ground. Decision: the group will not contribute to this. Crop and Food – asked for locations of *P. oliverii* and *P. tristis*.

Archives – Alexander Turnbull Library are not interested in NZNOG archival material – it is not old enough. Ian has three boxes of material in his barn. Gordon still has the original sheets from data sent to him for the mapping project. Graeme suggested that any paper data should be scanned / kept in the cloud

Spending about \$5,000 of the accumulated funds. Suggestion that we could fund a student to do some research. Maybe get some DNA analysis done. Carlos spoke about using a student over the summer break. Ian St George moved that the committee be empowered to make a decision, seconded by Eric Scanlen. Ties do this.

Where should we hold the 2013 AGM? Suggestions were: Nelson Lakes, Mt Taranaki, Ohakune. The committee will work on this - to be concluded no later than 31 March, 2013.

Claire raised the issue of a commercially available perfume based on native flowers – she saw at least 8 that were based on named orchids. There was discussion on this.

Meeting closed: 7:50pm

# THE TYPE LOCALITY

BY IAN ST GEORGE

## HALFMOON BAY AND *PTEROSTYLIS MONTANA*

In 1946 Cedric Smith sent specimens of *Pterostylis* from Halfmoon Bay, Stewart Island, to Dan Hatch in Auckland. Hatch determined they were undescribed, and proceeded to describe them as *P. montana* var. *typica* (he regarded *P. agathicola* as a second “jordanon” of *P. montana*) [1].

In 1970 Lucy Moore described (and Bruce Irwin drew) *P. montana* Hatch in *Flora II* [2]. Trouble is, some people think her plant is not the same as Hatch’s.

So perhaps we have two similar taxa, one *P. montana sensu* Moore, the other *P. montana sensu* Hatch. Being at Halfmoon Bay in November 2012 and seeing *P. montana sensu* Moore there rekindled my interest.

Moore’s plant is generally acknowledged to have a short prominent oval to cordate stigma and flat ribbonlike lateral sepals (sometimes curled forward), and to be self-pollinating. Bruce Irwin was insistent on these points, and he knew Lucy Moore’s views better than anyone.

Hatch’s is said to have a long flat stigma. Dan himself told me none of his Stewart Island specimens had the bulbous stigma Bruce Irwin depicted in *The Oxford book of New Zealand plants* (page XX) [3].

Yet Hatch’s description tells us the plant has a “prominent, elliptical” stigma, with laterals shown flat and ribbonlike (not rolled into a tube as in many other pterostylises) in the drawing. Hatch’s description is in the next column and his father’s drawing is on the following page...

***Pterostylis montana* Hatch spec. nov.**

*Pt. montana* var. ***typica*** Hatch.

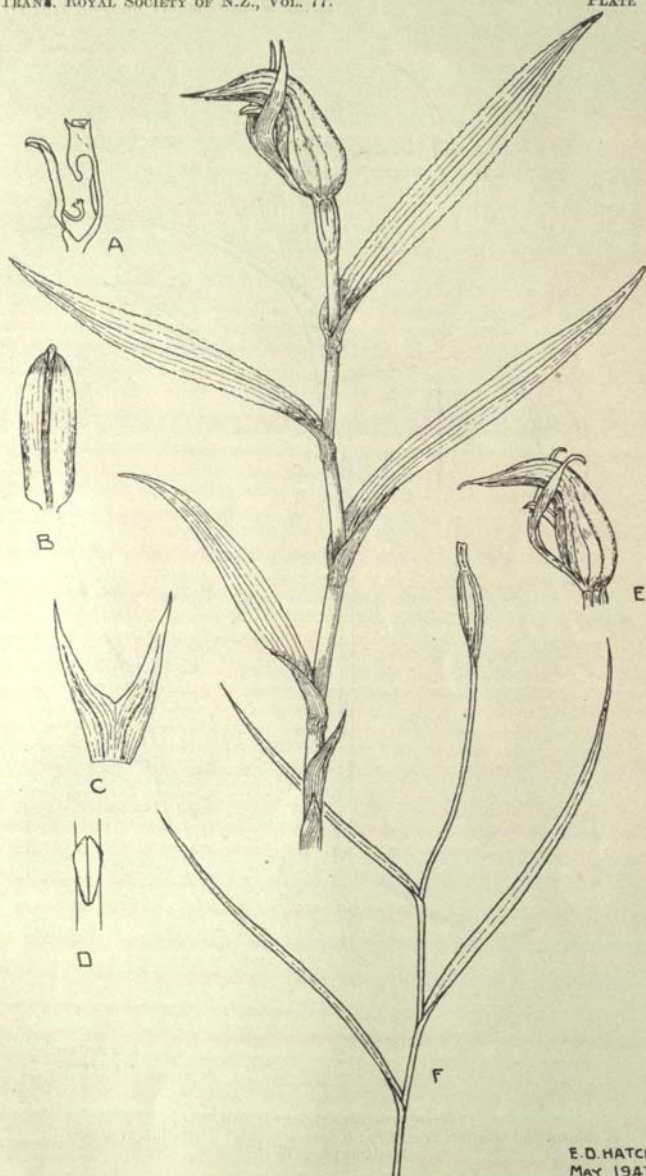
*Pt. graminea* Cheesmn. in part (not of Hook. f.).

Up to 15 cm. high. Leaves 1–5, linear-lanceolate, acuminate, often repand, up to 4 cm. long by 4 mm. broad. Floral bract foliaceous. Flower solitary, up to 3 cm. high. Dorsal sepal acuminate, longer than the petals, the tip horizontal. Lateral sepals acuminate, the lobes shortly exceeding the galea. Labellum green, recurved, the tip unevenly constricted. Column typical, stigma prominent, elliptical. Column-wings with acuminate upper lobes as high as the anther. Lower lobes incurved, narrow-oblong. With maturity the lateral sepals tend to fall away from the galea.

*Distribution.* Endemic—5, not uncommon about the *Nothofagus* forests on Mount Ruapehu, *Matthews, Hatch; 15*, Lake Manapouri, 1, 1946, *Geo. Simpson; 16*, abundant throughout Stewart Island, 12, 1946, *C. Smith*.

Flowers November–January, sea-level–4,500 ft., scattered on the forest floor, common. Probably derived from *Pt. australis*. Almost certainly confused with *graminea sens. strict.*, and probably abundant in most subalpine areas in the North and South Islands, but has so far only been definitely recorded from the localities given above. *Holotype* in Herb. Hatch, No. 564, Halfmoon Bay, Stewart Island, 11, 1946, C. Smith.

**Hatch’s drawing, next page ►**

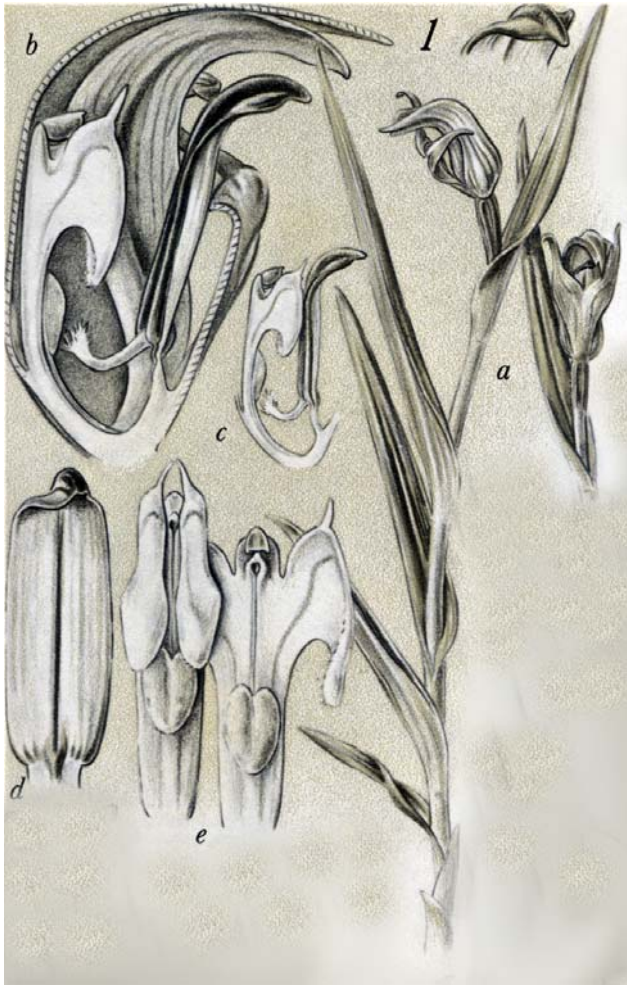


*Pt. montana* var. *typica* nat. size.

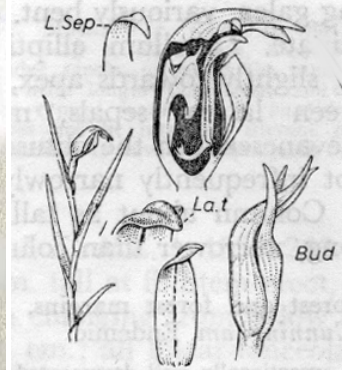
a, column and labellum from above; b, labellum from above; c, lateral sepals; d, stigma; e, flower showing first stages of disintegration; f, seeding stage.

E. D. HATCH  
MAY 1947





Bruce Irwin's drawings from Moore & Irwin's *The Oxford book of New Zealand plants* (left) and Moore & Edgar's *Flora NZ II* (below). Is the stigma really different from Hatch's drawing (previous page)?



Stigma of *Pterostylis montana sensu* Moore from Arthur's Pass.

Hatch's type is in Herb. Hatch at Auckland Museum; it shows a single specimen with flat lateral sepals and a prominent stigma, sent by Cedric Smith from Halfmoon Bay Stewart Island November 1946 (following page).

*P. montana sensu* Moore is often an almost bronze olive green, but can be the pale green of iceberg lettuce—as pale in fact as *P. linearis* (and with the same bulbous stigma), which Moore appeared to regard as identical (*Flora II* p.146). Column and stigma of an Arthur's Pass plant are shown at right above, and pressed

specimens from the Catlins on p.9.

Is Hatch's Stewart Island Type really different from my Catlins specimens and Bruce's drawings? I don't believe so: none of the stigmas could be said to be flat; all are prominent to a degree—some more so than others, certainly, but not enough to split them.

I've changed my mind: in my opinion *P. montana sensu* Hatch = *P. montana sensu* Moore.

HOLO  
180  
LECTO  
SYN  
**TYPE**



HOLOTYPE

*P. MONTANA*. *TYRICA*.  
HOLOTYPE.

Halfmoon Bay  
Stewart Island

11.1946.

Eric Smith

16.564



Hatch's type specimen from Stewart Island: reproduced with permission from Auckland Museum. Note the "prominent, elliptical" (but now shrivelled) dark shaded stigma in the blow-up, above right (photo: Eric Scanlen). This is a mature plant, the ovary swelling and the flower shrivelling, with it the stigma....





Specimens of *Pterostylis montana* collected by the author, Catlins, 1984. Note the dark shaded stigmas in the blowups at right.





## References

1. Hatch ED 1949. The New Zealand forms of *Pterostylis* R.Br. *Trans.Roy.Soc.N.Z.* 77: pp234-46.
2. Moore LB with illustrations by J.B.Irwin 1970. In Moore LB and E Edgar. *Flora of New Zealand* volume II. Wellington, Government Printer. pp102-167.
3. Moore LB and JB Irwin 1978. *Oxford Book of New Zealand Plants*. Wellington, Oxford University Press.

◀ *Pterostylis montana* from Otago.

# THE NEW ZEALAND NATIVE ORCHID JOURNAL

The main aim of the **New Zealand Native Orchid Group** is informing people about native orchids, so we permit others to copy material published here, provided the source and author are acknowledged. Authors should note this as a condition of acceptance of their work. The *Journal* is normally published quarterly from February, and deadline for copy is the first of the month beforehand. We like copy to be typed or sent on disk or by email.

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THE EDITOR and EDITORIAL BOARD MAY NOT SHARE AUTHORS' OPINIONS.

# ORIGINAL PAPERS

## WILLIAM HARTEE RESERVE, HAWKE'S BAY BY GRAHAM RANDLE

This small reserve located on the Puketitiri Road west of Napier is administered by the local Forest and Bird Society, it was a cut-over forest many years ago and is an outstanding place during the spring and early summer to find some of our unique terrestrial orchids of the *Pterostylis* family commonly known as Green Hoods or Tutikiwi by the Māori.

These quaint green grasslike plants can often be confused with cutty grass until one gets a eye for them, growing along the small open tracks between the cutover forest of large Five Fingers, Fuchsia, Pepper tree, NZ privet etc with a understory of creeping fern in dappled light that trickles through the canopy from above. Also there of special interest to most orchid hunters is a rare plant growing on the limbs of most of the Five Finger Trees this being the rare white Mistletoe *Tuperia antarctica*. These plants range in size from large clumps to small, growing from ground level to the upper canopy and can be found on most of these trees and would be one of the largest collections of this rare plant anywhere in NZ.

The orchids are to be found along the main track, a short distance from the lodge, growing on the open ground under the overhanging trees where there is always a slight breeze. All of a sudden there before you are these grass-like plants popping up through the hard damp ground covered in leaf mould. First there is *Pterostylis patens*—it has a large green white striped bulbous looking flower head with sweeping back wings tipped with pink and a large labellum protruding forward waiting for a unsuspecting insect to alight on it—waiting

to be pollinated. It is an unusual flower, an insect trap, a landing place where the scent from the flower attracts the insects that alight on the tongue to be immediately flicked back into the back of the flower where the insect is forced past the pollen that dusts the insect which then touches the stigma of the next flower it visits to deposit the pollen that then pollinates the plant.

This is how these orchids are pollinated—they rely on small insects; it is an example





of a plant and insect relationship quite common in nature especially with orchids.

The next orchid to appear is *Pterostylis montana*, a smaller plant than *P. patens*; they are numerous, their twisted labellums identifying them, some protrude beyond the opening, while others curve beyond their wings all waiting for the unsuspecting insects to alight on them for their little flick that starts the pollination process to increase the species.



*Pterostylis banksii* is there too; this is New Zealand's largest plant of this genus; their large handsome single flowers with pink tips on their long wings can be seen by themselves standing high alone with the other orchids further up the open track—an area I have called "Orchid Alley".



The steady breeze up and down this track has enabled these plants to flourish, where their fine seeds drift up and down to germinate in this ideal environment.

It is a special place for these unique New Zealand plants that surprise you each time you go there to photograph them.



# NATIVE ORCHIDS OF LAKE OHIA SCIENTIFIC RESERVE BY BILL CAMPBELL

In 1993 Brian Molloy authored a publication titled "Management of Native Orchids, Lake Ohia, Northland".

This article, some 20 years later, is intended to build on the information contained within that publication and to provide details on the current status of native orchids found in the Lake Ohia Scientific Reserve.

Lake Ohia Scientific Reserve covers an area of at least 1,263 hectares and consists of low scrub covered gumland hills to 70 metres a.s.l., with the Lake Ohia basin itself being a gumland clay pan, exposed ancient Kauri forest, rush and sedge peat wetlands and an area of open water. In places the reserve extends from the shores of Tokerau Beach to the estuarine habitat of the Rangaunu Harbour.

The main access points are off Lake Ohia Road (exposed ancient Kauri forest), Inland Road, and Tahanga (Tohanga) Road. Several paper roads and other unsealed tracks lead off these roads, providing relatively easy access to the majority of the reserve.

The author has visited different areas of the reserve regularly since June 2007, sometimes in the company of Kevin Matthews, and has photographed and recorded those orchid entities (not all are formally described or recognised taxa) present. It is noted that several species for which suitable habitat exists have not been observed yet. This may simply be due to the right areas not being visited at the right time, rather than indicating that they are not present at all.

For the purpose of this article, the current status of the orchid entities present is recorded as rare (r), uncommon (u), common (c) or abundant (a), with distribution noted as localised (l) or widespread (w). Entities

reported as being present in the 1993 publication are indicated with an asterisk \*. The full list of recorded entities follows.

- Anzybas rotundifolius* (c) (w) particularly east of Tahanga Road.  
*Anzybas* "late pale" (r) (l) One colony observed.  
\**Caladenia alata* (c) (w)  
*Caladenia bartlettii* (u)(l) One colony and scattered plants observed.  
\**Caladenia* "green column" Not observed.  
\**Caladenia minor* Not observed.  
\**Calochilus herbaceus* (r)(l) Three distinct colonies observed, consisting of <50 plants in total.  
\**Corunastylis pumila* (u) (w).  
\**Cryptostylis subulata* (a) (w) In Lake Ohia basin and extending its range yearly.  
*Cyrtostylis oblonga* (r) (l) One small colony observed east of Inland Road.  
*Earina mucronata* (r) (l) One terrestrial plant observed. No longer known at site.  
*Microtis arenaria* (u) (w) Scattered plants observed.  
\**Microtis parviflora* (u) (w)  
\**Microtis unifolia* (c) (w)  
*Plumatichilos tasmanicum* (r) (l) One small colony known.  
\**Prasophyllum colensoi* Almost certain to be P. "Tohanga".  
\* *Prasophyllum hectorii* (r) (l) One colony of <50 plants located in 2012.  
*Prasophyllum* "Tohanga" (r) (l) Unidentified taxon in the P. colensoi aggregate, known from a few scattered plants in two distinct, widely separated, locations.  
*Pterostylis puberula* (r) (l) One colony of several hundred plants known.  
*Pterostylis trullifolia* (a) (w)  
*Singularybas oblongus* (u) (l) <200 plants known from one locality.  
\**Spiranthes* "Motutangi" (u) (l) Reasonable



numbers present, but only on northwestern side of basin.

\**Thelymitra aemula* (u) (w)

\**Thelymitra* “Ahipara” (r) (l) Possible plants of this taxon were observed in 2012.

\**Thelymitra carnea* (c) (w) Both colour forms present.

*Thelymitra cyanea* (r) (l) A few plants, first observed in 2012.

\**Thelymitra* “darkie” (u) (w)

*Thelymitra longifolia* (r) (l)

\**Thelymitra* aff. *longifolia* (u) ((l))

\**Thelymitra malvina* (u) (l) Restricted to area where ancient Kauri logs are exposed.

\**Thelymitra pauciflora* (u) (w)

\**Thelymitra pulchella* (a) (w)

\**Thelymitra* “rough leaf” (c) (w)

*Thelymitra* “sky” (r) (l) One plant observed

only.

20 entities were recorded in the 1993 report and that number has increased to 30 and possibly 31 as the result of subsequent observations.

It is anticipated that other entities will be located as time goes on. Species expected to be present but not yet observed or positively identified include *Caladenia chlorostyla*, *Corybas cheesemani* and *Thelymitra colensoi*. Other members of the *Caladenia* genus may yet be turned up, as may *Molloybas cryptanthus* and possibly one or more *Nematoceras* entities, along with other vagrants and rarities.

## LOVE IN THE SWAMP AMONG THE ORCHIDS... BY MIKE PARSONS

(Mike was a guest of the NZNOG at its 2012 field days).

Whoever thought I would be invited to attend a wedding in a swamp where the bride wore a long white wedding dress with combat boots and water up to her knees.

So here I was on the 1st of June in the Fakahatchee Strand State Preserve (FSSP) in Southwest Florida to witness the marriage of Mike Owen the chief biologist of the preserve, for the past eighteen years, and Donna Glann-Smyth. The story goes that they met 8 years ago when Mike was leading a guided swamp walk through the Fakahatchee Strand looking for some of the 46 species of orchids that are found here.

One of the most precious being *Denrophylax*

*lindeni* the elusive “Ghost Orchid” was found in full bloom as they were passing through the tropical canopy of Cypress Trees. Mike pointed out this orchid to Donna as it clung to the Pop Ash tree with the tentacles going around the trunk like an octopus. This is one of the three leafless orchids that occur here in this strand. Within a few minutes Donna had spotted another one on her own, which apparently is unheard of as most first time visitors are more aware of alligators, venomous cottonmouth snakes which are very territorial, Poison Ivy and Poisonwood Trees, jumping spiders also lurk around every corner. Mike was quite impressed that a visitor had found an orchid that was not known to him and



## Orchidomania? Those attending the wedding....

probably knew then that Donna was something special so at the end of the guided tour he took her telephone number.

After 8 years they decided to wed at the same place that they saw this same Ghost Orchid and especially in June as it would be very likely that one orchid would be in flower for the ceremony but alas although one was due to bloom it was stolen a few weeks previously. However there were two Ghost Orchids entangled around the tree where Rene Rau an ordained minister, who is also the Superintendent of the FSSP, and she conducted an outstanding wedding ceremony.

We all met up at the visitors centre at the FSSP at 10:00 am. We all car-pooled and then drove seven miles to gate #12 before entering the swamp with our walking poles. Some had come dressed for the occasion with Saul Friess in a tuxedo and Blanca Clusman in a Hawaiian skirt. After a brisk walk through the swamp we came to a halt and all prepared for the occasion with Mike calling like Tarzan a call that is often needed in unfamiliar sur-

roundings, as it is so easy to get disorientated, it sounded like “Hootie Hooo-o-o-o”. The bride seems to appear from nowhere holding a bouquet of flowers that strangely looked like a bunch of “Ghost Orchids” as she headed towards the ceremonial tree. There were about 40 attendees for the swamp wedding and about a hundred at the reception held at the Everglades City Seafood Depot Restaurant.

After the wedding my wife and I tramped through the undergrowth back to the path but on route we did see a “Ghost Orchid” in bloom just above our heads, an *Epidendrum amphistomum* the “dingy orchid” which Mike prefers calling “rollercoaster orchid” as he says nothing is dingy in the FSSP, *Encyclia tampensis* the “butterfly orchid” and *Vanilla phaeantha* the oblong-leaved vanilla orchid.

The FSSP encompasses much of Florida's most spectacular swamp consisting of a 90,000-acre wilderness. It is the western part of the Big Cypress with its waters running from Lake Okeechobee through the strand, and into the Gulf of Mexico. It is well known

for its Bald Cypress Trees, many of them were cut down during the Second World War leaving a long road called “Janes Scenic Drive” which goes for 11 miles but does not lead anywhere. The lumberjacks left tram trails that lead into the swamp by canals that helped them with the logging. These areas have created great canopies for orchids. The FSSP, known as the Orchid and Bromeliad capital of the United States, has the distinction of having more orchid and bromeliad species than anywhere else in the USA and Canada. Most of the epiphytic species are found in the FSSP.

I think I prefer this real true love story to the non-fiction book *The Orchid Thief* written from true facts by Susan Orlean, and subsequently the very fictitious film *Adaptation* starring Nicholas Cage & Meryl Streep.

The book *The Orchid Thief* was a TRUE STORY. . . . Mike Owen was there for the arrest and he met with Susan Orlean for the story and the facts . . . .



The Ghost Orchid: photograph by Saul Friess

## BRUCE IRWIN'S MICROSCOPE

Bruce Irwin's binocular Olympus with case, and continuous zoom is available for longterm loan to any member of the Group interested in looking at the finer details of orchid structure Apply to Ian St George, [istge@yahoo.co.nz](mailto:istge@yahoo.co.nz).



# JOTTINGS

Murray Dawson writes, “We have uploaded a new version of the NZ native orchid key at [www.landcareresearch.co.nz/resources/identification/plants/native-orchid-key](http://www.landcareresearch.co.nz/resources/identification/plants/native-orchid-key). This key is an interactive tool to allow you to more easily identify native orchids.

## What’s New?

- Refined the orchid taxa listed and characters used to identify them
- Added new image collections of native orchids
- Fully captioned the images, including locality information where available
- Added info pages to explain what each character means
- Created a native orchid project on NatureWatch NZ <http://naturewatch.org.nz/projects/new-zealand-native-orchids> and added a “widget” to it on the Landcare Research website
- Also, the NZ Native Orchids website (<http://nativeorchids.co.nz/>) have added links to the key.

Many thanks to those who have contributed their images or helped in other ways – you should have been acknowledged at [www.landcareresearch.co.nz/resources/identification/plants/native-orchid-key/acknowledgements](http://www.landcareresearch.co.nz/resources/identification/plants/native-orchid-key/acknowledgements)

This project has been funded by the TFBIS (Terrestrial & Freshwater Biodiversity Information System) Programme and is scheduled for completion in May 2013. There is some work still to do, such as filling gaps in image coverage (e.g., fruit and column close-ups), adding images on the explanation pages, and checking some character scoring.

Jeremy Rolfe and the NZ Native Orchid Group are co-authors of this key.

If you have never used a Lucid key, we have a help page at [www.landcareresearch.co.nz/resources/identification/plants/lucid\\_help](http://www.landcareresearch.co.nz/resources/identification/plants/lucid_help)

Please pass this email onto anyone that think may be interested. Further contributions and feedback are most welcome!”

Malcolm Rutherford worked for the Kakapo recovery team on Stewart Island in 2004/5. Over the years he found all the orchids known to be there. He emailed, “I was down there again this past summer on a short contract and and got some decent photos. I found two *Winikia cunninghamii* plants about 2 km apart with almost pure white flowers.”





New member Cheryl Dawson emailed, “I was wondering if this is the same as the pterostylis you are talking about in the latest journal—we found a large colony of these in the leatherwood close to Burn Hut in the Tararua 5 November 2012.” Yes, thanks Cheryl: *Pterostylis venosa*—Ed.



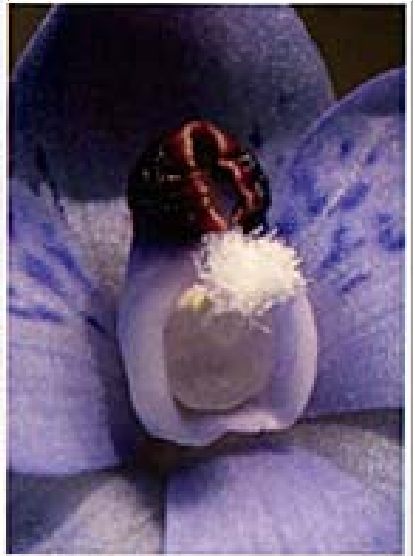
Pat Enright sent Jeremy Rolfe’s photographs of what I took to be *Thelymitra nervosa* [J127], but, as Jeremy pointed out, the postanther lobe is too high. Then the latest *Orchadian* carried Bob Bates’s description of *Thelymitra corrugata*, a new species from South Australia, and I have to say it looks remarkably similar, though Bob emailed Jeremy: “very interesting look alike to *T corrugata* but leaf is totally wrong, not erect, rigid, channeled and the flower post anther lobe is not





markedly corrugated and the spots of darker blue are just that, spots and not lines”.

The NZ plants above & right;  
the SA *Thelymitra corrugata* below & below right...



Chris Ecroyd emailed, “I enjoyed the excellent photos of *Sullivania minor* in the May Journal. It was really amazing to see Joachim Cochlovius’s photos of a fly landing on the labellum and triggering the flick-down. There are however, a couple of points in the article which need correcting. It is suggested that these orchids ‘periodically arrive from Oz as microscopic seeds on the breeze, flourish briefly and then disappear due to no vegetative propagation for this species’. *Sullivania minor* has been growing around Rotorua since the 1890s which is not exactly a brief period! Photo number 2 also shows a tight clump of plants which are the result of vegetative reproduction! There was only one plant at this spot when I first found it. The tubers readily give rise to several plants just as they do in many other orchid species. When I dug up a small tuber for Brian Molloy’s DNA analysis the connection between some of the tubers was obvious.

“While I have hand pollinated them many times over the years there have only been a few new plants some metres away from this main clump which must have been the result of seed dispersal. Unfortunately these other plants have died out and the clump photographed is the only known population of this species in New Zealand. My understanding now is that hand pollination is probably unnecessary as the seed is set without pollination by apomixis.”

Jeff Jeanes has published a paper on the *Thelymitra nuda* complex in Australia, but it will have implications for NZ taxonomy. To view the PDF, go to [http://www.rbg.vic.gov.au/\\_data/assets/pdf\\_file/0005/21794/MuelleriaVol-31-p3-Jeanes-PDF-Accessibility.pdf](http://www.rbg.vic.gov.au/_data/assets/pdf_file/0005/21794/MuelleriaVol-31-p3-Jeanes-PDF-Accessibility.pdf). You may see a few familiar flowers!

Mike Lusk was “on a rafting trip in Nov 2011 and at Matai Flat on the lower Clarence River GR 746490 I found a few pink *Caladenias* in a small patch of mature native bush close to the river. Eric has kindly commented upon it and suggested that I alert others who may be in the general area to keep and eye out for this plant. Features are the red glands on the dorsal sepal, the smooth edged labellum midlobe and the pink colour. Matai Flat is about 11km upstream from the mouth of the river and there is no obvious public overland access.”



*Hmmm. The more I see of midlobe marginal calli (or the lack of them) in this group, the less convinced I am that they are important specific markers—Ed.*

Mike emailed again, “I was at the Reserve on 29 May 13 not expecting to see any orchids in flower, so I started turning logs to see if I could find cave weta, peripatus or other interesting creatures. Imagine my surprise when I lifted a small log, well embedded and surrounded by deep leaf litter to find *Corybas cheesemanii* flowering underneath. Unlike the organisms I had expected to find the orchids don't run away so I was able to admire them at length. A search of the local area failed to find more but as the leaf litter is at least 5cm deep there may well have been some. I am aware of *C. cheesemanii* having been found on the Mahia Peninsula and west of Wairoa in recent years but this is a first for Boundary Stream, nor have I seen them in any of the patches of bush further south, as far as and including Cape Kidnappers, although Bill Liddy has found them in the Waipatiki Reserve.”



*Corybas cheesemanii*,  
Boundary Stream, 29 May 2013.



*Nematoceras* “pygmy” type 3  
Waipatiki Reserve 27 May 2013.

### 7<sup>th</sup> New Zealand National Orchid Expo New Plymouth

It is to be held in New Plymouth from Wednesday 30 October 2013 to Sunday 4 November 2013.

It will be open to the Public from Friday through to the Sunday.

The Native Orchid Group has been allocated a space to have a display and promote the activities of our organisation.

The space has been provided to us at no cost as long as we do not sell anything.

Alasdair Nicoll is going to coordinate the display and would like members of our group who may be thinking of attending this event to let him know whether they may be able to spend an hour or two to be on hand to talk to the public.

Please contact Alasdair—his email address is [aknicoll@xtra.co.nz](mailto:aknicoll@xtra.co.nz)

# THE COLUMN: ERIC SCANLEN

## *CHILOGLOTTIS* “WAIUKU” AND *C.* “GREEN CALLI”

Whilst orienteering and orchidising, Tricia Aspin and Cara-Lisa Schloots, kept coming across colonies of *Chiloglottis* on 30 September 2012, in a block of the Waiuku pine Forest. Cara-Lisa noticed that some had twin flower buds and many plants had a third, half sized leaf. The girls eased off the orienteering to have a closer look and noted both twin flowered and three leaved plants in all colonies seen. The Column had never heard of twin flowered *Chiloglottis* so, when email word and pix of these arrived, he had to go see for himself.

On 10 Oct 2012, Tricia kindly took a field party of Stella Christoffersen, Cara-Lisa and the Column over to Waiuku Forest, sited on iron-sand hills near Waikato South Head. The second planting of *Pinus radiata* was 37 years old during which time, cattle had been excluded from this Gilpin Rd, Jean Davis Rd Block. Just as well, because *Chiloglottis* was there en masse but was not seen in adjacent blocks where cattle had been keeping the undergrowth down for much of the time.



**Fig. 1.** Twin flowered *Chiloglottis* “Waiuku” 10 Oct. 2012 at Waiuku Forest. Note broad elliptic leaves, big floral bract to prime flower but small and sheathing on secondary flower, in *Pinus radiata* needle duff.

The first colony encountered had a twin flower, **Fig. 1**, but neither flower would fully open even with some judicious encouragement. Notice that the prime flower has a big floral bract, but the secondary flower, has your normal, small floral bract. This was standard for the twin flowerers. Calli colour can be seen as a mid-brown. This is darker than *C.* “khaki calli” but not as dark as *C. cornuta* s.s. **Fig. 2.**



**Fig. 2.** *Chiloglottis cornuta* s.s. with fixed labellum held open with twig by Allan Ducker, on Veronica Track, Egmont N.P., 31 Dec. 1995. Note small floral bract, elliptic leaves, here somewhat undulate.

Some 150m away, at Fern Hill—the most prolific colony for twin flowers and three leaved plants—twin flowers were less advanced but a three leaved specimen, with a fully open, single flower got its portrait made with daylight flash, **Fig. 3**, with the Column’s steam age film-camera. Notice that the third “leaf” is only half sized, the same size as the big floral bract on twin flowered plants; but that third leaf is on the front of the flower, not the back where floral bracts are supposed to be. Is this perhaps a twin flowered plant, complete with prime floral bract but where the prime flower forgot to sprout? About 10% of plants had third leaves but only





**Fig. 3.** *Chiloglottis* "Waiuku", one of  $\pm 10\%$  with a third leaf, much the same as the floral bract on prime flower in the 1% of twin flowerers but here there is no "prime" flower. Note callus colour with daylight flash.

say 1% had twin flowers in the thousand or more plants at Waiuku Forest.

The Column needed open twin flowers to film so arrived solo on 20 October, only to find that all but a few secluded, mature flowers, had been neatly nibbled off! Some browser had taken a liking to flowers and ovaries. He could find no twin flowers on this visit. A very few cotyledons (seed leaves) of various sizes were noted still emerging. So some plants had matured to set seed in the previous year or years, without being browsed. One exposed, single flowered plant, had its stem depicted to show the sheathing bract at the base of the stem plus one stem bract, **Fig. 4**.



**Fig 4.** Stem form on *C.* "Waiuku" 20 Oct 2012, showing lower sheathing bract and upper stem bract also sheathing. This plant had been uprooted and the flower removed by a browser.

Pam Shearer, with serious photographic gear, also had to see these *Chiloglottis* "Waiuku" so another field trip happened on 28 October. A lonely twin flowered plant eventually showed itself in the *Asplenium oblongifolium* on Fern

Hill. The prime flower was past its best but the secondary flower still couldn't open, being jammed against prime flower; as they do. A leaf had snail damage so the Column photographed instead, a 70mm tall plant 2m away, still with a good flower but where the scape was extending with the normal twin leaves half way up. A normal floral bract had risen with the ovary. Pam, who was busy photographing the labellum of a basic *C.* "Waiuku", **Fig 5**, later took an interest in this taller plant and photographed the fixed labellum by lassoing the tip and pegging it down, **Fig. 6**. Calli appear greener than normal but lacked the little central callus of *C.* "green calli" (see Fig. 8) of any we had examined throughout this Gilpin Rd, Jean Davis Rd Block. Pale green calli were not seen anywhere here.



**Fig. 5 (left).** A typical callus pattern in *C.* "Waiuku" labellum by Pam Shearer. Note the central ninth callus plus a tenth stray, upper left.

**Fig. 6 (right).** Tall atypical *C.* "Waiuku" callus array by Pam Shearer. It lacks the central ninth callus of *C.* "green calli" but has one stray, upper left. Note green-brown colour in available shade and scattered pine pollen.

The biggest cotyledon seen on *C.* "Waiuku", grew from, and was flattened onto; a decaying pine limb on the ground. This cotyledon equalled the common 50mm long adult leaves. Question; what size do the cotyledons of ordinary dark callus *C. cornuta* grow to? The Column has studied them only at one colony near Triplex hut, Sunrise Track where cotyledons



were about 8mm long on 8 December 2008. In hindsight, these could have enlarged somewhat in later years.

Leaves of *C.* “Waiuku” are broad-elliptic. Aha! Those on *C.* “khaki calli” are distinctly lanceolate. (See Fig. 25, J125:17). Looking back then, the Column notes J125:17 Fig. 23, the Stewart Island specimen by Euan & Kathy Warburton, has leaves (and calli) more like *C.* “Waiuku” and Pat Enright’s Fig. 24, big cotyledons from the Tararua, also fall into the *C.* “Waiuku” bracket. The Column hadn’t previously taken leaf shape into account because leaves can be so variable but these two taxa do seem to show leaf distinction.

*Chiloglottis* had been noted two years ago, in private kauri bush off Boiler Gully Rd., Awhitu, near the tip of the peninsula and 34km north of Waiuku Forest. So Tricia Aspin obtained permission, then, on 31 October, went with the Column back to the little colony of about 10 plants where he had previously identified a forced-open flower as *C.* “khaki calli”. Not so, as it transpires. Here they found the broad elliptic leaves and mid-brown calli of *C.* “Waiuku” plus a diminutive, twin flowered specimen, showing the secondary flower sprouting from the base of the ovary. This is similar to occasional twin flowered *Nematoceras*, which sprout here, at the site of their usual secondary bract. In both genera, the twin flowers clash with each other in awkward juxtaposition. The twin specimen at Awhitu had its portrait made despite being only in bud. Next year, more bushed gullies along the Awhitu Peninsula have to be checked for the possibility that this taxon occupies niches along the whole 37km: and where else?

Several orchid surprises have surfaced at Waikumete where Allan Ducker’s place backs onto orchidaceous wasteland at the back of the cemetery but let us look at only the *Chiloglottis* there for now. *C.* “khaki calli” is there, complete with lanceolate leaves. At least one colony resembles and may be *C.* “Waiuku” **Fig. 7** and one flower on 13 Nov had the large bract and perhaps a

second bud in Pam’s photo? Two other colonies lack twin flowers and big floral bracts but flower later and are being labelled *C. cornuta*.



**Fig. 7.** Possible *C.* “Waiuku” by Pam Shearer 13 Nov 2012 from Waikumete with big bract and showing a possible second flower bud which did not develop.

Two further colonies at least, are adorned exclusively with pale green calli. Cotyledons round the colonies, indicate indisputable seed propagation. So it is not the sterile mutant *C. cornuta* that had previously been assumed, is it? *C.* “green calli” has arrived. Pam Shearer’s **Fig. 8** depicts a typical callus array for ER9. Incidentally, the array on Gordon Sylvester’s pic of *C.* “green calli” from the Kumara area appears to have the same basic pattern of nine calli on the labellum; but from 710 km south of Waikumete. Beware, Kathy Warburton’s *C.* “green calli” from Pepper Tree Track, Dunedin, is also seed-propagating but typically has only six calli. That is another story yet to be told.



**Fig. 8.** *C.* “green calli” at Waikumete by Pam Shearer, showing standard ninth callus at centre plus a tenth stray amongst irregular peripheral calli. This is a fertile taxon propagating by seed.

Photos of Pat Enright's and Mark Moorhouse's *Chiloglottis* "big bract", with single flowers and pale green calli (J125 Figs, 18 & 20), came under scrutiny and behold ye, a long slender secondary bract shows itself ahead of Pat's solitary flower; **Fig. 9**.



**Fig 9.** *Chiloglottis* "green calli" from Mt Cargill, Dunedin sent by Pat Enright, showing, just ahead of the flower, a secondary bract or incipient second flower which may explain the big floral bract as in *C. "Waiuku"* three leaved plants. If so, this is the prime flower and the secondary flower failed to materialise.

This smacks of an incipient second flower as in *Nematoceras* and *Simpliglottis*. Pat's specimen was not common at Mt Cargill (pers. comm.) and was possibly solitary so the "big bract" tag is now being neglected in deference to the late Bruce Irwin and our joint dislike of over-tagging. Big bracts are meanwhile being aligned with occasional twin flowered taxa unless further info comes forth. More specimens and a study thereto are needed from the Mt Cargill Forest and Lake Rotoiti S., before a serious tag can be affixed to this unique form but it is interesting to see its incipient flower, in the form of the secondary bract, along with a big floral bract just as occurred on all 15 or so twin flowered plants seen at Waiuku Forest. Bruce Irwin's drawing of the Mt Cargill specimen (J125:25) has the more lanceolate leaves of *C. "khaki calli"* but the callus shape and array is something else under investigation by Kathy.

Labellum callus pattern is too variable for good taxon identification, however northern *Chiloglottis* taxa have similar patterns, of the basic eight calli **Fig. 10**. plus occasional strays.



**Fig 10.** Northern *Chiloglottis* taxa seem to have this basic array of calli as depicted by Allan Ducker from *C. cornuta*, Waikumete. Stray calli can complicate things and occasional plant can have up to 12 calli, with Dunedin plants normally having only six. The *Chiloglottis* story is yet to be completed.

But *C. "green calli"* has a regular ninth, small central callus **Fig. 8**, in all discernible northern plants to date. Many specimens in *C. cornuta*, *C. "khaki calli"* and *C. "Waiuku"* also have this ninth callus plus variable shapes and numbers in the peripheral calli. Hypothetically, significant variation in the labellum calli can be expected in the related genera, *Chiloglottis*, *Simpliglottis* and *Myrmecchila*, where these calli, in Australia at least, mimic females of the pollinating insects. It is possible that, those callus arrays best mimicking the female, will attract most male pollinator attention and therefore predominate until some other mutation might swing the changes to other forms.

In the *Orchids of Tasmania*, 1999 by Jones, Wapstra, Tonelli and Harris, the Tasmanian *Chiloglottis cornuta* looks like *C. "Waiuku"*; but the text has it largely self-pollinating with flowers sometimes not opening at all. No mention of either big floral bracts or twin flowers so one can assume that the labellum would not be mobile, since the mobility is a feature allowing pollinating insects easier access to the reproductive parts. No doubt the Tasmanian taxon is different but it is likely to be a not too distant ancestor of *C. "Waiuku"*.

**Note:** Dr Dariusz Szlachetko introduced the genus *Simpliglottis* for the mobile labellum form, in Australia, to distinguish it from fixed labellum *Chiloglottis*, which we have in NZ. The Column has seen only one *Simpliglottis*(?) *cornuta*; it was at Iwitahi HPA and it definitely had a mobile labellum, **Fig. 11**. It was sited within a few metres of massed, flowering *Simpliglottis valida* which all have definitely mobile labella. Possibly there had been some cross pollination to produce this unusual plant? Numerous *C. cornuta* studied have defied photography of the labellum unless some means is found to hold down the tip of the labellum as in **Fig. 2**. Thus the Column makes no excuses for resorting to the still valid *Chiloglottis* genus for these New Zealand plants with fixed labella.



**Fig. 11.** *Simpliglottis cornuta*(?) at Iwitahi showing self-lowered labellum. It grows a few metres from *S. valida* so hybridism is suspected to account for the mobile labellum.

**Acknowledgements.** Many thanks to the dedicated contributors mentioned in text above and to the numerous others who have contributed photos and info to improve the understanding of this oft neglected *Chiloglottis* genus.



**The editor's photographs of the labella of Dunedin plants 25 years ago (left) and the labellum of a Stewart Island plant, November 2012 (right).**

All have a symmetrical pattern of  
 2 basal, 2 central  
 (1 proximal, 1 distal) and  
 2 elongated lateral calli,  
 as in that at top left.

Some have additional lateral or central calli, often asymmetrically sited.



# CALADENIA MINOR IDENTITY

Salient events in the identity of *Caladenia minor*—

**1853 J.D. Hooker described *Caladenia minor* as pink with a glandular midlobe.**

JDH's "pink" had undue influence during the next century over botanists maintaining that colour was an unimportant trait. A lithograph by W.H. Fitch was included. Hooker also described *C. lyallii* (now *Stegostyla lyallii* agg.) as another NZ *Caladenia* [1] & [2].

**1989 M.A. Clements designated *C. minor* Lectotype on J.D. Hooker's type sheet H2004/02298** [3]—in accordance with ICBN, the International Convention on Botanical Nomenclature—as the specimen most nearly resembling W.H. Fitch's drawing with the toothed (glandular) midlobe as per description. The type sheet held only three of Colenso's 13 specimens on 21 Jan 2005.

**1991 B.P.J. Molloy annotated the above sheet "isolectotype"**—it held 21 specimens then (pers. comm.)—at a time when he saw *C. aff. pusilla* on sheet K000364478, **Fig. 12 overleaf**—comprising four specimens plus Fitch's drawing—as the most likely candidate for *C. minor* and accordingly annotated that as Lectotype. These two annotations have not been formally published so have no standing.

**21 Jan 2005 E.K. Cameron has J.D. Hooker's type sheet H2004/02298 at AK, on loan from Kew.** The Column photographed the best specimen thereon, **Fig. 13**, even though the 152+ year old flower head had broken off but had been neatly tucked in a pocket on the sheet by Kew staff. At that time, the importance of this type sheet was appreciated by neither Curator Ewen Cameron nor the Column nor, it seems, by Kew staff. It transpired, as below, to be the Lectotype so the Column's photo, **Fig. 13**, has to be of *Caladenia minor* s.s. alongside Allan Ducker's live specimen for comparison. Note

the toothed midlobe and dark, sessile glands on the dorsal sepal, just as described by Bruce Irwin (J83:17) for his then, *C. aff. chlorostyla* with the red stem. *C. "green stem"* **Fig. 14**, also has the sessile glands on the dorsal sepal but usually less densely spread, plus other differences.

**8 Jan 2008, B.P.J. Molloy accepted M.A. Clements' annotation above as correct.**

This was after an amiable exchange of photos and emails amongst Brian, the Column and others, in order hopefully to sort out this vexed matter. Brian's 8 Jan 08 email said, in part, "*C. minor* was formally lectotypified by Mark Clements (1989) and has not formally been rejected and re-lectotypified as is required by the Code." ... "My Lectotype annotation on the K-L sheet has no standing." Brian has never published his annotations.

Kew policy is never to lend out Lectotypes so staff must have been unaware that Mark's annotation took precedence or they wouldn't have sent out sheet, H2004/02298, the Lectotype, to Ewen Cameron.

Basically, that is the end of the story but in the interim 160 years, detailed briefly below, steps back and forth in the imbroglio of *C. minor* identity, are revealed. The Column has worked on this for some 20 years, is reconciled to the present status and hopes that this treatise will clarify it sufficiently for others.

**Imbroglio in brief between salient events—**

**1864** J.D. Hooker widened his description of both his *C. minor* and *C. lyallii*, still with only these two NZ *Caladenias* [2], [3]. Some 23 taxa in these genera have since been either described or tagged with 4 or 5 still in the wings.

**1885** W. Colenso, in describing *C. variegata*,



Fig. 12 One of Hooker's type sheets for *Caladenia minor* importantly holds Fitch's lithograph from the original description. The best flower here is *C. aff. pusilla*. Brian's annotation of Lectotype was not published so has no standing.





**Fig. 13 above** *Caladenia minor* on type sheet H2004/02298 from Kew taken by the Column on 21/1/05 at AK, plus Allan Ducker's comparative pic of fresh *C. minor* from Waikumete. Note dark red sessile glands on dorsal sepal, red stem and red ovary with green petal stripes. H2004/02298 was annotated Lectotype by Mark Clements in 1989. Brian Molloy's later annotation as isolectotype was not published so, as he assures us, has no standing.

**Fig. 14 right** *Caladenia* "green stem" finally split from *C. minor*. It often has less sessile red glands on the dorsal sepal, back sloping column wings, bluntly acute tepals, earlier flowering, is more colony forming more southerly habitat, and gets to higher altitude as here by the Waitonga Falls Track at 1,240m elevation.

agreed with Hooker that *C. minor* was common in the north thus Colenso too was lumping some ten northern taxa that are now recognised as distinct [4].

**1863 to 1926** Some 14 *Caladenia* writers in the NZ Transactions reported only *C. minor* NZ wide, excepting of course *C. lyallii* (*Stegostyla lyallii* agg.) & *C. bifolia* (*Aporostylis bifolia*) [5].

**1906** T.F. Cheeseman separately described *C. exigua* which later proved to be the Australian *C. alata* and he accepted the pink form with obtuse sepals (*C. bartlettii*) as *C. minor* [6].

**1945** E.D. Hatch coined *C. carnea* var. *minor* on advice from Australia's H.M.R. Rupp; but in error. [7]

**1959** Dan widened the *C. carnea* var. *minor* field [8] with var. *exigua*, var. *bartlettii*, forma *callinger* (*Stegostyla atradenia*) and forma *minor* with the bright yellow calli, (i.e. *C. "nitida rosea"* + *C. aff. pusilla* + *C. variegata* + *C. aff. variegata*). Dan had recognised that there were several distinct taxa so was ahead of the field despite being taken in with the misleading *C. carnea*.

**1970** L.B. Moore took a backward step in

lumping *C. minor*, including all Dan's varieties, into Australian *C. carnea*, but included extensive educational foot-notes. [9]

**1983** B.P.J. Molloy [10] dropped *C. carnea* for another diversion, D.F. Blaxell's Australian *C. catenata*, which is big and white but Brian showed his thoughts by including J. John's illustrations in [10] of three distinct taxa, now *C. chlorostyla*, *C. nothofageti* and *C. aff. pusilla*.

**1988** Doug McCrae [11] tagged *C.* "green column" with the toothed midlobe. "A new one!" as he described to the Column and Allan Ducker on 18 Nov 93 at Albany Scenic Reserve. It comprised present day *C. minor*, *C.* "green stem" and *C. chlorostyla*. Doug, like Cheeseman, had the pink, obtuse sepalled *C. bartlettii* as *C. minor*. Well, it was included in Hooker's original and highly variable species, *C. minor*.

**1989** I.M. St George, J32:13, refers readers to Molloy's Plate 13 [10] as *C. minor*. It is today's *C. aff. pusilla*.

**1993** I.M. St George in his J46 editorial, grieved about the *Caladenia* confusion because his slides of seven distinct forms, sent to three top orchidologists, got no unanimous identification.

**1995** Bruce Irwin, during a field trip to Te Pahi, suggested to Ian St George and new NOG member, Eric Scanlen, (the Column) that Eric could specialise in the genus *Caladenia* which was then in major disarray. Bruce's suggestion was met with a stony silence so the matter was dropped. The Column, at 62, hadn't yet got to grips with the Aussie cons of *C. carnea* and *C. catenata* and didn't feel remotely capable of being an authority on *Caladenia*. However, he did settle down to the study with assistance from many others and the help of macro 3-D photography. By 2013 he has got to know a bit more about the genus despite difficulties en route. You, gentle reader, are at liberty to disagree as you see fit.

**1996** the first NOG field guide included *C.*

*minor* but depicted *C. aff. pusilla*, without its three marginal calli each side of the midlobe. Ian's slide of the flower had neatly mingled the three marginal calli with the disc calli. This, despite Fitch's drawing with the toothed midlobe and Hooker's description of it as glandular. Writers, St George, Irwin and Hatch were of course, following Brian Molloy's 1991 lectotypification unaware of its lack of standing.

**1997** D.L. Jones, Molloy and Clements publish a description of Doug's *C.* "green column" as *C. chlorostyla*. [12] although it seems not to have included either *C. minor* or *C.* "green stem".

**1999** The Column's *Caladenia minor* imbroglio J72, got *C. minor* right, by good luck.

**2001** D.L. Jones and M.A. Clements split *Caladenia* into some 10 separate genera [13]. *C. lyallii* agg. became *Stegostyla* to which the Column has clung, but the other NZ *Caladenia* became *Petalochilus*; using in error, R.S. Rogers' genus—then considered extinct—for H.B. Matthews' find of Kaitaia species *P. calyciformis* and *P. saccatus*. The Column refused to use *Petalochilus* in this way due to isolated specimens having shown up (J.B. Irwin J97:35 & K. Matthews J103:39) showing that the genus could still be extant even if critically endangered. Other Aussie top brass botanists remonstrated re the *Caladenia* split and generally, Australia has reverted to *Caladenia* in order to limit the "nomenclature upheaval" as Dr Stephen Hopper put it in 2003. *Stegostyla* however, did make sense for NZ with *S. lyallii* having 48 chromosomes c.f. *Caladenia chlorostyla* with only 40 and no proven hybrids to date. So it makes sense to retain these separate populations as distinct genera.

Getting back to the imbroglio:

**2001** The Column's J78, further imbroglio, then aligns *C. chlorostyla*, in error, with *C. minor*. The second field guide, with the Column as co-author among four, similarly

aligned these two species. Well it had a toothed midlobe, with the red bars inside the labellum wings giving the illusion of pink, didn't they?

**2001-2** Bruce Irwin introduced *C. aff. chlorostyla* in J79:6 and tag named it in J83:16,17. His photos there show *C. minor* (red stem, green wedges on a red ovary) and *C. "green stem"* (all green stem and ovary). Bruce had been aware of the differences between these taxa and *C. chlorostyla* for some time but could convince neither Doug McCrae nor Brian Molloy nor the Column until he published these articles with convincing illustrations.

Then followed some three years of monthly debate by snail-mail between Bruce and the Column, whether *C. minor* was either *C. chlorostyla* or *C. aff. chlorostyla*. Bruce, like Dr Moore, would like to have dropped the vexed *C. minor* but ICBN rules didn't allow such a thing. Both accepted that *C. aff. chlorostyla* had red and green stemmed forms but were comfortable that these were mere variations within the species; that hoary old excuse!

**2005** The Column's ID of *Caladenia* from marginal calli, J96:18 has *C. chlorostyla*=*C. minor* in error. So, in your copy of J97, please cross out *C. minor* by the drawing of *C. chlorostyla* on p22, and then insert *C. minor* by the drawing of *C. aff. chlorostyla*. The remaining IDs from marginal calli still apply in the Column's view. Only Brian Molloy's 2008 email, as mentioned above, finally cleared up the identity of *C. minor*. Many are still doubtful, even now in 2013. This article is designed to clear away any such reservations.

**2013 Meanwhile**, Allan Ducker has had *C. minor* and *C. "green stem"* growing cheek by jowl, at his back door in Waikumete and they display notable distinctions, as you may discover in another article, "*Caladenia minor* family", still being researched. This confirms a feeling that the Column has had about these two taxa since about 2002 when he and Bruce began debating the *C. minor* issue and the

Column had reason to closely examine his many slides of these taxa for evidence. Allan firmly grasped the opportunity of having them growing side-by-side and has recorded the notable specific differences between them.

**Acknowledgments:** Many thanks to the members, too numerous to name, who have assisted in this study, especially to those who took the time to debate and differ, often with good reason, thus intensifying the search for answers.

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