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*"Orchids near our river"*



The NZNOG *Journal* for June 2000: No.75



Caladenias: see p11

1	2
3	5
	4

# Contents

Cover: *Orchids near our river*: watercolour by Sue Graham.

## Guest editorial

### 3. Dorothy Cooper

From the editor: 4. Sue Graham, artist. The 75th issue. 6. Conservation concepts.

8. *Prasophyllum rogersii*.

### Profile of a threatened NZ orchid: 3

5. *Prasophyllum* aff. *patens*.

## Original papers

10. Orchid pollination. Alan W Stephenson.

11. A season of *Caladenias* in Nelson (illustrated outside back cover). Graeme Jane & Gael Donaghy.

13. A *prasophyllum* with an identity crisis. Bruce Irwin.

## The Column: Eric Scanlen

17. *Earina aestivalis*.

## Notes, comments, questions, letters

20. Leita Chrystall on *Gastrodia* at Levin. Barbara Hoggard on Kaimaumau floods. 19. *Spiranthes* site lost. *Orchids of Tasmania*. Orchids of New Caledonia. Errors in *J74*.

## Historical reprints

22. *Prasophyllum rogersii*. *Prasophyllum suttonii*. *Earina aestivalis*.

## Australian notes: David McConachie

24. Orchid species NSW north coast. Conservation at Perth's Kings Park & Botanical Garden. Saving the orchids of Perth. 25. Conservation by translocation. Duck hunting.

26. Fourth Australasian Native Orchid Conference & Show, Melbourne, 5-8 October.

27. Speakers programme.

## Close relations: orchids like ours

28. *Prasophyllum alpestre* from Tasmania.

## Other islands' orchids

29. Ireland

30. What can the maps tell us? Introducing... our new field trip coordinator.

## From the internet

31. Is cultivation the same as *ex situ* conservation? 33. Norway's orchids

## The New Zealand Native Orchid Group

34. Members and subscribers in 2000.

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**Editor:** Ian St George, 22 Orchard St, Wadestown, Wellington, phone 04 4994227, fax 3894178, [istge@rnzocgp.org.nz](mailto:istge@rnzocgp.org.nz). **Conservation officer:** Peter de Lange, Department of Conservation, PO Box 68908 Newton, Auckland, phone 09 307 9279, email [pjdelange@xtra.co.nz](mailto:pjdelange@xtra.co.nz). **ANOS liaison:** David McConachie, 15 Battersea Place, Palmerston North, phone 06 3586559, email [pleione@ihug.co.nz](mailto:pleione@ihug.co.nz).

**Field trips:** Eric Scanlen, 4 Sunny Park Ave, Papakura, Ph. 09 2984868, email [eascanlen@xtra.co.nz](mailto:eascanlen@xtra.co.nz).

## Guest editorial

Every time I receive my Journal I marvel at what has been achieved from such humble beginnings. The seeds of this group were sown over 20 years ago when as a geologist's wife with young children and isolated every summer for weeks at a time in a bush hut in Cobb Valley, northwest Nelson, I stayed behind by day and educated our children in the ways of nature. We look back now at photos of them "swimming" in a mountain creek, or having a haircut by the "bush-barber", and having travelled extensively we still appreciate how lucky we are to be able to lead the wonderful outdoor life we have here in NZ. My son became a biochemist, spends his life in weird and wonderful places round the world, still enjoying caving, mountaineering and looking for extinct creatures. My daughter caught the writer's bug at age 10 and wrote her first novel using plant names and creatures of the bush to produce characters such as Gentian and Buttercup—they have memories of childhood they will never forget.

We had been introduced to a local orchid society and hybrids by a fellow geologist, and I recognised *Adenochilus gracilis* and *Chiloglottis cornuta* as orchids by their odd flowers and "typical" orchid-like leaves with pale iridescent sheen on the reverse, and their orchid "smell"—I can often still smell orchids in the bush before I see them! This set me off on an orchid hunting expedition near our hut and in a few days I had found over 20 different species. A first "find" of a species gives a special thrill—enough stimulation to last until the next new "find", even if it's not for years, and with our dissected country and its relatively unexplored corners I'm sure there's lots more to discover.

As I was one of the producers of our local orchid society journal and as we were always looking for contributions I thought I'd better do the decent thing, and wrote a series of articles describing and illustrating what I'd found, as in those days—1970s—it was hard to find written descriptions of native orchids and almost impossible to find illustrations to help identify them. I eventu-

ally found Dan Hatch's articles in the *Transactions of the Royal Society of NZ*), unavailable to the layman then, but if you can find a set it holds an incredible array of interesting articles on different "finds" by early New Zealand explorers and the foundation of science in NZ. I remember I kept getting sidetracked on to other subjects!

My articles eventually led to my book on native orchids published in 1981. What a long time ago. This brought so much correspondence from interested parties all over NZ that I thought I would set up NZNOG and after 5 years as we headed for a two year stint in England, I relinquished the organisation to Ian St George. I still marvel at his expertise in all sorts of directions and how he finds time with his extensive work commitments to produce such an interesting and informative journal of such a high standard I don't know!

The other reason that urged me on was the wholesale collection of orchids in the wild in other countries leading to their extinction in their native habitat. I realised in the beginning that any selling of NZ native orchids would mean collection for garden centres etc, but with such groups as the Iwitahi conservationists I think the preservation of our orchids is in good hands.

It is easy to see over the years however, that the insidious alteration of habitat can mean the disappearance of a species locally within just one season—scrub overtaking tracks and "burying" sun lovers, burning of scrub and clearing of land, draining of swamps, it is all too easy to "adapt" nature to fit in with so called civilisation and I think that is where the Group's efforts are so important. Mind you I was always amazed at finding newly formed clay tracks with orchids as some of the first colonisers. Where do they come from so quickly? Is the seed lying dormant in the soil waiting for the right conditions for growth or is there more seed blowing around in the air than we realise?

Ian you are doing a fantastic job, as are all you contributors, as I know from experience that without writers of articles there wouldn't be a journal, it would become too much of a burden for just a few to keep go-

ing. In our case that doesn't seem to have been a problem right from the beginning—there's a lot of keen searchers out there!

So keep up the good work all of you, it's a fascinating subject and one of the best things about it is that in NZ there's always new places to look and new finds to discover, providing a good outdoor life for us and our children and their children. I'm off on a new venture myself, setting up a specialist plant nursery in Foxton, hopefully a bit of the "good life", but will look forward to receiving my Journal for many years to come.

Dot Cooper

## Cover

### ORCHIDS NEAR OUR RIVER

watercolour by Sue Graham.

(Left to right, top to bottom)

*Thelymitra pauciflora*, *Orthoceras novae-zeelandiae*, *Thelymitra nervosa*, *Gastrodia* aff. *sesamoides*, *Caladenia variegata*, *Calochilus robertsonii*, *Spiranthes novae-zeelandiae*, *Chiloglottis cornuta*, *Pterostylis patens*.

## Sue Graham, artist

Sue was brought up in Auckland. After completing a Bachelor of Arts in Education and Psychology, she and her husband Robbie Graham spent sixteen years in Perth, Western Australia. Sue trained and taught as a primary school teacher there.

In 1986, Sue spent a week at summer school doing watercolour classes and was hooked! Over the next seven years, she dabbled in various art media, gaining high marks in an Art and Design course at Perth Tech. After competing her Bachelor of Psychology, Sue continued teaching as primary and part-time art specialist.

During their years in WA, Sue and Robbie travelled widely, enjoying the native bush, especially searching for native orchids. Robbie would take macro-photographs of them from which Sue loved to paint. She started framing, selling and

exhibiting her paintings from 1994.

In January 1995, Sue and Robbie returned to New Zealand, fell in love with the Taupo region and set up Wildwood Gallery in Waitahanui where they exhibit and sell their watercolours and woodturning. Sue is also primary teaching in Taupo, tutors many watercolour painting classes to various adult groups and thoroughly enjoys the scenery and lifestyle here.

New Zealand's natural beauty provides an abundance of ideas to paint. Favourite subjects include mountains, lakes, trees, birds, old barns, sunsets, abstracts, wildflowers, especially native orchids. Sue spends a lot of time outside walking, looking, sketching and taking photographs. However, she usually prefers to paint in her studio from photographs she or her husband have taken or from still life. She finds inspiration in the natural form of things and nature's colours. Experimenting with different pigments and textural effects is always exciting in watercolour painting and provides hours of absorbing fun. Every completed painting suggests countless alternative directions to follow so there is a never-ending flow of ideas for new subjects, original viewpoints and different treatments.

Sue has exhibited frequently around and beyond Taupo. She is often commissioned to paint requested subjects. Her paintings are now all over the world.

## The 75th issue

I have a complete set of the Journal, and it is interesting to look back over the contributors who have come and gone. Dorothy Cooper did an immense service to botany, and to people with that irrational mental bent that makes them orchid lovers, when she published the first newsletter in 1982. I have tried to steer the Journal along a sometimes difficult path between chatroom and scientific publication. It has never pretended to be a serious, independently refereed botanical journal, and I don't think it should: it is a journal for its members. It has scored some notable firsts nonetheless.

# Profile of a threatened N.Z. orchid: 3

Reproduced with permission—from Dopson SR et al. *The conservation requirements of New Zealand's nationally threatened vascular plants*. Biodiversity Recovery Unit, Dept of Conservation, Wellington, 1999.

## *Prasophyllum* aff. *patens*

- Family:** Orchidaceae
- Endemic to:** North Island and Chatham Islands.
- Common name:** Swamp leek orchid.
- Ranking:** B, Vulnerable. In cultivation: Yes.
- Descriptor:** Tall plants with tubular-leaves. Flowers are large, conspicuous, and of variable colour, and are "up-side down" (compared with the majority of the Orchidaceae).
- Conservancy:** NL, WK, TT, WG, WL, BP, (AU).
- Habitat:** Occurs in pools of water in peat bogs, esp. with *Baumea anthrophylla*.
- Threats:** Loss of wetland habitats; collectors; lack of legal land protection (of biggest known population at Kutaroa, near Waiouru); weed encroachment.

### Work undertaken to date

Survey near Te Pahi, Motutangi, Ohia (Northland), Kaitoke Swamp (Great Barrier Island), Kutaroa and Otahupitara Swamps near Waiouru (Wanganui Conservancy), Rangataua, Tongariro National Park, Pihanga (Tongariro/Taupo Conservancy); taxonomic resolution in progress.

### Priority sites for survey

Ngamatea West Swamp, Waiouru; other opportunistic survey via orchid enthusiasts.

### Monitoring: objectives and priority sites

Two key sites: Ocean Bay on Northern Chatham Island, and Waipaua Block Scientific Reserve on Pitt Island; continue to monitor near Waiouru (Tangiwai) to determine population trends.

### Research questions

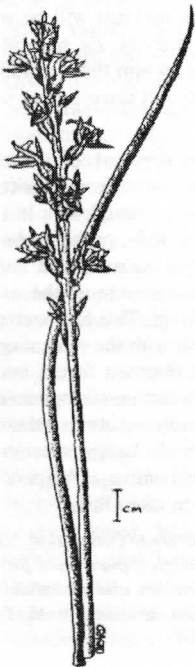
Taxonomic research ongoing.

### Management needs

Secure legal land protection at swamps near Waiouru; advocacy with iwi and with orchid collectors to stop collecting and report sites found; weed control at sites.

### Selected references

St George, I.; Irwin, B.; Hatch, D. 1996. *Field Guide to the New Zealand Orchids*. New Zealand Native Orchid Group, Wellington.



## Conservation concepts

Jones *et al* [1] modified Backhouse & Jeanes's [2] framework when they discussed a conservation strategy for Tasmanian orchids. It is a useful approach for us to consider —

**1. Inventory:** We must first know what there is, not only in terms of taxonomic refinement, but also distributions, habitats and detailed surveys of individual species or groups.

**2. Databases:** Centralised databases including location, population, habitat and environmental information are essential.

**3. Community awareness and support:** Education is critical in conservation programmes, and orchids, because of their emotional appeal, can play an important role as “flagship species”. Networks of landowners, volunteers and groups play an important role.

**4. Legal protection:** In NZ there is no general legislation to protect plants, except the Native Plants Conservation Act 1934, which states “Every person commits an offence who takes any protected native plant that is growing on any Crown land, or in any State Forest or public reserve, or on any road or street, or who, without consent of the owner or occupier of any private land, takes any protected native plant that is growing thereon.” The legislation was found ineffective in a celebrated case where a pohutukawa tree was judged not to be a plant. The purpose of the Act seemed to be to prevent horticultural collection of small herbaceous plants - so it does protect orchids in that way. However, DOC doesn't use this Act to prosecute anyone, and the fines are very low. The NZ Botanical Society is currently circulating a proposal to amend this Act (NZBot Soc Newsletter 57:

Sep. 1999, p. 21) - the gist of the amendment is to include a schedule of NZ's most

threatened (vascular) taxa.

**5. Habitat protection:** plants are protected if they grow on land covered by the Reserves Act (1977), National Parks Act (1980), Conservation Act (1987), Queen Elizabeth II National Trust Act (1977), Wildlife Act (1953), or by conservation covenants. Other relevant legislation includes the Trade in Endangered Species Act 1989, the Resource Management Act 1991.

**6. Habitat management:** Peter de Lange has carried out active weeding and selective burning in the swamp habitat of *Corybas carsei*, but other than general reserve management, there has been little NZ activity directed specifically at a threatened orchid that I am aware of.

**7. Ex situ conservation:** cultivation has a role where wild populations are so threatened that any small incident may result in extinction. It may be the last hope for some species, cultivation methods are becoming ever more sophisticated, and this will be an increasingly important activity. *Ex situ* cultivation should have as its aim the eventual relocation in a wild site, not always easy or even possible.

**8. Translocation:** the removal of plants from a doomed site to another wild site, directly or via cultivation, should be a last-resort activity as it often fails, probably because of inexact matches between old and new sites, and the requirements of the orchids for mycorrhizal fungi. This has been a major activity at Iwitahi, with the relocation of many orchids from doomed forest into the Reserve. I am aware that no transplanted *Gastrodia* aff. *sesamoides* survive there though others do. Peter de Lange successfully transplanted *Thelymitra* “Ahipara” from a condemned site to lake Ohia.

*As a signatory to the Biodiversity Convention, NZ is obliged to develop strategies, plans, and programs to promote conservation and sustainable use of biodiversity. I am grateful to Suzan Dopson for her advice— Ed.*



A conservation catastrophe: men digging drainage ditches in the Kaitaia Swamp 1910 - 1919.  
(from *New Zealand Memories* April-May 2000; 23: 23).  
This had been prime habitat for *Corybas carsei*.



## *Prasophyllum rogersii*

**1920:** about this time HB Matthews wrote a manuscript description of what he called "Prasophyllum patentifolium" (Fig. 1).

**1924:** Cheeseman wrote that the distribution of *Prasophyllum colensoi* was "North Cape southwards, but rare and local to the

north of Lake Taupo".

**1928:** HMR Rupp described *P. rogersii* from Barrington Tops in New South Wales.

**1943:** In his *Orchids of New South Wales* Rupp added New Zealand (Kaitiaki, after receiving specimens from HB Matthews) and Tasmania to the distribution. He wrote that the plant is "rather slender, 12 to 18

### *Prasophyllum patentifolium* n. sp.

A rather slender species 15-30 c.m. high. Stem and leaf more or less purple and tapering. Leaf sheathing the stem from the base for about half its length, shorter than or much exceeding it.

Flowers 5-8 or more, rather distant, green-brown, brown, or bluish-brown outside, and yellow-green with bronze or salmon shadings inside.

The ovaries rather large, turgid towards the top, on short pedicels subtended by <sup>small</sup> ovate-lanceolate bracts, decreasing in size up the spike. Dorsal sepal about 5<sup>th</sup> m long, ovate-lanceolate, concave, and erect or slightly incurved.

Lateral sepals <sup>as long as</sup> sepals about the same length, connate for about half their <sup>length</sup> from base, thin lanceolate from the sinus and slightly recurved, the margins <sup>as thin as</sup> towards the tips incurved. Petals few, narrow-oblong with <sup>asymmetrical</sup> concave points, not as long as the sepals, recurved and spreading. Labellum sessile, rather wide at the base, ovate-lanceolate, moderately reflexed about one third from the tip, the point <sup>reaching</sup> to the sinus of the lateral sepals; the callous plate prominent, ovate, acuminate, extending from the base but not reaching near the end or the margins, glandular posteriorly. Column rather broad with a wide rounded top, the anther point obtuse. Rostellum very prominent with a long acuminate point. Stigma a rounded glandular disc.

Appendages sessile, oblong, <sup>not</sup> as high as the rostellum with the ends rounded.

This species, apparently confined to the North Auckland District, where it has been confused with *P. Colensoi* from which it differs in several important characters. October, November

Fig. 1: HB Matthews' manuscript description of *Prasophyllum patentifolium*" (*P. rogersii*).

inches high, leaf sheathing about half the stem or more, its blade sometimes as long as the spike. Flowers 12 to 20, not close together, greenish, slightly perfumed: individual under ½ inch diameter. Labellum curved, not abruptly, at two-thirds of its length from base: almost ovate, with smooth margins (Rüpp's italics): callus part prominent, just exceeding the curve.... In marshy places...."

**1946:** Rüpp and Hatch included *P. rogersii* in the list of species shared between NZ and Australia. Later that year when Hatch described *P. rogersii* in NZ, he acknowledged the Matthews manuscript description of "*P. patentifolium*". Hatch noted in his key that whereas the labellum of *P. rogersii* had flat margins and a pale callus extending only to the curve, that of *P. colensoi* had undulate margins & a green callus extending almost to the tip.

**1959:** Hatch repeated these differentiating features in the key to his *Auckland's orchids*.

**1976:** Moore dropped *P. rogersii* from the

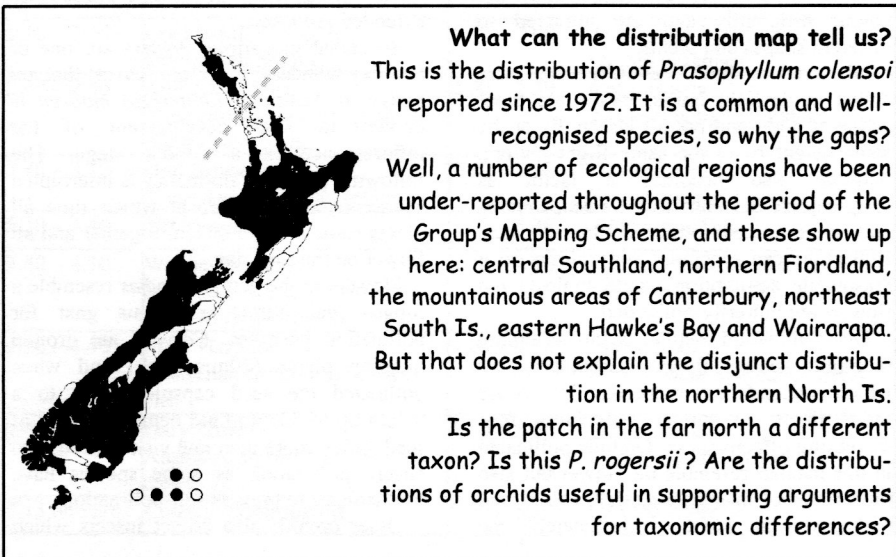
NZ orchids, remarking (*Flora* p150) that the labella of Matthews' and Carse's specimens in AK matched that of *P. colensoi*, and fresh plants from Towai in Northland closely resembled *P. colensoi* from Westland.

**1979:** Curtis noted *P. rogersii* was rare in Tasmania, but had been found at two sites.

**1988:** David Jones noted of the labellum, "sharply recurved in the upper third, white or pink, the margins wavy (my italics). Labellum callus extending beyond the bend, green, thick and raised at the apex".

**1996:** Tony Bishop wrote that the labellar margins were "irregular and slightly wavy; callus plate broad, green, channelled, extending to within 2mm of the apex."

*It seems the labellar characteristics are unreliable as a means of differentiating P. colensoi from P. rogersii. Modern commentators do agree P. rogersii is slightly perfumed, likes a swampside or streamside habitat at some altitude, and has well-spaced flowers on the raceme—Ed.*



### What can the distribution map tell us?

This is the distribution of *Prasophyllum colensoi* reported since 1972. It is a common and well-recognised species, so why the gaps?

Well, a number of ecological regions have been under-reported throughout the period of the Group's Mapping Scheme, and these show up here: central Southland, northern Fiordland, the mountainous areas of Canterbury, northeast South Is., eastern Hawke's Bay and Wairarapa. But that does not explain the disjunct distribution in the northern North Is.

Is the patch in the far north a different taxon? Is this *P. rogersii*? Are the distributions of orchids useful in supporting arguments for taxonomic differences?



## Original papers

### Orchid pollination by Alan W Stephenson.

*This beginners' guide is reprinted from the ANOS Illawarra Bulletin, Feb. 2000. It has a distinctly Australian bias, but outlines some basics that should be examined in NZ orchids.*

Orchid pollen differs from other pollen in that it is formed into small masses called pollinia. Orchids are not pollinated by wind or water, as are many other plants. They require the removal of pollinia from one flower and the specific placement on either that or another flower and this is normally achieved not by man but by animals. However, before pollination can be effected the orchid must attract the pollinator to the flower. To do this means advertising the fact the flowers are amenable to pollination.

This is achieved in a variety of ways. Studies show orchids are pollinated by certain animals in particular ways which can be categorised. These categories are called pollination syndromes and are indicative only as some orchids exhibit characteristics of more than one syndrome. Common sense and observation are the methods researchers use to determine how orchids are pollinated. Different animals see colour differently and are attracted to different shapes and scents.

Observation shows butterflies are more active in daylight hours, moths are more active at night and not all insects fly at the same height or in the same flight pattern. Altitude also becomes a factor as temperatures decrease as altitude increases and some insects prefer cooler climates. Butterflies can recognise red colours so a reasonable assumption would indicate red flowers are butterfly-pollinated.

One pollination method is for the orchid to mimic another flower, particularly one which is abundant as numerous flowers are more likely to attract pollinators thus increasing effectiveness. Orchids pollinated in this manner resemble the flower but also the pattern of distribution, size, colour and perhaps even scent. Unfortunately the

orchid does not provide a reward for the pollinator. This is why all plants within a colony will not have exactly the same markings. They will differ just enough for the pollinator to remain focussed on the job and not be bored by constant disappointment at missing out on the reward of pollen.

Others such as *Gastrodia sesamoides* present a pollenlike substance on the upper surface of the labellum that may be used to attract pollen eating insects to the flower.

Moth pollinated orchids are typically white, cream or pale green flowers which open at night and have a scent strongest during the hours of darkness. Some such as *Phalaenopsis amabilis* even provide a small landing platform for the moth to rest during the visit. *Calanthe triplica* does not provide a platform and therefore requires a stronger flier like the sphinx moth, which can feed on the wing. They hover and probe with extended proboscis.

So called gregarious flowers are one or two day wonders. There are several that are native to Australia. *Rhinerhiza mooreii* is known to stop development of the inflorescence at a certain stage. The following period of dormancy is interrupted by some outside force at which time all plants resume development together and all flower on the same day.

Flowers in the genus *Corybas* resemble a fungus and attract a fungus gnat for pollination purposes. *Corybas* are ground hugging plants (20mm high) and when pollinated the seed capsule grows to a height up to 30cm to aid better dispersal of seed. Often more than one visit is needed to ensure pollination as some species have mechanisms to prevent self-pollination.

Other orchids also attract insects which

prefer foul smelling flowers. Such an orchid is *Liparis reflexa* which smells like dead meat or even urine to attract its pollinator.

Some species of *Pterostylis* are so designed the pollinating fly or wasp must turn around whilst inside the flower thus causing the pollinia to stick to some body part to be transferred in the same manner with the next visit to a plant of the same species. Others such as *P. plumosa* use a device similar to a fly fisherman although the fisherman is only copying nature, not the reverse. The device projects from the flower and is covered with gold coloured hairs with a brownish bulb on the tip. This projection attracts a pollinator by quivering in a slight breeze exactly as the fly fisherman uses his manufactured fly to imitate an insect.

Many orchid genera use a trigger mechanism to hold the insect in place until pollination is complete. These include *P. gibbosa*.... *Caleana major* (duck orchid) is another which uses this method. The flowers are actually inverted on the plants with male sawfly landing on the yellow trigger which is on the labellum (the flower is inverted). This trigger is easily irritated and springs back trapping the insect into a cavity. This dazes the insect and keeps it in position until the pollinia are transferred onto its wings in the struggle for release.

Observation also tells us many red/brown, green and white orchids are pollinated by wasps although colour is not the main attraction. If one were to remove the bulbs at the ends of the sepals and place them on the ground at the base of the plant the insect will first visit the clubs then the flower. This indicates scent is a dominant force in pollination once the insect is within range. Orchids which fit this category are pollinated when the insect attempts to copulate with the flower.

The evergreen terrestrial genus, *Cryptostylis* are pollinated in this fashion by the *Ichneumon* wasp when it is deceived by a pheromone. Pollination is completed when the next flower is visited.

Only one orchid in Australia is pollinated by a bird. It is the tropical species *Dendrobium smilliae*. The syndromes which indicate bird pollination include stiff tubular flowers. Colours are usually vivid and there is often a dark shiny spot on the flower. The pollinia are a slate grey colour that resembles the bird's beak thereby reducing the chances the bird will remove something which may be an obvious annoyance.

Not enough is known about native orchid pollination, as we do not have enough entomologists and botanists silly enough to sit in the bush for long periods and wait. Perhaps they also have families.

## A season of Caladenias in Nelson

by G Jane & G. Donaghy

Caladenias – what sods to deal with! After Eric's paper last year and a trip with the maestro to Te Pahi in September we were all set for a full attack on the local plants.

And we had a backlog to sort out. 1999 was a short season for Caladenias as interest had been in the Thelymitras and we had spent little time seeking them out. There were also a few sites that Gael had stored

up over the years and not "sorted out", leaving a couple of mysteries from a few encounters: a small dark pink from the Pupu (Fig.1) and a large white one from the Kill Devil.

A bit of spare time after a regular trip in late October to Knuckle Hill found us on Te Hapu Rd just on sunset. Very soon we had found hordes of tiny Caladenias

tantalisingly near to bud burst. Then a solitary one in flower – deep carmine red. In spite of a strong wind, a few photos were grabbed with a relaxed promise to get more later (Fig.2). Just as we were leaving another was spotted in flower right alongside the camera. Next weekend, at Taipare Bay, on a Botsoc weekend camp, we saw two more. That was the last we saw of it! It is characterised by a yellow midlobe, wavy, edged by fine serrations and one or two calli (un-paired) forward pointing at the base of the mid lobe.

Next weekend it was back to Golden Bay and a check of our regular sites at the Kill Devil, Pupu and Farewell Spit. *Caladenia chlorostyla* at these sites were still a few weeks away but *C. atradenia* was in full flower and seen widely around Nelson over the next month. Interest though was focussed on the *C. lyallii* not yet in flower. A week later we caught it in flower (Fig.3), but the mystery deepened. It has a dark purple leaf, the flower points forward rather than erect, 4 rows of calli within, reducing to two at the base and the mid lobe has a bundle of lateral calli at its base. Never having closely looked at *C. lyallii* we don't know if it is really different. So the next mystery starts to unfold. Two weeks later it is seen at Rarangi and later again at the top of the Takaka Hill. Hence the excitement builds for the flowering of *C. lyallii* at high altitudes in the Cobb (and elsewhere).

Finally the chance comes – a fine weekend and its off to the Cobb. At the summit lookout *C. lyallii* is in full flower and we soon have determined that the midlobe is quite different and the flower "attitude" quite erect. Counts of rows of calli on the midlobe though are quite ambiguous. Some flowers have 4 rows and some only 2, the latter usually the smaller flowers. Down in the valley it gets worse. Large flowers in the scrub margins have 6 rows! Later, plants in other places as far away as Arthurs Pass and Mt Isobel, near Hanmer, confirm that the lowland beastie is

not part of the range of forms of *C. lyallii* but rather something quite different. Next year it needs to be collected for formal description by the experts.

Meanwhile back in the jungle the "*chlorostyla* conundrum" was deepening. On that first visit to Rarangi 2 or 3 delicate pink caladenias were seen amongst swards of *C. chlorostyla*. These too didn't fully fit the type description. Some had red stems, some were white flowered (Fig.4), and some albino. At each place we saw *C. chlorostyla* they didn't quite fit and we couldn't see anything that fitted *C. nothofageti*. Two weeks later another trip to Rarangi only added to the mess. Several more pink caladenias were seen and two pink-flowered plants had calli scattered over the lateral lobes! (Fig.5) A trip along the Abel Tasman Coast from Tonga to Marahau didn't help. There were lots of *C. chlorostyla* and only about a dozen widely scattered pink ones. An early December trip to Knuckle Hill only added more mystery when a solitary *variegata* form was found. A day earlier we had seen our first patch of "pinkies" at the Dew Lakes. The question still remains – is this just part of the variation in *C. chlorostyla* or something quite different. The leaves at first seemed different, with a poorly defined midrib and silver lines of stomata marking off midrib and lateral veins compared with a proud midrib in *C. chlorostyla* and long shaggy hairs but later plants of *C. chlorostyla* sometimes had similar leaves. Initially the flower was seen to be larger but this didn't hold either when more plants of *C. chlorostyla* were examined although the pink flowered ones were always in the larger size class. The midlobe though is less deeply lobed but not in a strongly marked way. The calli on the lateral lobes were never seen in *C. chlorostyla* but seemed quite common in this plant. So it is still an open question whether it is part of the variation in *C. chlorostyla* or something truly different. As to the pink from the Pupu

found in 1998 there was no trace of it this season and it remains a mystery.

And that brings us to *C. chlorostyla*! The Boyle site (Lewis Pass) in December '98 began the enlightenment. Here we found red-stemmed white-flowered plants growing alongside green flowered ones lacking bars on the labellum or column (albino plants) amongst other more "normal" *C. chlorostyla*. But had we looked closely enough? The first test came at The Kill Devil before the flowers were properly open. Here we found two distinct populations. One had "normal" green stemmed plants; the other a mix of red and green stemmed plants. Several populations were noted spaced up the hill. At Farewell Spit they were all green-stemmed and barred apart from one larger flowered albino plant. The same pattern was repeated at Mistletoe Bay, Rarangi, Knuckle Hill and at Matakītaki tarns. Albino plants occurred in the green-stemmed forms but not the red and where you found red stemmed plants you always found green-stemmed ones but not the reverse. In the albino the flowers could be greenish or whitish. Other characters such as size of plant or number of flowers, floral bract angle and leaf characters varied from plant to plant and site to site. By the time we revisited the Boyle things were pretty well sorted out. Again the same mix of plants was found. Then at the end of January – one more piece

was added. A quick trip to check out a few species at Inwoods Lookout turned up a small population of large albino *C. chlorostyla*, two with two flowers.

So where does that leave us? There seems to be a lowland taxon like an albino *C. lyallii* but with clear structural differences; *C. chlorostyla* is quite varied with distinct red-stemmed, green-stemmed and albino forms often in the same population; there seems to be two "pinkies" – a carmine one and a pale pink, the latter possibly only a form of *C. chlorostyla* – more collecting needed.

And that brings us to the real problem. Flowers, at least of the smaller ones, last about 2 days and at any on site flowering may last but a week or two. You almost need to camp on site for a week! Photos can provide one record but how do you preserve a better permanent record for the experts. Pressing ruins them, they shrivel in the post and spirits bleach them!

#### Key to colour photographs (back cover)

**Fig.1:** deep coloured caladenia from Pupu Walkway,

**Fig.2:** small deep coloured one from Te Hapu Rd,

**Fig.3:** lowland *C. lyallii* from Kill Devil,

**Fig.4:** typical green stemmed *C. chlorostyla* at left with light pink from Rarangi with calli on lateral lobes at right,

**Fig.5:** typical red stemmed white flowered *C. chlorostyla*.

## A Prasophyllum with an identity crisis

by Bruce Irwin, Tauranga

Years ago our hard working editor asked if he might extract any interesting items from my letters to him, for publication in NOG journals. I readily agreed. Accordingly, *Journal* 74 contains sketches and notes about a strange *Prasophyllum* found during December 1999 on the verges of Ohakune

Mountain Rd (Turoa ski field road).

That *Prasophyllum* might not have come to my notice, had it not been for an error in David Jones' "Resolution of the *Prasophyllum alpinum* R.Br. complex in mainland south-eastern Australia and New Zealand" published in *Muelleria* 9:51-62 (1996). In

the key to the species. Jones separated the New Zealand species *Prasophyllum colensoi* from *P. alpinum*. In part, by stating that *P. colensoi* has column wings as long as or longer than the anther. His Fig. 2 shows a plant labelled *P. colensoi* with such column wings, thus contradicting illustrations in Cheeseman's *Illustrations of The New Zealand flora Vol. II* and in *Flora of NZ Vol. II* (Moore & Edgar).

Since Jones' paper, I have examined many flowers of *P. colensoi* — always finding that the anther exceeded the column wings — until 30 December 1999, when Anne Fraser drew my attention to a small group of *Prasophyllums* part way up Turoa Road. Because I found it too difficult to resolve column details, while lying prone on rough ground, I collected a flower from each of two flower spikes to examine and draw under my binocular microscope. Earlier that day, Anne and I had collected two abnormal flowers from an unusually spectacular flowering of *Thelymitra hatchii* near Erua. Drawing these took precedence after I arrived home (J74 p10). Days later, I drew *Prasophyllum* florets, soon realising that the column wings were indeed as long as the anther. That and other features set it apart from *P. colensoi*. It must be a taxon new to New Zealand. How exciting! But "hang on a minute mate", where did we find the plants? Anne and I had checked so many orchid habitats that busy December day, including several colonies of *Prasophyllum*, that I was unable to recall where we had seen the mystery plant. Fortunately, not all NOG members are as disorganised as I am. Anne had listed all orchid species seen that day, in each locality visited, so when we returned on 22 January, she was able to guide me straight to the small colony. Flowering was virtually over but by late afternoon we had established that the taxon was quite common on road margins between 900 and 1,350m altitude, generally sheltered by beech forest. No *P. colensoi* were

seen at those heights, though they occurred in more open areas, both above and below.

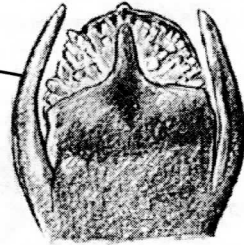
The mystery *Prasophyllum* is more lightly built than *P. colensoi* and has a distinctive colour pattern. The flowers are flushed a strange blackish purple especially on the ovary ribs. The flower stem too is usually very dark. This blackish purple colour reminded us of taller, more elegant *Prasophyllums* at Horopito which I had always maintained were merely a colour form of *P. colensoi*, despite their narrow tapered flowers and tall stature. Previously, flowers from this colony had shown column structures agreeing closely with my drawings of undoubted *P. colensoi*. Isn't that proof enough? As for the much shorter more crowded flower stem of alpine *P. colensoi*, wouldn't you keep your head down if you lived high on an exposed ski field?

We hurried down to Horopito and in fading light, found a few (greenish) stems with reasonably fresh flowers. Two were posted to Brian Molloy, after removing a single flower to draw later. Surprisingly, in the same colony, were several spikes on which buds were still very small. Even more surprising was that the single flower retained for drawing, carried column wings roughly equalling the anther. It seems that the Horopito *Prasophyllums* are as unsure of their identity as I am. Are they the same taxon as the one on Turoa Road? I'm inclined to think not. Clearly, the *Prasophyllums* on and around Ruapehu will receive much more attention next season.

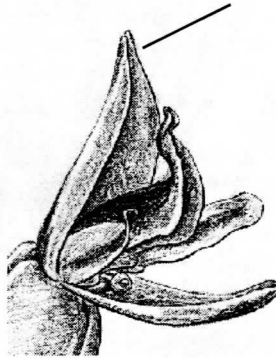
Just after New Year, NOG members in Canterbury, should keep an eye open for the taxon at Lake Lyndon, which was the subject of David Jones' Fig. 2 in *Muelleria* 9:56. In my experience, *P. colensoi* is green but usually flushed all over by yellow or red. I suspect that at L. Lyndon there must be a *Prasophyllum* flushed blackish purple, similar to, perhaps identical with, our mystery *Prasophyllum*.

My (December) trip to Ruapehu yielded a surprise; I collected a couple of plants of *Prasophyllum colensoi* on which the column wings were as long as the anther - as long but not longer. I have never seen wings as long as the anther before. I have thus found at least one flower which agrees with David Jones's diagnosis.

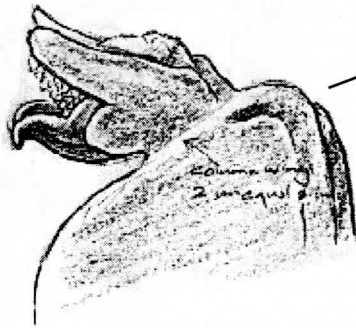
Appendix virtually equal to anther



Lateral sepals usually connate on this raceme.

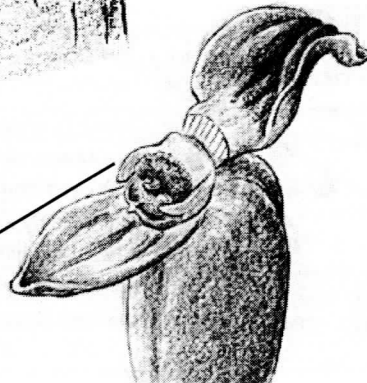


National Park 30 Dec. '99. Lateral sepals connate except at very tips (some flowers halfway). Column appendages more or less equal to anther. Perhaps *P. tadgellianum* (reinstated by D. Jones *Muelleria* 9: 51-62, 1996). This is the only time I recall seeing column arms equal to anther.



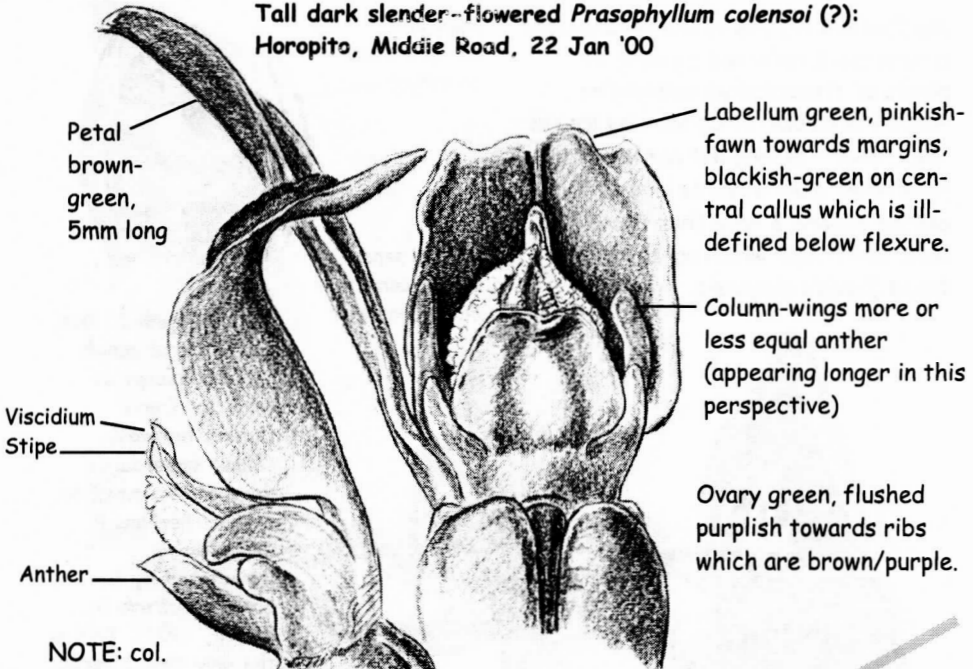
3 rather prominent nerves in the dorsal apparently a feature of *P. tadgellianum*

Column wings appear shorter than anther in perspective but are more or less equal.



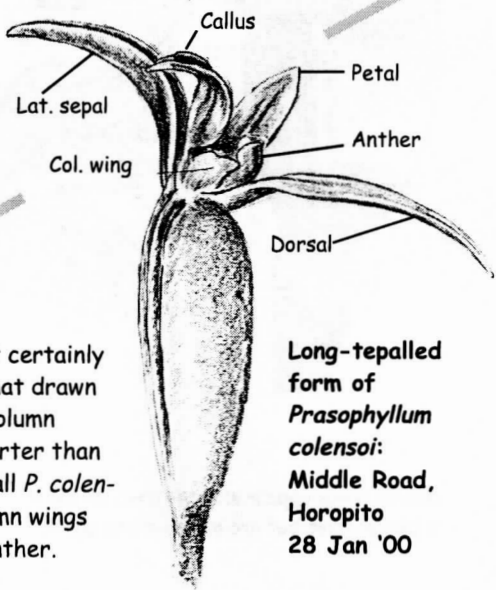


Tall dark slender-flowered *Prasophyllum colensoi* (?):  
Horopito, Middle Road, 22 Jan '00



NOTE: col. wing on hidden side was straighter, taller and more or less equal to anther, BUT most fls. Col. wings are clearly shorter than anther.

This flower is almost certainly the same taxon as that drawn 22 Jan '00 yet the column wings are clearly shorter than the anther. As with all *P. colensoi* I have seen, column wings were shorter than anther.



Long-tepalled form of *Prasophyllum colensoi*: Middle Road, Horopito 28 Jan '00



## The column: Eric Scanlen *Earina aestivalis* and all that

Thomas Frederic Cheeseman 1846 - 1923 decided, upon the evidence of R.H. Matthews, Ahipara, H. Carse, Kaiaka, B.H. Morrison, Waikanae and from his own observations at Muriwai and near the mouth of the Waitakere River that *Earina aestivalis* was a separate species from *E. mucronata* [1; see Historical reprints in this issue].

In his description TFC struggled to convince himself that there are significant differences from *E. mucronata* in his new species and he emphasised principally its later flowering by two months. He also mentioned, "Flowers larger, ...  $\frac{1}{3}$  in. [8.5mm] diam. or more [*E. mucronata* was put at  $\frac{1}{4}$  in. or 6.4 diam.]... Lip longer ... and brighter in colour; lateral lobes wider and more acute. Column short, stouter." Also, "... stouter and stiffer habit, broader and more rigid leaves ..."

With the insubstantial differences he was able to present, TFC had dug himself a figurative hole into which subsequent taxonomists dropped him by including *E. aestivalis* with *E. mucronata*. His coup de grâce, the difference in flowering times, was thrown into doubt by Dan Hatch [2; p. 98]. Bruce Irwin, also from experience with plants moved from their place of birth into new microclimates, found that flowering times could vary considerably. Curiously, TFC had ignored five traits that are common to *E. aestivalis* in the north which could have sustained his species from the outset. These traits comprise:

**Perfume.** The Column's non-boronia nose cannot smell *E. mucronata* but *E. aestivalis* always has a delicate lemon leaf perfume. But beware, the boronia noses of Bruce Irwin and Anne Fraser for example, detect a perfume in *E. mucronata* too, enigmatically

making distinction more difficult for more efficient noses.

**Column size.** TFC said it was short and stout in *E. aestivalis*. Close examination of a freshly opened panicle at Matakawau, revealed short columns and ovaries on just-opened blooms but long columns and ovaries on more mature flowers [J74 p22]. Both column and ovary extend as a flower matures.

**Ovary length.** Mature *E. aestivalis* flowers have trumpet-like ovaries, **Fig. 1**, about double the length of those on *E. mucronata*.

**Tepal attitude.** All the Column's shots of *E. aestivalis* show sepals reflexed, lateral petals curving forward marginally leaving the column exposed. *E. mucronata*, on the other hand, usually has its short column obscured by tepals crowding around. **Fig. 2**.

**Habitat.** *E. aestivalis* is coastal whereas *E. mucronata* occurs from the coast up into high montane forest to 700m around Ruapehu.

The Column — who was long agreed with Blumhardt cousins Oswald and the late Herbert and with Doug McCrae that this late flowered, perfumed, large flowered, long columned and long ovaried taxon was not *E. mucronata* — has been cautious in calling it *E. aestivalis* because so many traits were not mentioned by TFC and one trait, his short column, was contradictory for mature flowers. However, the colonies kept popping up in the far north, Maungata-pere, the Hunuas, Waitakeres, Matakawau [J74 p22], and P. de Lange has it from Stewart Is, Chatham Is, Great Barrier Is, Pirongia, and the northwest of the South Island [J34p11] so if this taxon is not *E.*

*aestivalis*, perhaps someone can tell us what it is because it is different from *E. mucronata*.

There are other interesting traits which taxonomists have omitted or only suspected. Traits which cannot be seen on herbarium specimens did tend to get neglected by taxonomists in the past. Dr Lucy Moore tentatively suggested (nectaries?) in both *E. mucronata* (including *aestivalis*) and *autumnalis* [3].

**Nectar drops** show in some pics of both *E. mucronata* **Fig. 2** and *E. aestivalis* **Fig. 3**, always hanging from the base of the labellum. Have a look in your *Field Guide* [4; p.17]. The author has drawn faithfully from a pendant panicle of *E. mucronata* then presented it at an angle with every visible labellum base sporting a button-like drop of nectar.

**Straw coloured flies.** Tiny flies, almost invisible against the creamy tepals, showed up at Mt. Messenger Saddle on 19 September 93 [J59 p13] and the flies appeared to be biting the feet of a mayfly thieving their nectar. A like fly showed up on the nectar-bearing panicle at Mangatangi Dam on 19 October 86. It is just above the brown bract on flower No. 3 from the bottom, **Fig. 2**. Twice is not always but the same flies 210km apart makes one start looking. The flower with the fly has a distinct drop of nectar beneath the base of its labellum.

**Flowering times.** The Column has records of *E. aestivalis* from only three in situ habitats, 6 January 90, Mangatawhiri Stream upstream of the reservoir, 4 January 99, Wairoa track some 5km away, also in the Hunuas and 15 to 27 December 99 at Matakawau. Cultivated plants in four localities in the north have flowered between 31 Dec. and 21 Jan. With *E. mucronata* photos, all flowering times are from in situ plants from 19 Sept at Mt. Messenger (310m altitude) to 30 Dec. at Omoana at say 330m. Peak flowering is in October. Later flowering will occur at higher altitudes and farther south for both species making comparisons a rich source of argument.

**Summary.** There is a late flowered, perfumed taxon similar to *E. mucronata* but with sufficient differences to claim specific status. The evidence points to it being T.F. Cheeseman's *Earina aestivalis*.

#### References

1. Cheeseman T.F. Some additions to the New Zealand Flora. *T.N.Z.I.* 1919. 51: 93-5
2. Hatch E.D. The epiphytic orchids of New Zealand and a new species of *Pterostylis* from Mt. Egmont. *T.R.S.N.Z.* 1950. 78: 101-5.
3. Moore L.B. *Flora of New Zealand* Vol. II 1970. 160.
4. St George I.M. et al. *Field guide to the New Zealand orchids* 1996

Figures on page 19 opposite ➡

# The nature guide to New Zealand native orchids

by Ian St George

AVAILABLE NOW FROM THE EDITOR

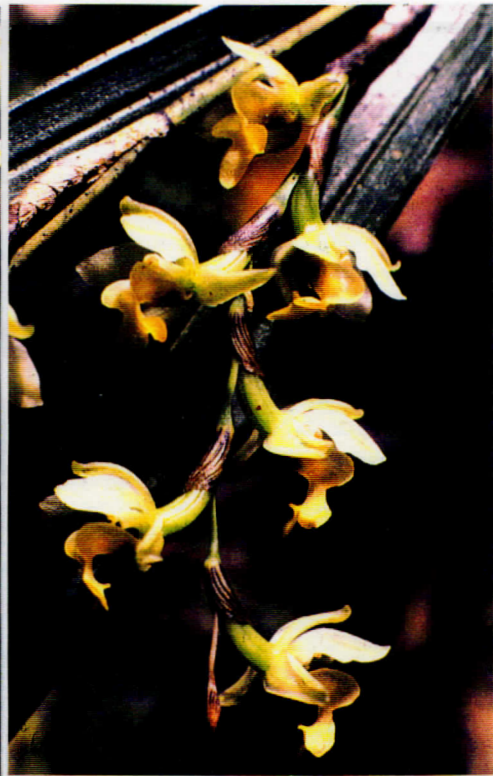
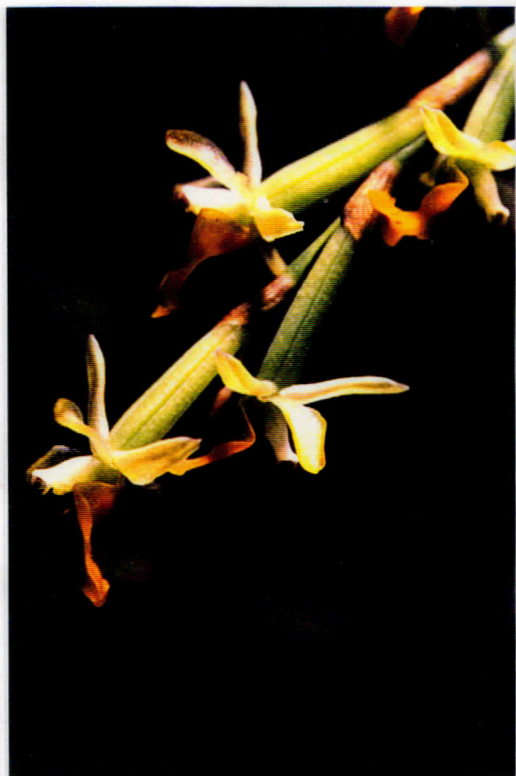
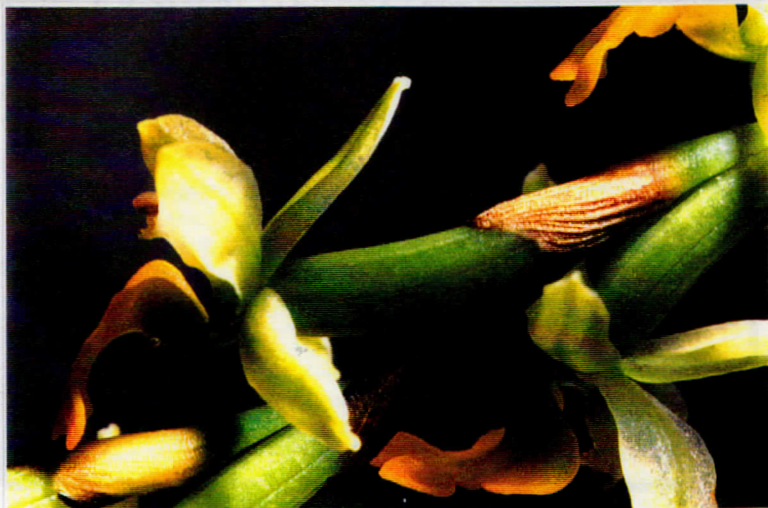


Fig.1 ↑

Fig.2 ↗

Fig.3 →



### Legends

Fig. 1. Long ovaries on mature *E. aestivalis* from Maungatapere 31 December 89. Fig. 2. Typical *E. mucronata* from Mangatangi Dam, 19 October 86; note short ovaries, short columns mostly obscured by crowding tepals, nectar drops still showing (even after wiggling this panicle free from tea tree debris) and the tawny fly. Fig. 3. *E. aestivalis* on 9 January 93 in cultivation from "somewhere in the north" with a drop of nectar under the labellum base.



## Notes, comments, questions, letters

Leita Chrystall of Foxton wrote, "On 15 December members of the **Levin Native Flora Club** visited the pine plantation on the Chrystall farm at Himatangi. We found over 50 *Gastrodia minor* in flower and seed, several large areas of *Acianthus sinclairii*, many *Chiloglottis cornuta*, and some *Thelymitra* sp. and *Microtis* sp.

"The next day a member of LNF Club visited to photograph orchids and found a different *Gastrodia*. We all had a visit the following day to check, and found a second plant.

"The first one was knee-high, with a strong perfume, and under a lens, exactly matched the pictures on pages 60 and 61 in *Native orchids of NZ* by John Johns and Brian Molloy.

"I also visited the plantation at the back of Round Bush – the pines are to be felled this year. There is a photo of the area on page 89 of the book. I found only one *Gastrodia minor*, and a scattering of *Chiloglottis cornuta*."



*Gastrodia cunninghamii* under pines at Himatangi (photo Leita Chrystall)

Barbara Hoggard wrote from **Kaimaumu** (25 January), "As you may know the North suffered most unseasonable weather including floods, some time ago. I went exploring when the sun shone again, to be horrified at what I saw -- large drains notwithstanding.

"The whole of the lowest areas were a sea of yellow water, coming onto the roadways once or twice. The large drains could not handle the water. Off the metal surface the whole area was "soup", every step taking an effort to keep a gumboot on!

"A month ago I went to 'see what I could see'. The ground was dry, but no orchids were evident – at least my count did not

exceed five, all on tops of logs or stumps. Later another search discovered no more *thelymitra* – all heads removed well below the flowering height. But there was a little consolation in the appearance of two or three small *Cryptostylis* leaves – no flowers. Will they suffer likewise?

"I have heard no reports from other districts, but hope their experiences were very much more fruitful.

"My concern now is, will the area recover?

"I well remember, as a small child, having 'Patience is a virtue' quoted to me. I am sure it had little effect – on me I mean. Maybe next year will show what hope we



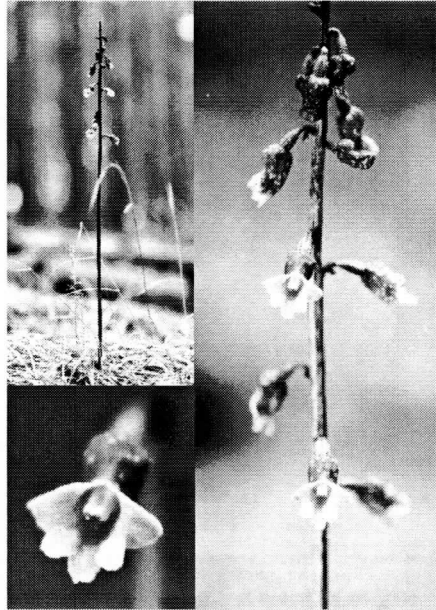
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have of a recovery – or does it need a century?

“The happiest aspect has been meeting so many enthusiastic people with a common interest, and happy to talk of their orchid experiences.

“Here’s hoping next year may bring a much happier result.”

I was directed to the first site I ever saw *Spiranthes novae-zelandiae* by Brian Molloy perhaps 15 years ago: a borrow-pit just south of the Rangitata river bridge on SH1 between Ashburton and Timaru. I have revisited several times, but this February was dismayed to see the site all but destroyed by imminent roadworks.

The beautifully presented *The orchids of Tasmania* by David Jones, Hans Wapstra, Peter Tonelli and Stephen Harris has recently been published by the Melbourne University’s Megunyah Press, publisher of Backhouse and Jeanes’s *The orchids of Victoria*. These orchid books are superb publications, and set a new standard. Tasmania has over 190 species, all but two of them terrestrial. In the genera shared with New Zealand, Tasmania has 2 species in *Acianthus*, 36 in *Caladenia* (21 of these small-flowered including *Cc. alata*, *alpina*, *carnea*, *fuscata*, *pusilla*, but not *lyallii*: *cra-cens* is the equivalent—nor *atradenia*: *atrata* is the equivalent—nor *minor*: *mentiens* is the equivalent—nor *nothofageti*: *sylvicola* is the equivalent), 2 *Caleana*, 4 *Calochilus* (*Cc. Campestris*, *herbaceus*, *paludosus*, *robertsonii*), 8 *Chiloglottis* (including *Cc. Cornuta*, *valida*), 7 *Corybas* (including *C. fordhamii*), 2 *Cryptostylis* (including *C. subulata*), 2 *Cyrtostylis* (including *C. reniformis*), 2 *Gastrodia* (one of them *G. sesamoides*), 9 *Genoplesium* (both *G. nudum* and *G. pumilum* included), 6 *Microtis* (including *Mm. arenaria*, *par-viflora*, *rara*, *unifolia*), *Orthoceras strictum*, 28 *Prasophyllum*, 35 in *Pterostylis* (including *Pp. foliata*, *nutans* and *tas-*

*manica*), *Spiranthes australis*, and 29 *Thelymitra* (including *Tt. carnea*, *circumsepta*, *cyanea*, *malvina* and *pauciflora*), and *Townsonia viridis*. A list of taxa erroneously recorded from Tasmania includes the NZ endemics *Caladenia lyallii*, *G. minor*, *Corybas macranthus* (Macquarie Island) and *Thelymitra pulchella*.

The *Orchadian* of September 1999 carried the names of over 200 species in Mark Clements’ and David Jones’ *Checklist of the New Caledonian orchidaceae*. In the genera shared with NZ, New Caledonia has 15 endemic species in *Acianthus*, 17 *Bulbophyllums*, *Caladenia catenata*, *Calochilus neocaledonicus*, *Corybas neocaledonicus*, *Cryptostylis stenochila*, *Earina deplanchei*, *E. floripecten*, *E. valida*, *Genoplesium calopterygium*, *Microtis aemula*, *Orthoceras strictum*, 4 endemic *Pterostylis*, *Spiranthes neocaledonica* and *Thelymitra sarasiniana*. Although in previous treatments of the New Caledonian flora a number of species were regarded as shared with NZ, none is now.

**Errors in J74:** Jean Mowbray Coe wrote, “Regarding the Key [J74 p18], Figs 19, 20 & 21, and the text on Page 21,

- (1) the genus is *Malcolmcampbellara* (name: Emarcy Magenta), an intergeneric (hence name and ‘ara’) created by Bill Fransen to continue *Malcolm Campbell’s* work;
- (2) the parents were (as stated) (a) *Sarcomoanthus* (Sran) Emarcy Gem (M R C, got it?) created by Malcolm from *Drymoanthus adversus* and *Sarcomoanthus ceciliae*, and (b) all that crossed with *Plectorrhiza tridentata*.

so the Key needs to show the genus Sran. or *Sarcomoanthus*, currently missing from the refs. Fig 19 & Fig 20. The ref. for Fig 21 should be amended to add ‘ara’ to the genus and the word ‘Gem’ deleted. Fig 21 should read ‘*Malcolmcampbellara* Emarcy Magenta.’”



## Historical reprints

### H.M.R. Rüpp on *Prasophyllum rogersii*

(from "Terrestrial orchids of Barrington Tops, N.S.W." *Proc. Linn. Soc. N.S.W.* 1928. 53: 336-342.

*Planta gracilis*, 30-45 cm. alta. Folium erectum, non inflorescentiam excedens. Spica laxa cum 12-20 floribus subsessilibus. Flores virides, vix tandem odorati. Sepalum dorsale fere erectum, latum, ovatum, acutum, 5.5 mm. longum, 5-nerviium. Sepala lateralia separata, lanceolata, 5.5 mm. longa, 3-nervia. Petala erecta, obtusa, lata, 5-5.5 mm. longa. Labellum ovatum marginibus integris, basi fere erectum, in parte tertia ad apicum flexum; pars callosa prominens et lata, supra flexum extendens. Columna brevis, laciniis parvis. Anthera altior laciniis, humilior rostello.

Plant comparatively slender, 30-45 cm. high, with the leaf-sheath produced into a lamina apparently not exceeding the inflorescence. Flowers 12-20 in a loose spike, almost sessile, greenish, faintly perfumed. Dorsal sepal nearly straight, broadly ovate, acute, 5.5 mm. long, with three prominent nerves and a finer one on each side. Lateral sepals free, spreading, lanceolate, equal to or somewhat longer than the dorsal one, hardly acute, 8-nerved. Petals erect, obtuse, nearly or quite as long as the dorsal sepal, broader than the lateral sepals. Labellum straight for two-thirds of its length from the base; the anterior third merely curved, not sharply reflexed: the whole labellum somewhat broadly ovate, but contracted towards the apex, margins entire; greatest width about 2.75 mm. Callus portion prominent, especially where it extends just beyond the curve, broader towards the base. Column short, the lateral appendages small. Anther broad, higher than the lateral appendages, scarcely as high as the rostellum.

In examining this and the following species for purposes of description, I am indebted to Dr. R. S. Rogers, who sent me the notes he had made on specimens forwarded to him. These made the task of checking my own original notes with moistened herbarium material much less difficult. The character of the labellum of the present species at once marks it as very distinct, and I have ventured to name it after our recognized leader in the field of Australian orchidology. It was growing along a marshy depression on a hillside at a little over 5,000 feet, and about a dozen plants were collected.

### R.S. Rogers and B Rees on *Prasophyllum suttonii*

(from *Proc. Roy. Soc. Victoria* 1912. 25: 112.

Buffalo Plateau, Victoria, Dr. Sutton. December, 1902.

Plant about 10 inches, fistula about 3 inches below spike, leaf about 2 inches. Spike consists of about 9 flowers, from which the colours have been discharged in the process of drying, although the faint tints on all the sepals and the dark tints on the column suggest that these have been purple. The petals look as though they had been white, with a coloured dark central streak.

Flowers very shortly stalked and subtended by a small semiovate bract about as broad as long. Lateral sepals about 4 lines, quite free, not gibbous, rather narrow lanceolate, dark stripe down middle, convex below, channelled on top (i.e., labellar side). Dorsal sepals about 3 lines, rather narrowly hooded, pointed, not recurved. Lateral petals broader and longer than lateral sepals, 4½ lines, rather broadly linear with triangular tips, membranous, with dark stripe down middle. Lateral index 112. Labellum on short claw, obovate recurved at an angle of about 60



deg. at the middle, proximal part measuring about 2 lines from claw to bend, not gibbous, with entire margins, distal part measuring about 2 lines from bend to tip, latter rather broadly blunt and rounded, margins and surface almost entirely membranous, slightly crenulated; callous portion rather narrow, channelled, increasing in thickness towards the bend and ending slightly beyond the latter in 2 raised lines. Anther not pointed, hidden behind rostellum and much shorter than latter: Appendages of column large, reaching quite to level of rostellum, falcate, with small basal ovate lobe, adnate only to base of column. Rostellum voluminous, purple, much higher than anther, triangular. Stigmatic surface large. Ovary short (about 2½ lines), turgid, obovate, on very short pedicel.

The species appears to be perhaps most closely allied to *P. fuscum*, though also related to other species. The examination and description of the plant was carried out jointly by Dr. Rogers and Miss Rees.

### **TF Cheeseman on *Earina aestivalis***

(from Some additions to the NZ flora. TNZI 1919. 51: 9305).

Affinis *E. mucronatae* a qua differt caulibus robustioribus firmiorebusque, foliis latioribus et brevioribus, floribus majoribus, labello longiore, lobis lateralibus majoribus et acutioribus.

*Hab.*—North Island: Near Ahipara, *R.H. Matthews!* And at Kaiaka, *H. Carse!* both localities in Mongonui County. In forest at Muriwai, and near the mouth of the Waitakare River; *T. F. C.* Forest by the Waikanae River, Wellington; *B. H. Morison!*

Rhizome creeping, much as in *E. mucronata*, stems numerous, 9-18 in. long, suberect or drooping, smooth, compressed, rather broader and stouter than in *E. mucronata*, and firmer. Leaves 3-6 in. long, 1/5 to 1/4 in. broad, flat, stiff, erect, narrow-linear, acute or acuminate; midrib and veins conspicuous on the under-surface, not so evident above. Panicle terminal, 2-5 in. long; branches or racemes 3-7, rarely more, 1-1½ in. long, 4-7-flowered; bracts short and broad, clasping, many-striate. Flowers larger than in *E. mucronata*, 1/4 in. diam. or more. Sepals and petals similar in size and shape, linear-oblong, subacute. Lip longer than in *E. mucronata*, and brighter in colour; lateral lobes wider and more acute. Column short, stouter.

I have been acquainted with this plant for several years, having gathered specimens at the mouth of the Waitakare River as far back as 1895. But the differences between it and *E. mucronata* are mainly comparative, and before describing it I was anxious to satisfy myself as to how far they were constant. Since then I have seen specimens gathered in several localities between the North Cape Peninsula and Wellington; and as I find that the distinguishing characters - viz., stouter and stiffer habit, broader and more rigid leaves, larger flowers, longer lip with broader lateral lobes, and stouter column - are constant throughout, I cannot any longer refuse it distinction as a separate species. In addition to the above, there is the important fact that it flowers from the beginning of January to the first week in February, whereas the flowering period of *E. mucronata* is two months earlier at least, stretching from the first week in October to the middle or end of November. At Muriwai, a few miles to the north of the mouth of the Waitakare River, I observed it in full bloom on the 16<sup>th</sup> January, 1916; while typical *E. mucronata* growing in the vicinity had practically matured its capsules.

**WANTED TO BUY:** Back issues of the NZNOG *Journals* 1 through 41, 46, 58, 59, 60, 62 and 64. Please contact Ken Roberts via email [lken@icubed.net](mailto:lken@icubed.net) or by air mail post to Ken Roberts, Orchid Grove, 5408 Varn Road, Plant City, Florida 33608, USA.



## Australian notes: David McConachie

### Orchid articles from cyberspace

#### 1) Orchid species on the NSW

**North Coast** Greg Steenbeeke [http://www.anos.org.au/ne\\_nsw\\_species/key.htm](http://www.anos.org.au/ne_nsw_species/key.htm)  
All of the 174 species shown in the list at this site are to be found in the NSW Northern Rivers region. This region includes the lower end of the Clarence Catchment (north and northwest of Coffs Harbour) and the Richmond, Tweed and Brunswick catchments.... This list of species is probably not complete, and will have more species added to it as research into the taxonomy and distribution of orchids in this region continues. This website has been established to allow for the identification of orchid species found in that area, or at least provide some preliminary clues. Not all species are imaged - I have provided as many species with images as is currently possible [115 so far, D.McC] and will add more as the imagery comes available.... Funding to make this site possible was supplied in a grant from the San Diego County Orchid Society Conservation Grants scheme. Thanks is also given to the Australasian Native Orchid Society for hosting this site.

#### 2) Orchid Conservation

Kings Park & Botanic Garden  
<http://www.kpbg.wa.gov.au/plantsci/orchidconserv.html>

Western Australia with over 300 species and 27 genera of orchids has one of the richest terrestrial orchid floras in the world. There is a large range in both form and habitat where orchids grow from dry land species to those occurring in seasonally wet swamps and a number of species that can flower while almost submerged. Many taxa have been reduced in number and are now only found in a few locations. One of the main areas where terrestrial orchids are highly threatened is in the path of expanding urban development. Because of their complex pollination and mycorrhizal systems terrestrial orchids are a significantly disaffected component of many specious systems in southern Australia. In Western Australia orchids comprise the most signifi-

cantly endangered family in the top 20 endangered species. Terrestrial orchids are complex components of the ecosystem as they have mycorrhizal associations which are essential for seed germination and further development of the plant. The mycorrhiza range in specificity but generally individual species require a specific fungus. The fungus is sensitive to changes in environmental conditions and if the balance between mycorrhiza and orchid is upset the orchid will suffer and decline in that site. Orchids have highly evolved flowers often have very specific pollinators. As is the case with hammer orchids (*Drakaea* spp.), which use sexual mimicry to attract thynnid wasps for pollination. These complex associations make orchids vulnerable to changes in their environment whether it effects them directly or indirectly through damage to their fungal associates or pollinators. Management needs to consider these interactions in deciding management strategies for any reserve or undeveloped environment.

#### **The Western Power Endangered Species Program - saving the orchids of metropolitan Perth.**

As part of this sponsorship, six of the endangered orchids of the Perth region are being researched and propagated to return the species to health and back from the brink of extinction. Some examples of the research being undertaken include saving the state's rarest orchid, the blue-babe-in-the-cradle (*Epiblema grandiflorum* ssp. *cyanea*). This orchid grows in dense rushes at the edge of a 5ha swamp reserved from housing development to protect the orchid. The orchid requires a particular hydrological regimen involving an extended period of inundation followed by regular seasonal drying. As is typical of terrestrial orchids, *Epiblema* also requires a particular mycorrhizal fungus for germination and growth. Both the orchid and fungus are threatened as a result of disturbance and water quality deterioration. Under the Western Australian Wildlife Conservation Act the orchid population is required to be protected from disturbances resulting from the subdivision. After con-

vincing the developers that it would be in their best interest to protect the orchid and its habitat and promote this as a positive part of the housing estate, considerable time and effort was required liaising with experts on the orchid and rare flora, water authority, project planners, engineers and hydrologist to draw up a management strategy which was seen to be technically feasible, effective and acceptable to the major parties involved. Management plans were drawn up to cater for the needs of the orchid and its associated mycorrhizal fungus. The spinoffs from this mean that the other flora and fauna at the site will also be protected making orchid swamp a special wetland reserve.

### Translocation of endangered orchids

The primary aim in the conservation of any species should be to conserve that species in its natural habitat. Here in Western Australia the management of critical habitat is the responsibility of the Department of Conservation and Land Management (CALM). Kings Park and Botanic Garden works in conjunction with CALM researching various areas of plant conservation. The translocation of endangered terrestrial orchids is one such research program currently under way. *Ex situ* methods are being used at Kings Park and Botanic Garden to secure the future for some of our many endangered species. The storage of the necessary material in liquid nitrogen for future propagation of endangered orchids is now routine at Kings Park Plant Science Division. Urgent research is needed to save critically endangered orchids, such as the Cinnamon Sun Orchid (*Thelymitra dedmaniarum*). Recent breakthroughs in the isolation of mycorrhizal fungi and propagation protocols has allowed translocation trials for one of the six critically endangered orchids in the Western Power Endangered Plant Rescue Program. Further translocation trials are planned for other orchid species in the program. There is still considerable information needed to understand the translocation needs of these orchid species. The complex association between orchid plant and mycorrhiza make the task a difficult one. Positive outcomes from the Endangered Plant Rescue Program are paving the way for the future of some of our endangered species

### 3) Duck Hunting Season

Peter Eygelshoven

ANOS Warringah *Bulletin*

[http://www.anos.org.au/groups/warringah/articles.htm#Duck shooting](http://www.anos.org.au/groups/warringah/articles.htm#Duck%20shooting)

In late spring and early summer there's nothing I like more than to get out the old cannon and go hunting for flying ducks. My favourite place to shoot flying ducks is in our own Garigal National Park just a couple of hundred of metres down from the Ranger Station. There is always a group of about twenty to thirty flying ducks in such a small area that it is possible to shoot them all with one shot. The botanical name for these flying ducks is *Caleana major*. *Caleana* commemorates George Caley, an early botanical collector in New South Wales. There is also *Grevillea caleyii*, a rare and endangered plant species from the Terrey Hills area and one of my favourite watering holes, Caley's Bar. (There's nothing like going out and shooting a few flying ducks and then heading back to Caley's Bar for a drink). These ducks are hard to keep at home, they usually go backwards over a year or two and eventually die. So if you see them don't take them home, just shoot them. They are often on their own scattered over a large area, but when they get together in a group its a wonderful sight. The favourite place for these flying ducks at this time of year is perched high on a slender stem, sometimes there are two or more, one of my favourite shots was of a flying duck and a pregnant, sleeping duck perched high on a stem, I got them then both in one shot. Their colours vary from dull browns to deep maroons so they camouflage well with the surrounding bush. We quite often see plenty of them after a bush fire (they are easier to see then). They usually emerge from their summer hiding places around February and March, but the flying ducks aren't really seen much before late spring when they go looking for mates; male sawflies are attracted to their heads ( it appears that they have some resemblance to female sawflies). Usually when this happens the flying duck will tuck its head down under its wings quite often trapping the male sawfly. Pregnant flying ducks can send off hundreds and thousands of ducklings, but only a few will survive.

## Native orchids—our natural heritage

That is the theme of the fourth Australasian native orchid conference and show, but as ANOS Victorian *Bulletin* reported, it might as well be “the opportunity of a lifetime... to spend a few days with the leading experts in Australasian native orchids”.

The Melbourne conference is to be held at the Karralyka Centre in Mines Rd, Ringwood, set in eleven acres of magnificent gardens. Gary Backhouse has arranged the **speaker programme** (see opposite) and it certainly looks exciting.

The main show and display areas will occupy 450 sq.m., and the **main display** will be a walk-through depicting seven different habitat types and their orchids.

The ANOS Victorian Group will have its own display of **Victorian orchids**, and the main display area will be host to displays from interstate as well as throughout Victoria.

There will be an **art and craft** show, with enquiries so far from makers of orchid ceramics, quilts, paintings, and decorated cakes! There will be a **photographic competition**.

Major orchid nurseries throughout Australia will be setting up in the **sales area**.

**Conference tours** will take you to see Australian native orchids in the Grampians, French Island, Anglesea, and elsewhere.

### FOURTH AUSTRALASIAN NATIVE ORCHID CONFERENCE AND SHOW



*“Native Orchids - Our Natural Heritage”*

**5TH - 8TH OCTOBER 2000**

**MELBOURNE VICTORIA**

Sponsored by the Council of the Australasian Native Orchid Society Inc.  
Hosted by the Australasian Native Orchid Society (Vic. Group) Inc.

## FOURTH AUSTRALASIAN NATIVE ORCHID CONFERENCE AND SHOW 5 – 8 October 2000

### Speaker Program (DRAFT: subject to change)

Friday 6 <sup>th</sup>	Speaker and Paper	Saturday 7 <sup>th</sup>	Speaker and Paper
9.00 – 9.10	Opening and official welcome	9.00 – 9.30	Paul Carver Orchid environments
9.10 – 9.40	Helen Richards Keynote address	9.30 – 10.00	Malcolm Thomas <i>Caladenia</i> cultivation
9.40 – 10.10	Greg Steenbeeke Orchids of north east NSW	10.00 – 10.30	Heinrich Beryle Temperate terrestrials <i>Thelymitra</i> hybrids
10.10 – 10.40	Andrew Batty Conservation techniques in WA		
10.40 – 11.10	<b>Morning Tea</b>	10.30 – 11.00	<b>Morning Tea</b>
11.10 – 11.40	Ruth Raleigh Propagation and restoration of <i>Caladenia</i>	11.00 – 11.30	Eric Wilde Growing Australian native specimens
11.40 – 12.10	Colin Knight Orchid conservation at Mel- bourne Zoo	11.30 – 12.00	Frank Simpson Sarcanthinae hybrids
12.10 – 12.40	James Todd Threatened orchid recovery in Victoria	12.00 – 12.30	Ted Elgood <i>Sarcochilus</i> culture
12.40 – 1.40	<b>LUNCH</b>	12.30 – 1.30	<b>LUNCH</b>
1.40 – 2.10	Les Nesbitt Saving rare orchids	1.30 – 2.00	Trevor and Pam Porteus Orchid organiser
2.10 – 2.40	Andre Cleghorn Micropropagation of epiphytic Australian orchids	2.00 – 2.30	Colin Bower Taxonomy by pollinators
2.40 – 3.10	Don Gowanlock Virus and Australian orchids	2.30 – 3.00	David Jones Systematics of <i>Diuris</i>
3.10 – 3.40	<b>Afternoon Tea</b>	3.00 – 3.30	<b>Afternoon Tea</b>
3.40 – 4.10	Wayne Turville Stars and Stripes – where next for cold <i>Dendrobium</i> s?	3.30 – 4.00	Phil and Yvonne Spence <i>Latourea Dendrobium</i> s
4.10 – 4.40	Mike Harrison Australian <i>Bulbophyllum</i> spe- cies	4.00 – 4.30	Geoff Stocker <i>Dendrobium Spathulata</i> hybrids
4.40 – 5.10	Daryl Smedley Australasian <i>Bulbophyllum</i> spe- cies	4.30 – 5.00	David Banks <i>Dockrillia</i> and hybrids
5.15 onwards	<b>Conservation forum</b>	5.00 – 5.10	Official Close

## Close relations: orchids like ours

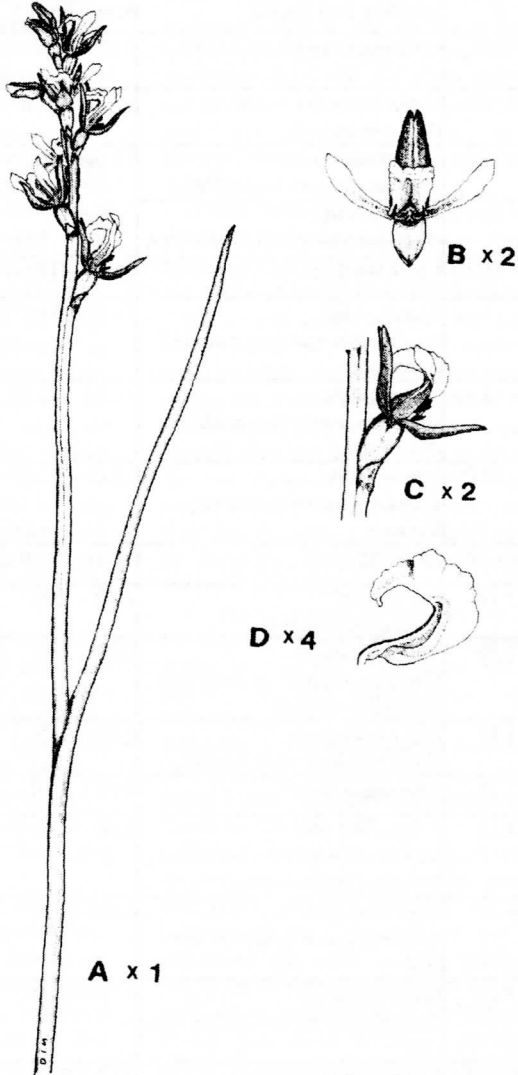
### *Prasophyllum alpestre*

drawing by DI Morris,  
from WM Curtis, *The  
student's flora of Tasma-  
nia Part 4a Orchidaceae*,  
Government Printer,  
Hobart, 1979.

The illustration is la-  
belled *Prasophyllum sut-  
tonii*, but David Jones,  
after visiting the Tasma-  
nian type locality, deter-  
mined that the Tasma-  
nian plant was new, and  
described it as *P.*  
*alpestre*. He noted that  
*P. suttonii* is a Victorian  
endemic (*Australian or-  
chid research* 1998; 3:  
78). See Historical Re-  
print in this issue.

In 1946 Dan Hatch wrote  
that New Zealand plants  
that had been identified  
by TF Cheeseman as *P.*  
*patens*, were not in fact  
that species. He consid-  
ered the NZ plant was *P.*  
*suttonii*. Later writers  
reverted to *P. patens*.

The large, fragrant, NZ  
taxon is undescribed,  
and is referred to as *Pra-  
sophyllum* aff. *patens*  
(see Profile of a Threat-  
ened NZ Orchid in this  
issue).

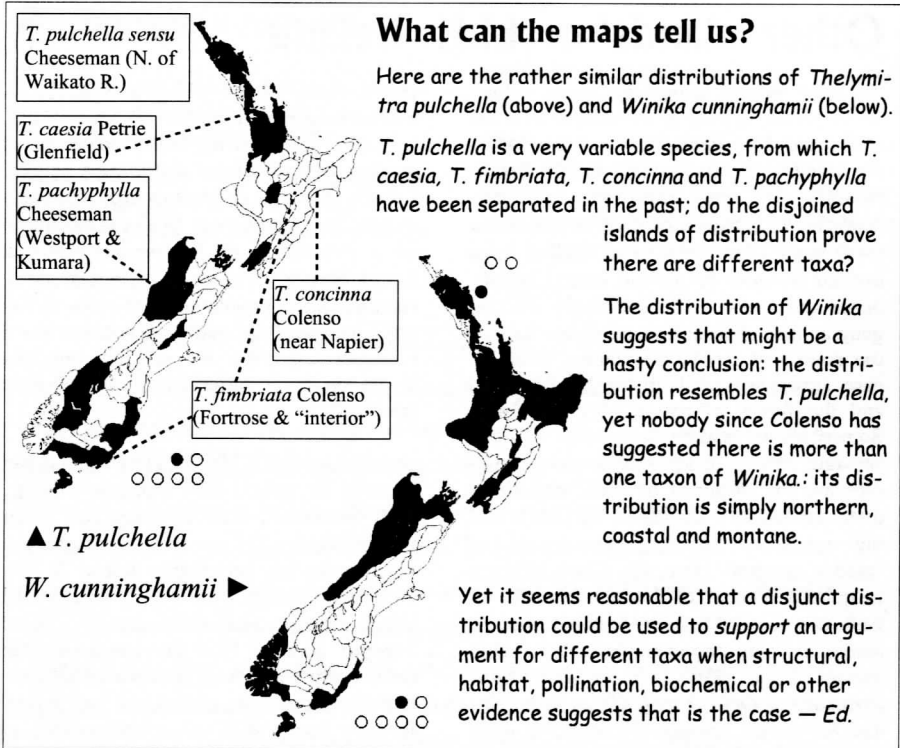


## Other islands' orchids: Ireland

*An Irish person using the name "Bog" wrote on the origins of non-native wild orchids, and his arguments have some bearing here too. Have some escaped from cultivation? Are some survivors from pre-historic continental land-bridges (Lusitania for Ireland, Gondwana for us)? Have some arrived recently by natural means (winds, ocean currents)?* The seemingly unusual geographical distribution of plants can be the source of much speculation. It is the case, however, that both the hand of man and the forces of nature play their part. Sometimes in tandem, sometimes as quite separate entities. Simple contrasting examples are the dispersal of seed, sometimes over considerable distances, by winds and the relatively common occurrence of 'garden escapes'. Here, Co. Clare, is home to quite a number of Lusitanian plants as well as several Mediterranean species, *N. maculata* being one example. Other orchid species found here, such as *Anacamptis pyramidalis*, *Ophrys insectifera*, *O. apifera* and *Spiranthes spiralis*, are also of a more southern distribution. Just how did these plants come to be established here? There is considerable and irrefutable evidence here of major glaciation. I just cannot imagine, when looking at the huge glacial deposits, how plants of a southern propensity can have survived such events. The plants mentioned must have arrived comparatively recently, by other means. Dust from the Sahara lands on my windows, volcanic ash from Iceland too. Debris from N. America arrives on the shore some 200 meters from where *N. maculata* grows. Seed from tropical beach plants has been collected from the same shore location. The prevailing winds and ocean currents are from the south and west, hence these connections and my suspicions as to the origins of some of the local flora. What makes some of these plants thrive here is, of course, climatic and soil suitability. A few seeds germinate and

thrive, many others wither and perish. A further consideration of *N. maculata* and *S. romanzoffiana* growing in Ireland, is that of an unusually disjointed distribution pattern. I think that this points towards separately originating populations. With the exception of a population of *S. romanzoffiana* at Lough Neagh, all other *N. maculata* and *S. romanzoffiana* populations are close to Atlantic coasts. I am neither a botanist nor a biologist and these are just my opinions based on local observations and a little reading."

*Another replied,* "Hay is versatile and can be used for animal feed, palliase stuffing, body insulation, floor covering and tinder for fire lighting. If you were a peasant you would value hay very highly indeed. In fact, all these attributes were highly valued until WW2 (maybe they still are in central Europe). So until 1950 hay was a valuable commodity which was transported all over the world, primarily as bedding and animal feed on board ship. An elegant paper in *BSBI News* a few years ago traced the origin of the Scottish population of *Spiranthes romanzoffiana* around Loch Shiel back to the population around Lough Neagh in Ireland. Apparently, the owner of the Glenaladale Estate on the north shore of Loch Shiel also owned a large estate on the shore of Lough Neagh. Since hay production in the Scottish Highlands is chancy even in a good year, winter feed for the cattle and sheep was regularly imported from his Irish estate (there are estate accounts to verify this). All the sites around Loch Shiel are downstream of the Glenaladale Estate and are in the lee of small promontories where the waterborne seed would accumulate. Perhaps the Atlantic coast Irish colonies arose in a similar manner from American seed and the Lough Neagh colonies arose from transported coastal hay. I cannot accept that the Irish colonies are glacial relicts."



#### Our new NZNOG Honorary Orchid Field Trip Coordinator writes,

- Have you noticed the number of surprising finds being mentioned in the Journals of late? The upsurge in field discoveries is a result of only a few field trips in pursuit of known species at good sites; but oddities keep showing up and their obscure identities are often only confirmed later when videos, photos or drawings and specimens are examined. They were there all the time of course, just waiting to be discovered and there must be more. Your favourite orchid spots could well harbour some as well as other species you were unaware of.
- Would you like to join or arrange a field trip to seek them out and further our knowledge of the often-neglected NZ orchids?
- Those that have special orchid spots to share, please send a note well in advance (by the first of August for the September Journal, and the first of November for the December Journal) with brief details and flowering times etc to this season's newly appointed and eager(?) Honorary Field Trip Coordinator, so that field trips and target species can be advertised. Please forward notes to Eric Scanlen, 4 Sunny Park Avenue, Papakura, Ph. (09) 2984868, email eascanlen@xtra.co.nz.
- Party leaders will be sent a checklist of field trip tips and reminders and anything on file pertinent to your area.
- The number of participants will be kept below about eleven.





## From the internet

*A recent discussion addressed the vexed issue of cultivation-for-conservation after one person wrote seeking plants for cultivation. His request prompted these (edited) postings,*

**I** "...There are major **advantages in artificially propagating native terrestrial orchids** that relate to conservation and enhancement of 'wild' orchids. I am involved in two such.

"One is the production of plants for use in areas where restoration of natural vegetation is being attempted. It is highly unlikely that a wild seed source would naturally move into such areas because most of them are far removed from any surviving wild plants. That is not to say that natural colonisation won't happen, but the odds appear to be very, very small. The only viable alternative would be to artificially transfer wild plants to the area. Given the trial and error nature (at best) of such transplanting, that is not desirable. I envision not only producing the plants from seeds and divisions from plants produced from seeds that can be used for the restoration, but also learning about the requirements that the plants have....

"The second is management of existing orchid populations. We have a population of a threatened orchid species that is primarily on public land. That land is subject to multiple public and private uses. An introduced noxious weed has become established in the area and is clearly outcompeting and thus reducing survival and propagation of the threatened orchid. Herbicides can be used to manage the noxious weed, but it is not legal to use herbicides that have not been specifically shown not to damage the orchids. Experiments in the field to identify herbicides that are effective in managing the

noxious weed but that do not damage the orchid place those orchids in danger. I am trying to propagate the orchid artificially so such experiments can be done first in a greenhouse and then in field plots so wild plants are not threatened. If this is successful the survival of the wild plants should be greatly enhanced.

"There are other examples as well of the value of artificial propagation of orchids in protecting and enhancing wild orchid populations."

**2** "It seems many growers are willing to allow their wants to dictate their needs and acquire these plants through whatever means. The culture of *Calypso* is an example. Even nature has been known to have difficulty with this one. *Calypso* is not a commonly propagated orchid and generally unavailable. Chances are if you find it for sale as a bulb or flowering size plant, it has been removed from nature.

"I have a web-site that is partly devoted to the education of horticulturists on the conservation, propagation and culture of *Cypripedium*. There have been many strides made over the last couple of decades, allowing these plants to begin appearing in small numbers as seed propagated. Due to the insufficient numbers of plants currently available through amateur sources, I have posted on my website the methods I have found most effective for producing *Cypripedium* by seed, in hopes that others will take up the endeavour and these plants will become commonly available as seed produced for gardeners and hobbyists alike. Eventually through selective breeding, garden-superior clones will become available, replacing the need for wild stock by those not currently practising good conservation.

"For those purists out there that do not

want any part of this, remember, you will never convince everyone to stop growing orchids. They will always be sought after and the unscrupulous will acquire them through poaching and people will still purchase them by whatever means they justify within themselves. This practice can only be controlled through the hands of specialty nurseries....

"Others are selling native orchid plants including species that are not yet propagated, plants that have no doubt originated from wild stock. Asian *Cypripedium* are the best examples, finding their way to web-sites around the USA and Canada, as well as Europe. I do not recommend supporting this form of commercialism. It justifies uneducated farmers and plant collectors (many of whom may have never even heard the word 'conservation') to remove colonies from depressed regions of this planet for the benefit of a few exporters who support themselves through the wants of the industrial world."

**3** "Trinidad and Tobago is a state which is made up of two small islands 30 to 35% of which is covered by tropical rainforest. Orchids abound. Unfortunately (or fortunately, depending on one's perspective), there is a good network of roads through the forests and the maintenance of these roads is facilitated by the fact that the "mountains" do not exceed 1000 metres in elevation. Since everything grows at a phenomenal rate at 10 degrees North Latitude, there is need for the authorities to continuously trim branches and clear "weeds" that encroach on the roadway. The orchid conservationists find themselves following the cleaning gangs in order to collect discarded branches and attempt to cultivate them in our gardens. Some do well and some do not. We have actively sought to educate the 250 members of the Trinidad and Tobago Orchid Society

about the approximately 200 locally occurring orchid species to encourage them to value the local species and to assist in the conservation effort either by assisting in the collection of displaced plants from road cleaning etc. or by agreeing to attempt to cultivate them in their gardens. We have also encouraged local growers to grow local species from seed and facilitated their offering such plants for sale while banning the sale of forest collected species. We have been making attempts to educate the people who live in villages contiguous to the forest, so that they will appreciate the value of conserving orchids by rescuing them when they seem doomed. The trade in native orchids of Trinidad and Tobago has been going on since the early nineteenth century, but recent legislation has been putting a curb to this. There are still a few forested areas that are inaccessible to the amateur hiker, and it is believed that there are still discoveries to be made."

**4** "I appreciate very much your intervention pro ex-situ conservation efforts. I know rather well the situation into a very rich orchid country, i.e. **Costa Rica**, where the absence of artificially reproduced material on the market is producing a stream of collected plants to satisfy the demand by collectionists and common people, both in Costa Rica and outside the country. Costa Rican people is strongly inclined to cultivate orchids, and most of the families have some specimens in their backyard. I do not think they have any special preference for collected specimens: simply they do not have any alternative. At the recent national orchid exhibition of mid-March in San Jose, thousands of visitors bought orchid plants at the market area of the show, and unfortunately many of the plants on sale were wild collected. This is especially meaningless because the tastes of the common people (i. e. not orchid collectionists) concentrate on a few species, like *Cattleya skinneri*, *Psy-*

*chopsis krameriana*, *Stanhopea* and *Oncidium* spp. and a few more, that are easy enough to reproduce artificially in large quantity to satisfy the exigences of the local market. But ex-situ conservation is a useful tool also for the specialized market of orchid collectionists. In Costa Rica there are some 1,000 and more "aficionados" always looking for something new and strange. Apart from a few exceptions, they do not look for anything in specific, just a new and different addition to their collections. It is difficult to quantify this segment of the market, but I estimate that at least 10,000 plants of "minor species" each year are extracted from the wild through the work of 20 or more "materos" (i.e. specialized orchid collectors) (and I fear the estimate is very optimistic). To this figure one should add the specimens that take their way to the international market and are offered on a regular basis through Internet. Paradoxally, the emphasis on orchid conservation attracts the general attention on orchid SPECIES, and here in Costa Rica the strong interest in eco-tourism is opening a new way of threat for orchids. Many hotels and restaurants try to be more attractive through the exhibitions of orchid specimens (mostly from the wild), and most of the so-called jungle-lodges and tourist-oriented "nature sanctuaries" are actually building up small orchid collections of wild specimens. On the trees along the beaches outside Manuel Antonio National Park, in central Pacific Costa Rica, *Catasetum maculatum*, *Caularthron bilamellatum*, *Epidendrum amparoanum*, *E. congestum* and *E. nocturnum* were 10 years ago very common plants, and they totally disappeared due the collection of specimens to 'improve' the trees of a few restaurant on the beach. Due to the high rate of mortality of the collected specimens, the collection is actually extending to the hills and low mountains of the coast, where more plants can be found. All we know that the aforementioned species are in no way threatened

on a global scale, but extensive changes in local natural populations are to be expected due to overcollection. Do we have a solution for THIS problem? I think we should encourage any effort to offer reproduced plants to the market, because this simple option may reduce the pressure on Costa Rican wild orchids of many thousands of specimens each year."

**5 The Norwegian Orchid Society** (NOF), founded 1988, is affiliated to The European Orchid Committee. Their publication *Orkideer* (6 issues a year/colourprint) is a joint venture between NOF and the Danish organisation: Dansk Orkideklub. Members of NOF also receive the newsletter *Marihånd*. NOF promotes interest about orchids, knowledge about how to grow them and awareness of protection of threatened species.

Vesla Vetlesen and Steinar Samsing Myhre write about indigenous orchids of Norway, and their paper with a full list (and photographs of most) can be found at the NOS website [www.orkideer.no](http://www.orkideer.no).

The coast of Norway is washed by the warm Gulf Stream, but apart from the mild and wet coastal climate, the eastern parts of the country have drier weather with cold winters and warm summers. These climatic variable zones accommodate 36 orchid species including two subspecies (some authors claim the number is either higher or lower) belonging to 20 genera.

All orchids worldwide are covered by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which prohibits export or import of such plants without authority. In Norway several species are further protected by national legislation which makes it a crime to remove any part of those plants.

Most Norwegian orchids flower in spring or early summer, but as summer arrives later at higher elevations and in the north, flowering time in those areas starts later too.

## NZNOG members & subscribers in 2000

**Honorary members:** Dorothy Cooper, 26 Kapiti Rd, Paraparaumu 6450. ED Hatch, 25 Tane Rd, Laingholm. JB Irwin, 192 Bellevue Rd, Otumoetai. Brian Molloy, 20 Darvel St, Riccarton.

**Subscribers:** **Awanui** Mrs BV Hoggard, RD 1. **Whangarei** Albert Blumhardt, 15 Tainui St, Onerahi. Anne Puttnam, PO Box 194. Dept of Conservation, Te Papa Atawhai, PO Box 842. Hazel and Bob Major, 8/1 Bayswater Place, Onerahi. Mrs Penny Berks, 31 Third Ave. Neville Hewinson, Kara Orchids - Pearson Rd, Kara. **Dargaville** AWD Donaldson, 4 Mali St. **Warkworth** Maureen Young, 36 Alnwick St. **Auckland** Allan Ducker, 75 Wharf Rd, Te Atatu Peninsula. Alva W. Gosling, 14 Reisling Place, Western Heights. Henderson. Annette & John Scott, 145 Manuka Rd, Glenfield. Brent McGuire, 3-129 Wallace Rd, Papatoetoe. Brian K Otto, Suite 6 - 110 Remuera Rd. Cath Mayo, 79 John St, Ponsonby. Chris Hubbert, PO Box 3451. Dr Ross E. Beaver, Landcare Research, PB 92170. Graham Marshall, 106 St George's Rd, Avondale. Harold Waite, PO Box 24-108, Royal Oak. Josie Driessen, 28 Edwin Mitchelson Drive, Waimauku RD1. Mr E Cameron, Botany Dept Auckland Museum, Private Bag 92018. Mrs Marjorie Newhook, 24 Landscape Rd, Mt Eden. Mrs PH Morton, 120 Aberdeen Rd, Castor Bay. Mrs Sandra Moore, 4 Monterey St, Glendowie. Mrs Sue Bergersen, 21 Amriens Rd, Waitakere RD. Noel Townsley, 6 Woolley Ave, New Lynn. Paul Left, 1Rhodes Ave, Mt Albert. Pauline Lawes, 31 Glen Var Rd, Torbay ECB, North Shore. Peter de Lange, Department of Conservation, POBox 68908 Newton. Ron Whitten, 5 Thorley St, Mt Eden. Sandra Jones, 14 Park Rd, Titirangi. Sue and John La Roche, 35 Geraldine Place, Kohimarama. **Papakura** Eric Scanlen, 4 Sunny Park Ave. **Pukekohe** Merle McNamara, 141 Edinburgh St. **Waiuku** Patricia Aspin, Hatton Rd, RD 4. Stella Christoffersen, 34 Cooper Rd, RD4. **Raglan** Val Hollard, PO Box 22. **Kaiaua** Mr G. Stacey, PDC Private Bag 2. **Thames** Mr John Neilsen, c/- Dept of Conservation, RD 2 Kaueranga Valley. **Waihi** Mrs JP Green, 37 Consols St. **Hamilton** Bruce & Bev. Clarkson, 7 Lynwood Pl. Catherine Beard, 22 Emerald Place. Fraser Broom, 49 Flynn Rd. Ian Reid, 629 Grey St. Jean Coe, 20 Birdwood Rd, Horotiu RD 8. Meryl Merrett, Private Bag 3127. Mr M Gibbs, 27 Balfour Cres. W.H. Fransen, 6 Wedgewood Place. **Cambridge** Mrs Betty Seddon, 11 Grey St. Tim Oliver, RD 2. **Tauranga** 3001 Mrs Pauline Mayhill, 177 Maple Close, Welcome Bay. Beryl and Bob Goodger, 9 Somerset Grove. Lorna Grey, 9 Bristol Ave, Otumoetai. Mrs Wilma Fitzgibbons, 105 Dickson Rd, Papamoa. WJ Forrest, 33 Upland St, Otumoetai. **Matata** John Groom, PO Box 1. **Rotorua** Chris Ecroyd, 33 Raniera Place. Mr MC West, 3 Millar Rd, Lake Okareka. Wildland Consultants, Okere Rd, RD 4. **Kawerau** Yvonne Moulden, 11 Syme Cres. **Taumarunui** E. Anne Fraser, RD 4. Mrs CL Aston, 29 Golf Rd. **Taupo** 2730 The Secretary, Taupo Orchid Society, PO Box 650. Ken and Jean Scott, 80 Taharepa Rd. Mr DS Mitchell, 13 Robinson Tce. Mr Trevor Nicholls, 33 Hinekura Ave. Mrs DE Abraham, 14 Nisbet Tce, Kinloch RD 1. Sue and Robbie Graham, 141 SH1, Waitahanui. **Turangi** Dept of Conservation, Te Papa Atawhai, Private Bag. **Owhango** Ross Bishop, Community Box No 50. **Gisborne** Mrs Nancy Adye, 30 Adair St. **Wairoa** Geoff Foreman, 6 Rimu Drive. Margaret & David Fraser, 48 Black St. Sue Clough, 45 Mitchell Rd. **Napier** David & Beverley Lowe, 12 Alexander Ave, Onekawa. PC Shapcott, 35 Titoki Cres. WF Liddy, 8 Thurley Place, Bayview. **Hastings** Mr David and Mrs Sally Hansen, Poukawa, RD 11. **Urenui** Mr GE Penniall, 55 Hickman Rd, RD 45. **Waitara** Heather Crowsley, 34 King St. **New Plymouth** Barry Hartley, 12a Ronald St. Ernie Corbett, 10

Protea Place, Bell Block. John Dodunski, 22 Hartland Place. N Miss Ina McLellan, 6 Aubrey St. Mr G Fuller, 6 Torbay St. Ne Mrs Val Smith, 80 Mill Rd. Roger Watkins, 413 Devon Street East, Strandon. **Eltham** Clive Perry, 234 Bridge St. Margaret Menzies, No 19 R.D. **Wanganui** Michael Pratt, Waikupa Rd, RD 12. Mr and Mrs Robert L. Macnab, PO Box 36. Mr Colin Ogle, 4 Brassey Rd. Mrs YJ Cave, Seafield, No.4 RD. Ross Macdonald, 12 Bens Place. **Fielding** Barbara Schreiber, 3 Macmillan Place. **Palmerston North** (Serials) Librarian, Massey University, Private Bag 11054. Barbara Elliott, 36 Ronberg St. Dame Ella Campbell, 26 Frederick St. David McConachie, 15 Battersea Place. Don Isles, 33 Swansea St. Elaine Glasgow, 14 Dorset Cres. Lynette Fischer, 11 Karamea Cres. Secretary Manawatu Orchid Society, , PO Box 5223. Yvette Cottam and Bruce Sinclair, 329 Kahuterawa Road, RD4. **Marton** LJ Gibbs, 21 Milne St. **Masterton** Aalbert Rebergen, 83 Colombo Rd. Mrs Lyn Coley, c/- McKay, RD 2. Mrs Phyllis Jackson, Fire No 72 Mauriceville, RD 2. **Foxton** Mrs LP Chrystall, 489 Highway One, RD 11. Susan Hansard, Box 176. **Levin** Ian Cooksley, Manakau North Rd, RD 31 Manakau. **Linden** John SD Gregory, 329 Main Rd. **Lower Hutt** KF Ross, 13 Hinau St. **Wellington** Anne Southern, 31Haunui Rd, Pukerua Bay. Annette Fairweather, 50 Ponsonby Rd, Karori. Cesar Zapata, PO Box 11-969. Gordon Purdie, 19 Thatcher Cres, Crofton Downs. Mr Philip Tomlinson, 14 Putnam St, Northland. ND Neilson, 60 Horokiwi Rd West, Newlands. Pat Enright, 19 Gaya Grove, Ngaio. RW Hornabrook, 27 Orchard St, Wadestown. Suzan Dopson, Biodiversity Recovery Unit, Dept of Conservation: PO Box 10-420. The Librarian, Royal Society of NZ, PO Box 598. Tony Robinson, 61 Moana Rd. **Nelson** Cathy Jones, c/- Dept of Conservation, Private Bag 5. Gael Donaghy, 136 Cleveland Tce. Gordon Sylvester, 345 Sherry River Road, RD 2 Wakefield. Mr Shannel Courtney, Dept of Conservation, Private Bag 5. Mrs D Adams, 2/7 Rawhiti St, Tahunanui. Mrs JM Jenks, RD 2, Upper Moutere. **Greymouth** Paul Lambert, 45 Lydia St. **Christchurch** Angela Abernethy, Plant and Microbial Sciences, University of Canterbury, PB 4800. Dean Pendrigh, 22 Allstone Pl. Jennifer Manning, 258a Mt Pleasant Rd. Joy Talbot, NZ BotSoc Journal Editor, 23 Salmond St. K Gwatkin, 256 Westminster St. Matthew Walker, 116 Chester St East. Maurice Sinclair, Hoon Hay Valley. Mrs KE Blackwell, 1 Taupata St. Richard Walker, 65 Innes Rd. Rodney Boon, 57 Townshend Cres. **Akaroa** Hugh Wilson, Hinewai Reserve, Long Bay Rd. **Lincoln** Landcare Research NZ Ltd Librarian, Biodiversity & Conservation, PO Box 69. **Oxford** Mrs B Pickering, Coopers Creek. Thom Pendrigh, 230 High St. **Timaru** Mrs DJ Barron, Hadlow Rd, RD 4. **Oamaru** Julie and Gary Speer, 11 Ure St. Mrs Barbara McGann, 4a Rother St. **Dunedin** Treasurer, Dunedin Naturalists' F.C., PO Box 6184. **Balclutha** MC Miller, 4 Cherry Lane. **Invercargill** Mrs I Lankshear, 292 Racecourse Rd. **Stewart Island** Margaret Hopkins, PO Box 86, Halfmoon Bay.

**England** Librarian, Royal Botanic Gdns, Kew, Richmond, Surrey, TW9 3AB. **Austria** Karl Robatsch, 49 ViktringerRing, A-9020 Klagenfurt. **Australia** David Banks, 39 Carole St, Seven Hills, NSW 2147. Warren Simpson, RMB 8510, Hill End, VIC 3825. Librarian, Australian Nat.Bot.Gdns, GPO Box 1777, Canberra - ACT 2601. Australasian Native Orchid Soc, PO Box 2165, Taren point, NSW 2229. ANOS Illawarra, 13 Eleanor Ave, Oak Flats, NSW 2529. Bob Bates, 38 Portmartnock St, Fairview Park, SA 5126. Native Orchid Society of SA, 33 Margaret St, Henley Beach, South Australia. West Aust.Nat.Orchid S&C Grp, PO Box 323, Victoria Pk, Western Australia 6100. Victorian Group ANOS, 56 Civic Parade, Seaholme, VIC. Graeme Bradburn, 10 Jaylang Place, Figtree 2525, NSW. Ruth Rudkin, 18 Lyle Ave, Lindfield, NSW. **Switzerland** Rudolf Jenny, Moosweg 9, 3112 Allmendingen.