

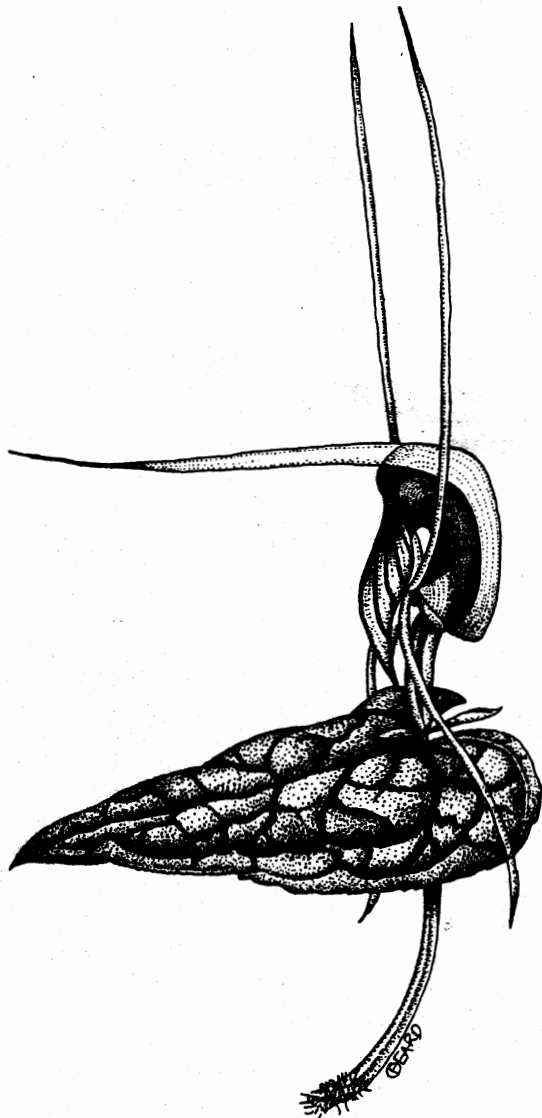


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*Corybas acuminatus* - drawing by Catherine Beard

The New Zealand Native Orchid  
Group Journal for December 1996

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## From the editor

### Pollination in *Thelymitra*

I have been reading a long, interesting, but almost impenetrable (in its use of the esoteric language of evolution and reproduction) paper. It is "Floral evolution and phylogeny in the tribe *Thelymitreae* (*Orchidaceae: Neottioideae*)" by Pamela Burns-Balogh and Peter Bernhardt (*Plant Systematics & Evolution* 1988; 159 [1-2]: 19-47). It contains an excellent precis of *Thelymitra* pollination in Australia; I summarise it here in more familiar language.

For nearly 95 years work on *Thelymitra* emphasised self-pollination. All species studied proved to be capable of self-pollination, which usually occurs towards the end of the flower's life. At least eight species have been regarded as *obligate* self-pollinators.

But the emphasis on self-pollination changed a few years ago when fieldworkers observed in four different species, black, fast flying bees clasping the column and then flying off with the pollinia attached to the abdomen. David Jones thought this was another example of pseudocopulation, the bee mistaking the ciliated column-arms for its female; Bob Bates thought the column resembled another bee, and the bee grappling it was trying to drive off an intruder from its territory.

We now know the bees are female *Lasioglossum* and *Leioproctus*. They are foragers which feed their larvae by collecting pollen that they dislodge by vibrating their thoraxes. In Australia the blue flowers of four *Thelymitra* species mimic lilies, and the bees mistake the ciliated column-arms or column appendages for the lilies' pollen (i.e. the lily is a "model" for the floral mimicry of the *Thelymitra*).

Even so, most *Thelymitra* species will still prove to be capable of self-pollination. One reason is that bees do learn to distinguish

between lily and *Thelymitra* after a few unsuccessful attempts at harvesting pollen; so self-pollination remains a greater source of seedset than cross-pollination.

Self-pollination should be regarded as a commonly-employed "fail-safe" mechanism for many *Thelymitras* — though there are species that are obligate self-pollinators too.

*The bee I reported in J59 visiting Thelymitra aff. longifolia near Wellington was probably Leioproctus fulvescens. It was moving very vigorously against the column, and I wondered whether it was attacking, eating or trying to copulate. Seems it was just a mother trying to gather food for her babies. Does she mistake the white flowers of the Thelymitra for those of manuka, her usual source of pollen? Is manuka the model for the floral mimicry that permits cross-pollination in T. aff. longifolia? — Ed.*

### Two species of *Orthoceras*?

We reported Bob Bates' suspicion (J59) that both *Orthoceras novae-zeelandiae* and *O. strictum* had grown in South Australia. Bob Goodger replied (J60) that he had photographed both forms in New Zealand.

Apparently *O. novae-zeelandiae* has a different chromosome count from *O. strictum*, suggesting that *O. strictum* arrived in NZ as an Australian vagrant, mutated, and became *O. novae-zeelandiae*. Seems pretty straightforward, doesn't it?

But what if they are both in NZ? Easy. A further, later arrival of *O. strictum* did not mutate. But what if they are both in Australia? Well, perhaps the mutation happened there, and both *O. n-z.* and *O. strictum* arrived separately. Or somebody took specimens of *Orthoceras novae-zeelandiae* to Australia and set them free. Or they are actually the same species after all.

### Emily Cheeseman's watercolours

Of the famous botanist T.F. Cheeseman's sisters, Clara wrote magazine articles and a novel, and Emily (Emma) learned taxidermy and prepared bird specimens for him at home. The Auckland Museum has a collection of twenty-three of Emily Cheeseman's botanical watercolours and drawings. Thirteen are of orchids — spare, disciplined, straightlaced, stylised and distinctive, but botanically accurate and very beautiful works. Instead of fleshing out the plants (as Fanny Osborne did) she made elongated willowy images, delicate and understated. Cheeseman's famous paper on the fertilisation of *Pterostylis* contained John Buchanan's lithograph of *P. alobula* (at right here ⇨) labelled *P. trullifolia*, for *P. alobula* was separated only later. It is wrongly attributed to her brother, for in fact it was copied from Emily Cheeseman's painting. The *P. puberula* watercolour is typical of her style and is reproduced here with permission from the Auckland Museum. ⇨

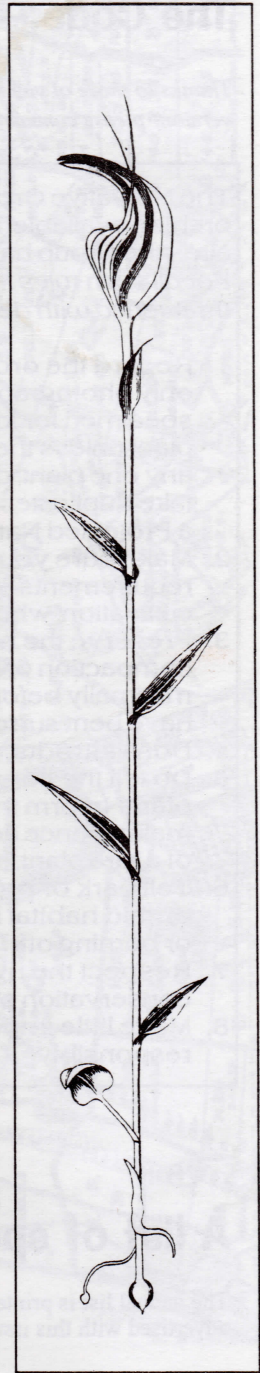
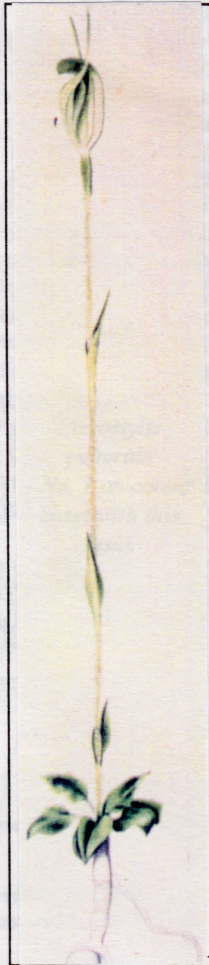
### Talking to flowers

In August I went to Chekhov's play *The Black Monk* at Bats theatre in Wellington. In one passage Pesotsky, the gardener, says, "You've just got to love your plants." His friend Kovrin asks, "Do you ever imagine your plants are like little people?" Pesotsky replies "When I was younger, my plants used to talk to me.... I could feel it when they needed more water, or wanted pruning etc. They were kind of like friends....".

Our own William Colenso once wrote, "...fancy leads me to imagine that the trees and plants, ferns, mosses and flowers both recognise and smilingly welcome me.... I take off my hat and salute them feelingly...."

In J60 we reproduced a piece about RS Rogers, called "A flower personality" (nice ambiguity there — was it the personality of the flowers or the personality of Dr Rogers?) which stated (of orchids), "Dr. Rogers calls them by name, and they converse with him".

So there you are; it's OK to talk to orchids. Really it is. Other people talk to them too (and have done for ages). You can relax. Stop worrying. Settle down. You'll be all right. I promise. Listen, you'll hardly feel this... it's just a wee prick in the arm....





## The Code — draft 2

*Thanks to those of you who took the trouble to comment on the draft code. Here is an altered version: please comment on the back of your subscription form.*

The NZ Native Orchid Group's aims are to make information about native orchids available, and to promote their conservation. To further these aims the Group has developed a Code of ethical conduct.

*For all such rules there are reasonable exceptions — as when a site is threatened with destruction, or when collecting for herbaria or publication.*

1. Regard the orchid tuber as sacred and leave it undisturbed. Take only photographs if a plant is scarce in a locality. If you need a specimen for identification, take the minimum — don't take the whole plant unless there are more than twenty; don't take more than 5% of any one plant; don't take flowers or fruit if there are few present; don't take duplicates. It is illegal to take specimens of any native plant from a Protected Natural Area without official permission.
2. Make sure you know whether it can be grown, and if so what its requirements are, before you take even a "common" native orchid for cultivation; where possible use seeds.
3. Preserve the habitat of all native plants: tread with care to minimise compaction of soil and disturbance of swamp habitat; "garden" minimally before taking photographs and do replace shelter if you have bent surrounding vegetation away.
4. Don't introduce any plant into wild habitat without proper authority.
5. Do tell the conservation people if you find a new site for a rare plant. Inform those who might unwittingly destroy a site with normal maintenance activities. Take care who you tell about the whereabouts of a rare plant, and don't take big groups to visit.
6. Tell park or property administrators when they need to protect orchid habitat by clearing scrub, maintaining tracks, spraying weeds or burning off.
7. Respect the rights and wishes of landowners and those of conservation people who ask you not to visit a site at certain times.
8. Make little impact on the environment; dispose of rubbish responsibly.

## A list of species with notes

The annual list is printed in *Field guide to the New Zealand orchids* — the new book advertised with this issue, so is not reproduced here.



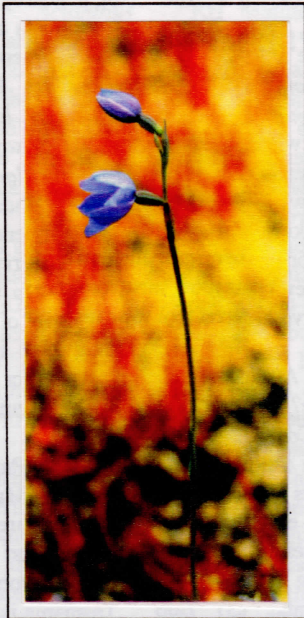
## Notes



Bob Goodger wrote, "I believe there are two forms of *Corybas oblongus*: one is usually a smaller plant with an oval lip bearing short, regular fimbria. The tube of the labellum is dark red with a clearly defined edge to the white of the fimbria, as in Catherine Beard's drawing in *J59*. The other has a wider dorsal sepal, and a much fuller lip bearing fimbria that are longer but of variable length, their colour margin not as clearly defined, and of crystalline texture". *Interesting that HB Matthews thought too that there was a second species similar to Corybas oblongus, but "differing in many respects and worthy of specific rank". He called it Corybas aestivalis (see Historical reprint in this Journal) — Ed.*



Dr Ella Campbell wrote (3 August), "It is pleasing to note the report in *J58* that the new genus *Danhatchia* has been created for the NZ orchid that was formerly known as *Yuania australis*. However, I have one query. It is stated that this orchid is found always in association with taraire. I found it in 1967 in association with taraire in the Glorit area although some nikau was also present; and in Kirk's Bush, Papakura, where there was taraire but no nikau. Other records from Northland are listed in *Flora of NZ vol.2* (1970). In *NZNOG Newsletter No.30* (June 1969) it is recorded from NW Nelson at sites where nikau was also present but well south of the range of taraire. If this last record is correct



it seems that it would be useful to have more observations on the distribution of this interesting orchid."

← Photographed in a Waikaremoana swamp: *Thelymitra cyanea*, its blue flowers contrasting nicely with the red of sundews and yellow of sphagnum.



Bruce Irwin wrote (on 5 August), "Malcolm Campbell was suitably farewelled last Friday. Malcolm had planned the service. It was as cheerful as his life had been. The native orchid group was well represented by Anne Fraser who had just arrived back in NZ, by Eric Scanlen, Allan Ducker, Graham Marshall and Sue Bergerson all from Auckland, Ernie Corbett and John Dodunski from New Plymouth and Bill Liddy from Napier, myself and perhaps others I didn't recognise. Hordes of Orchid Society people too. Malcolm touched the lives of many and all respected and liked him." *Greta Campbell wrote to the members of the Group, "I am sure Malcolm regretted not finding your group years before he did. I think it was his ultimate horticultural experience. Good orchid hunting."*



I have just (August) been told of the death earlier this year of **Noeleen Clements**, an enthusiastic naturalist who first showed me *Caladenia alata* at Hewitt's Reserve, and who later sent me specimens of *C. minor*. A detailed obituary appears in the August issue of *Forest & Bird*.

Our sympathy to Toby and her family and friends.



From the internet (so it's true: cultivation can advance conservation): "There's a guy who sells *Spiranthes cernua odorata* 'Chadds Ford'. This is a native American orchid, originally found in Delaware, which has had its original collection site destroyed. It is apparently very easy to grow, and enjoys being "feet-wet." Propagates like mad.... This plant is known only from continued cultivation; this variety has evidently been extirpated, so it cannot be 'harvested'."



**Bob Bates** of South Australia read J60 (isn't that nice?) and wrote, "(1) Bowl-shaped *Corybas* leaves occur in most species in SA in exposed sites; (2) *Pterostylis puberula* does seem to be unlike any Australian forms (i.e. tiny rosette, very slender stem and tiny stem leaves etc) so we can forget about using the name *P. puberula* for any SA plants! (3) Bob Goodger's photos of *Orthoceras* indicate that it is not feasible to treat *Orthoceras* as two species if the feature separating NZ from Australian species is shape of labellum and length of bracts: we know now this varies in both regions! A few pictures tell it all. (4) The illustration of *Microtis* by Archer and Fitch on p23 does not match the interpretation given us by Clements of *M. arenaria*. A lot of illustrations in *Flora Tasmania* are incorrect."



What do you call orchid species that have not yet been given official names? Undescribed? Tagnamed? Ugly words aren't they? The French, ugly though they certainly are in their nuclear policies, do have a lovely way with words. They call their unnamed species *les belles inconnues* — the unknown beauties. New Zealand currently has at least thirty *belles inconnues*.



Sue and Robbie Graham wrote, "We live in **Waitahanui**, south of Taupo, and love to explore the sides of a nearby river, over the bridges, by the trout pools and into the bush and scrub on its banks. Here is a list of the orchids we have found so far — *Pterostylis banksii*, *T. decora*, *T. longifolia*, *T. pauciflora*, *Microtis* sp., *Prasophyllum colensoi*, *Orthoceras novae-zeelandiae*, *Calochilus robertsonii*. Most of these grow on track edges upstream from the end of the road (well past the sign warning drivers not to proceed further!) The *Thelymitra* blooms were prolific in the first weekend of December last year. Anyone interested in checking this area out can phone us or call in to our place and we'd be happy to guide you or 'tell you where to go'!



**Papers by David Jones in *Muelleria*** (1996; 9: 41-50 & 51-62) are of interest in NZ.

The first paper reports that *Caladenia alpina* from mainland SE Australia and Tasmania is, after all, distinct from *C. lyallii*, and describes *C. cracens* from southern Tasmania, a new species similar to both. *C. lyallii* has a generally more slender habit than *C. alpina*, with a narrower leaf (1-6mm wide) and 1-2 (3) generally smaller flowers (2.2-2.8mm across). Florally *C. lyallii* has a squarer or more angular nearly oblong lateral lobes to the labellum, narrow sharply tapered labellum midlobe, sessile marginal calli and narrower (c. 2mm wide) nontapered column. *C. lyallii* (cf. *C. cracens*) has broader laminar calli on thicker stalks and sessile (cf. stalked) marginal calli on the labellum midlobe. This is interesting in view of the suggestion that one Iwitahi form of *C. lyallii* is more slender than other more robust forms from Iwitahi and elsewhere; the drawings in Jones' paper portray the differences among his three species; that of *C. lyallii* is reproduced overleaf.

The second paper ("Resolution of the *Prasophyllum alpinum* complex in mainland

south-eastern Australia and New Zealand”) describes four species: *P. sphacelatum* (new, confined to SE Australia), *P. tadgellianum* (reinstated, common in SE Australia), *P. alpinum sensu stricto* (a narrow endemic restricted to central and southern Tasmania) and *P. colensoi* (endemic to NZ). Jones wrote, “Bates (*pers. comm.*) maintains that detailed research into the great variation exhibited by *P. colensoi* may result in the recognition of further taxa”.

Bruce Irwin wrote, after reading Jones’ *Prasophyllum* paper, “I was astonished to see that in the key to the species, Jones stated that the column wings of *P. alpinum* were about half as long as the anther, whereas in the other species of the complex, including *P. colensoi*, the wings were as long as or longer than the anther... his illustration agrees with his description. Early NZ descriptions seem not to mention column wing length compared with anther. However Matilda Smith’s drawing in Cheeseman’s *Illustrations* 1914 shows the column wings clearly shorter than the anther. It also shows lateral sepals connate (joined together) for more than half their length though Jones states of *P. colensoi*, ‘free or connate at the base’.... My own drawings in *Flora II* and the *Oxford Book* agree very closely with that in Cheeseman. *Flora II* seems to make the first definite statement about column wing length, ‘lateral process of column... slightly shorter than anther’. Jones must have studied the illustrations in *Flora II*, Cheeseman and the *Oxford Book of NZ Plants*, otherwise why mention them under the heading ‘illustrations’? He must also have studied dried or pickled specimens. Why then, without any explanation, did he ignore all these data and substitute apparently erroneous data of his own? Does Jones imply that the common plant presently regarded as *P. colensoi* in NZ is not the true *P. colensoi*? Will the publication in preparation, referred to by Jones as ‘intended to lectotypify *P.*

*colensoi*’ provide an explanation?”

Bruce is suggesting that there may be at least two species currently regarded as *P. colensoi*: the Type specimen (at Kew?) with long column wings and lateral sepals free or connate at the base, and the other species (the one illustrated by Smith and later by Irwin) with short connate column wings.

Hooker’s description of *P. colensoi* states simply, “Lateral (sepals) free.... Column extremely short; staminodia broadly notched”. Others have thought there were more than one species.

William Colenso described *P. pauciflorum* from Hawke’s Bay in 1886 — it had “lateral sepals united from middle downwards”, and “4 minute erect linear lateral staminodia”; nobody has found the Type, and Cheeseman (1906) included *P. pauciflorum* in *P. colensoi*, as has everyone since. HB Matthews sent HMR Rupp a *Prasophyllum* from near Kaitaia, and Rupp found it identical with *P. rogersii* from New South Wales and Tasmania (1928). Matthews himself described the plant in his manuscript as “*P. patentifolium*”, and wrote, “Lateral sepals about the same length (as dorsal), connate for about half (corrected to a third of) their length from base, then lanceolate from the sinus and slightly recurved, the margins towards the tips incurved.... Appendages sessile, oblong, not as high as the rostellum with the ends rounded” (1928). Interestingly, in an earlier version of the *Ms.* he wrote “and as high as the rostellum” and in the second draft “not” was inserted later.

How many species are currently included in *Prasophyllum colensoi*? The answer has to come from meticulous notes on habitat and flowering times, drawings and photographs of structure, and pickled specimens you can hold in each hand and compare.

Colenso’s paper on *P. pauciflorum* and Matthews’ *Ms.* on *P. patentifolium* appear in the Historical Series in this issue. Jones’ drawing of *P. colensoi* is reproduced here.

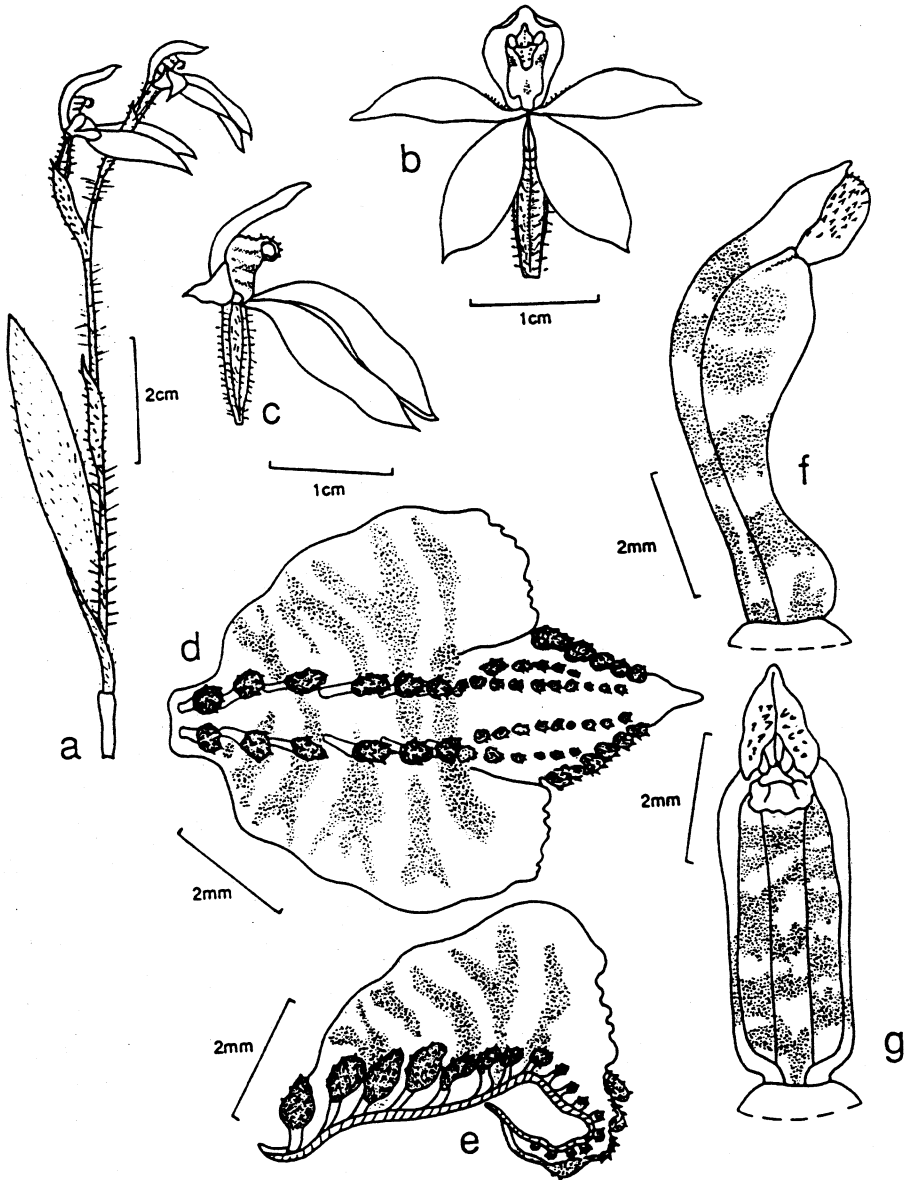


Fig. 1. *Caladenia lyallii* Hook.f. a - plant habit. b - flower from front. c - flower from side. d - labellum from above, flattened out. e - longitudinal section of labellum. f - column from side. g - column from front. All drawn from *Molloy* (CBG).



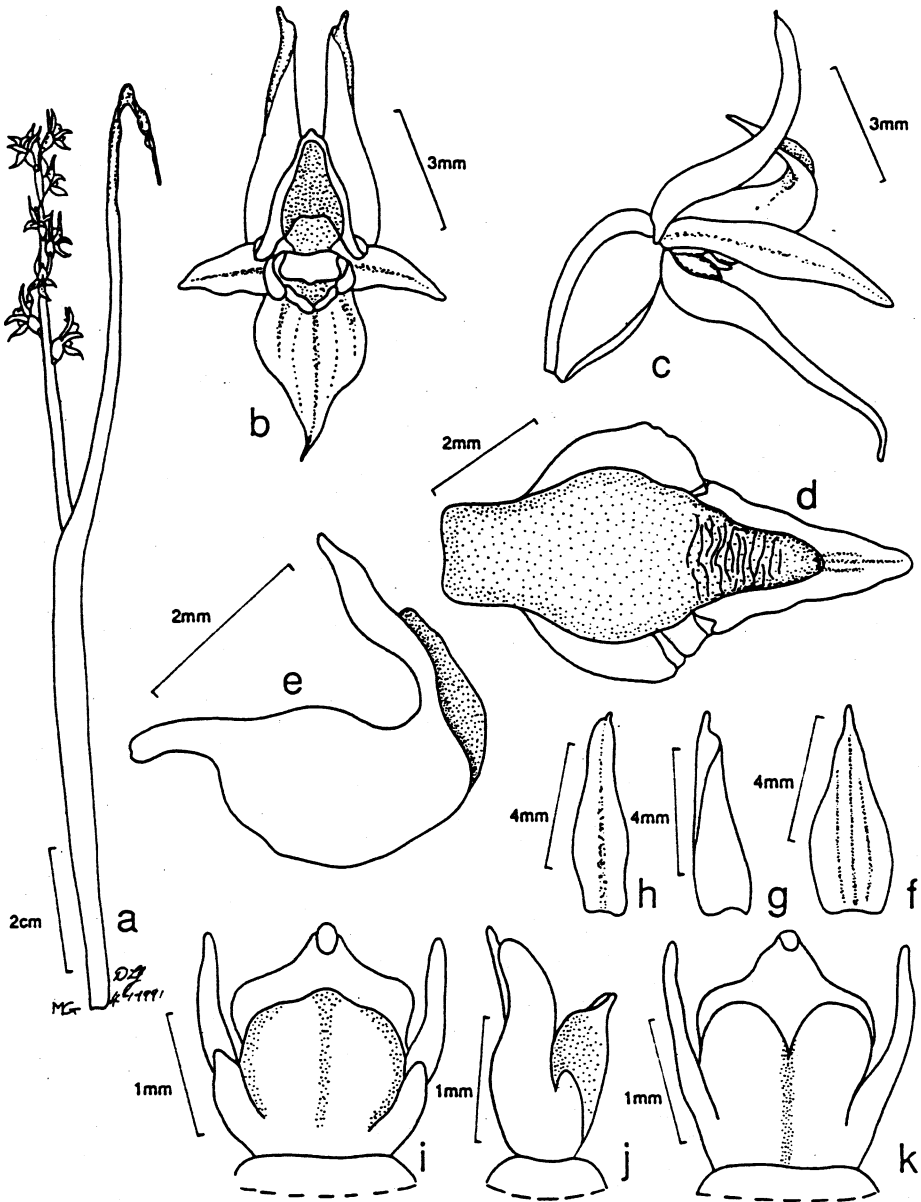
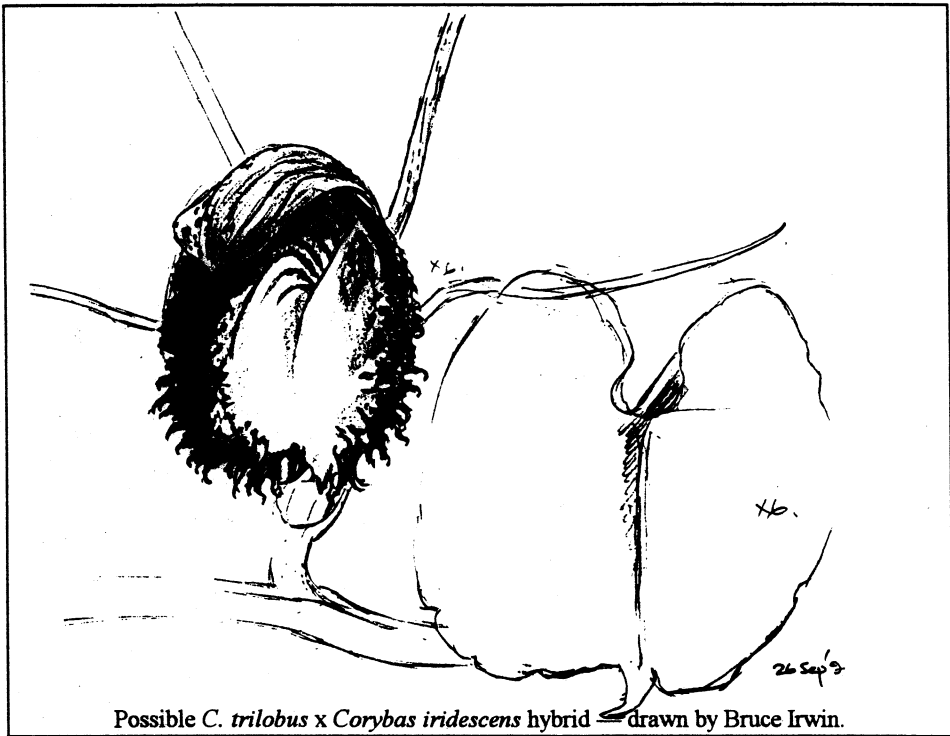


Fig. 2. *Prasophyllum colensoi* J.D.Hook. a - plant habit. b - flower from front. c - flower from side. d - labellum from above, flattened out. e - labellum from side. f - dorsal sepal flattened out. g - conjoined lateral sepals. h - petal. i - column from rear. j - column from side. k - column from front. All drawn from *Lynden s.n.* (CBG).



Bruce Irwin sent a sketch showing what he thought might be a *C. trilobus* x *C. iridescens* hybrid from

near Ohakune. He noted, "dorsal sepal greatly exceeds upper lobes of labellum". See below.



Possible *C. trilobus* x *Corybas iridescens* hybrid — drawn by Bruce Irwin.



The intrepid orchid explorer still exists! David Lang (a retired vet., the author of *Orchids of Britain*, and a delightful man) sent his annual Christmas card (which arrived in early October: he thinks the mails still come by sailing ship). He wrote of a recent trip to the Himalayas, "I got to northeast Sikkim for the whole of July with two botanists from the Royal Botanic Gardens in Edinburgh. Very tough trip — over 18,000 feet up with awful weather and political hassle, but superb plants. Fell off a cliff collecting specimens — Colles fracture of left wrist with luxated scaphoid, but fixed it up myself OK and did all I set out to do." — *Do you remember*

*Danny Kaye in the film "The secret life of Walter Mitty"? Mitty, the WWI flying ace, his body supported on crutches and swathed in bandages, is reporting to his Commanding Officer after a raid over enemy territory. The CO exclaims, "Well done. old chap! But here, I say! You seem to be wounded." Mitty replies, "Oh, it's nothing sir. Just a scratch. I set the bone myself" — Ed.*



I brought home a specimen of *Microtis arenaria* from the hills near Adelaide in South Australia, where Bob Bates says there may be two forms. I sent it to Bruce Irwin to draw, and his preliminary sketches are shown here.



**JUST OUT! NEW BOOK!**

# Field Guide to the New Zealand orchids

by Ian St George,  
Bruce Irwin  
and Dan Hatch



This field guide, published by the New Zealand Native Orchid Group, contains brief notes and black-and-white drawings of all New Zealand species, formally named or informally tagnamed, together with distribution maps resulting from the Group's Mapping Scheme.

◆  
Publication was supported by the NZ Lottery Grants Board.

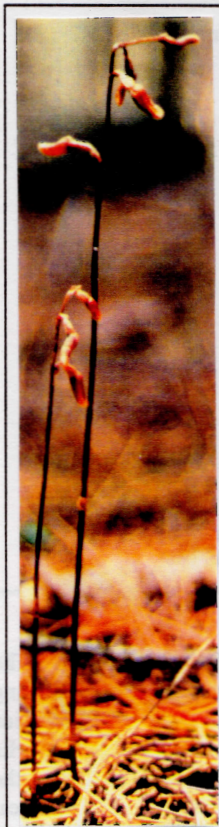
◆  
Send \$8 per copy to the editor (this low price is only for NZNOG members and includes postage): profits to NZNOG Journal for colour.

**ORDER MANY COPIES NOW FOR CHRISTMAS**

## Iwitahi native orchid weekend 10-12 January 1997

It is our ambition to hold a true WORK CAMP on this weekend. The emphasis will be on finding, collecting and planting. At the same time we hope that everybody will have the opportunity to get a good look at the *Gastrodias*. It is my hope that the *Caladenias* and *Thelymitras* will be obliging. Last year we arranged, locally, a special visit to see the *Aporostylis bifolia* in all their glory and had trouble finding the occasional flower to show off. If the weather does the right thing, they will be a picture waiting for you to see.

At Margaret McKenzie's suggestion we have added a day so people may arrive on the Thursday night to give us the opportunity to get two full days' work out of you!



*Gastrodia minor* at Iwitahi, January 1995

We are looking forward to some interesting show and tell sessions on the Friday and Saturday evenings. Eric Scanlen, so our spies report, is going to introduce us to a way of seeing orchids that we have never seen before.

With the extra day and the heat we have decided that we will feed everyone from the Friday morning breakfast. Therefore you will not need to provide for your meals apart from Thursday night. To keep the food bills down and make the catering tidier there will be no BBQ for this weekend.

This brings us to the nitty gritty - money! The fee for the weekend, accommodation and food is \$75. Those who are doing something different, we will work that out and let you know later. Regardless, we would like a \$25 deposit from everyone and we would like it before Christmas. With it give us — your name, address, phone number, when you expect to arrive and, are you planning to be up and doing on the Friday or Saturday evenings?

When you register we will let you have information on the accommodation, what to bring and how to get there if you need it and ask us for it.

**Trevor Nicholls, 33 Hinekura Ave, Taupo. Phone: 07-378 4813.  
Fax: 07-378 3222 Email nicholls@reap.org.nz**



*Gastrodia* aff. *sesamoides* at Iwitahi, January 1995



## Orchid artist

Collin Elwin  
Woolcock (1914-  
1989)

Collin Woolcock had a lifelong interest in drawing and painting, but it was only after retirement that he was able to devote himself to botanical illustration.

The Woolcocks' *Australian terrestrial orchids* appeared in 1984 [1]. The text was largely by Dorothy Woolcock, and the drawings by Collin. The critics acclaimed the work: "superb illustrations" and "excellent line drawings". He drew with colour pencils and inks entirely from field notes and sketches.

He was born in Adelaide, took his degree at the Adelaide University, and worked as an industrial chemist in Melbourne. There he joined the life class at the Victorian Art Society, under the renowned artist Albert Tucker.

In 1949 the family moved to Portland, Victoria, where, as President of the Council for the Encouragement of Music and the Arts, he worked toward the establishment of the Portland Art Centre, opened in 1974. He organised art competitions, and helped acquire a permanent collection for the city.

Portland is in the southwest corner of Victoria, a very floristic area, with a wide

range of native flora including orchids. The urge to return to drawing, and his widening interest in native plants, and ground orchids in particular, led to botanical drawing. His scientific background was suited to the exacting, intimate detailing of botanical reference work, and his drawings received critical acclaim from botanists.

On his retirement in 1975, botanical



*Gastrodia sesamoides* and *Orthoceras strictum*,  
watercolour by Collin Woolcock, 1981.



drawing became a major interest, and this led to a number of publications and exhibitions. Extensive field trips in eastern and western states provided the material for his study. He illustrated Australian plants in many publications, including the *Orchadian*, *Australian plants*, the *American Orchid Society Bulletin*, and a series of *Victorian plant checklists*. He provided sixty-four colour plates for the fourth edition of Black's *Flora of South Australia*, and these were acquired for the permanent gallery collection of the Adelaide Botanic Gardens.

A number of exhibitions have been held, and his work is now in many private art collections and public galleries.

In 1991, in honour of Dorothy and the late Collin Woolcock, the name *Caladenia woolcockiorum* was given to a plant endemic to the Flinders Ranges of South Australia.

#### Reference

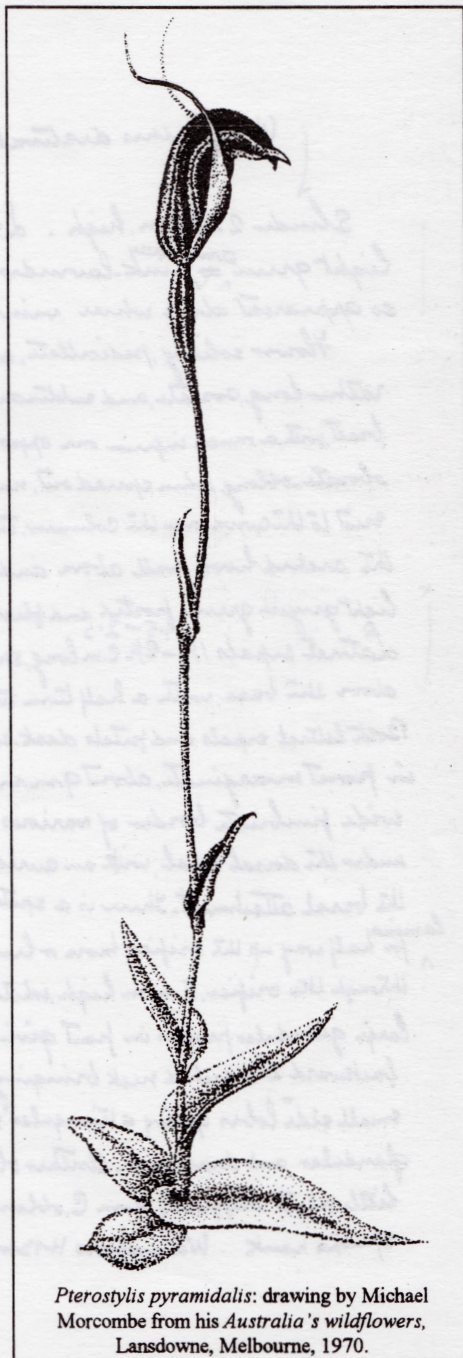
1. Woolcock, Collin and Dorothy. *Australian terrestrial orchids*. Melbourne, Nelson, 1984.

**Close relation: an orchid like ours** ⇒

## Historical reprints

In 1928, near the end of his life, Henry Blencoe Matthews (1861-1934) wrote longhand descriptions of a number of species from the north of Auckland. Among them was what he called *Corybas aestivalis*, a plant he thought distinct from *Corybas oblongus*. Another was *Prasophyllum patentifolium*, a plant he thought distinct from *P. colensoi*. These descriptions were never published, so, by the rules of botanical nomenclature, the names have no status.

See following pages ⇒ ⇒ ⇒ ⇒ ⇒ ⇒ ⇒ ⇒



*Pterostylis pyramidalis*: drawing by Michael Morcombe from his *Australia's wildflowers*, Lansdowne, Melbourne, 1970.

*Coryanthes australis*

Slender 2-4 C.m. high. Leaf sessile ovate, cordate or obicular, light green <sup>strongly</sup> ~~or pink~~ - lacinated beneath, silvery frosted below, not so apparent above where veins show clearly. Often with expand margin

Flower solitary, pedicellate, ~~and~~ dark-brown or maroon colour. Ovary rather long, costate, and subtrilobed with a moderately large ovate laminate bract with a much inferior one opposite. Dorsal sepal 9-13 m.m. long, <sup>by</sup> ~~ovate~~ obovate-oblong when spread out, narrower towards the base, wider at its attachment and to the curve over the column, then costate with drooping sides, concave, the arched hood well above and projected over the labellum. Lamina light greyish green, frosted and flecked, traversed with 5 dark-purple lines. Lateral sepals  $1\frac{1}{2}$ - $2\frac{1}{2}$  C.m. long, spreading, attenuate-filiform and hollow above the base, with a half turn towards the top. Petals similar and shorter. Both lateral sepals and petals dark-red with the margins serrulate. Labellum in front marginate, about 9 m.m. long, tubular <sup>and</sup> ~~and~~ nearly horizontal, the wide fimbriate border of various colours expanded, the sides meeting under the dorsal sepal, with an auricle opening downward on each side of the basal attachment. There is a spatulate gland in front of the column, the adjoining <sup>lamina</sup> for half way up the orifice more or less papillose. Column partly visible through the orifice, 5 m.m. high, white with a maroon top and base line with a large glandular process in front giving a stout basal apparatus, inclined backward. The arched neck bringing the mammillate disc perpendicular, the small side lobes giving a triangular shape. Rostellum prominent. Stigma glandular and depressed. Anther obtuse. Pollinia yellow. A handsome little plant differing from *C. oblonga* in many respects and worthy of specific rank. Waimarino H. Matthews H. Carr. Dec. Jan.

*Prasophyllum patentifolium* n. sp.

A rather slender species 15-30 cm 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, turned towards the top, on short pedicels subtended by <sup>small</sup> ovate-lanceolate bracts, decreasing in size up the spike. Dorsal sepals about  $5\frac{1}{2}$  mm long, ovate-lanceolate, concave, and erect or slightly incurved. Lateral sepals sepals about the same length, connate for about half their length from base, thin lanceolate from the sinus and slightly recurved, the margins towards the tips incurved. Petals few, narrow-oblong with <sup>acuminate</sup> ~~concordate~~ 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

In 1886 William Colenso described *Prasophyllum pauciflorum*, a plant he had found among the hills to the west of Napier in 1883. Cheeseman considered it was *P. colensoi* and the name has been "sunk" ever since. But who was right (see Notes in this issue)?

1. *P. pauciflorum*, sp. nov.

Slender, erect; stem 7 inches high. Leaf-sheath 8 inches longer than spike, narrow, tip thickened, acute, blackish. Spike short, few-flowered (7); flowers distant, pedicelled, pedicels very short; bracts small, truncate with sinuous margin, or notched. Perianth rather small, sub  $\frac{1}{2}$  inch, spreading, light yellowish-green; dorsal sepal broadly ovate, acute; lateral sepals united from middle downwards, acute slightly acuminate, entire not notched; petals linear, obtuse, 3-nerved, the lateral nerves only reaching half-way; lip small, broadly orbicular-ovate; lamina thin, 3-veined, the 2 outer veins branched, margin entire but slightly sinuate; claw very short; tip recurved with a small yellow globular lump adnate at the bend; column very short and thickish, with a broad membranous rounded hood at back above anther, margin of hood entire, and 4 minute erect linear lateral staminodia; ovary short, turgid.

*Hab.* Hills, country west of Napier; 1883: W.C.

*Obs.* I have obtained only one specimen of this plant; and, though early satisfied of its being very distinct from the three published New Zealand species, and also from all the Australian and Tasmanian ones described by Bentham in "Flora Australiensis," I wished to get more specimens before describing it, as there may be some variation in size and number of flowers; not, however, being successful, I now make it known.

William Colenso 1811-99, vaccinator, printer, naturalist, preacher, explorer, Maori activist — the true generalist — walked over much of the North Island, and in doing so collected 22 new orchids for Hooker to describe in his *Flora Novae-zelandiae*. His is the first name mentioned by Hooker in the dedication: "The Rev. William Colenso MA". Colenso did not have an MA, but the attribution betrays Hooker's regard for him. Hooker wrote, "he has been the principal contributor to our knowledge of its (the North Island's) botany." Colenso enthused about botany: "The finely marked ever-changing traceries, and glints and gleams of vertical sunlight peering down through the many myriad veins in that living bower... were far beyond language."





## Two historic places for New Zealand orchidology

### 1. The cavern behind the great falls

Allan Cunningham found *Acianthus (Corybas) rivularis* "growing among moss upon rocks in the bed of a briskly running rivulet, flowing through a deep shaded ravine near Wangaroa, November 1826". In 1838 he wrote to William Colenso about "the subaqueous *Acianthus* of the cavern of the great falls of Kerikeri".

Most of the *Corybas rivularis* group like it wet. The spray zone of waterfalls is always a good place to search for them. RH Matthews wrote to Cheeseman (19 Sept 1899) "another *Corysanthes*, found close to the Okahu waterfall", and (19 November 1900) "I found another large patch growing within reach of the spray of the 40ft waterfall".

Doug McCrae sent Dan Hatch specimens from the Rainbow Falls at Kerikeri several years ago, and Dan sent some to Brian Molloy. These plants formed the basis for Brian and Bruce Irwin's reinstatement of the name *Corybas rivularis* for what was being called *Corybas* "Kerikeri".

I visited the Rainbow Falls near Kerikeri on 15 October 1996. A notice on the track side of the stream forbade entry to the cave behind the falls via the dangerously slippery rocks on that side, so I crossed downstream and entered the "great cavern". Alas, the dominant vegetation in the spray zone is wandering jew, it has smothered all but some ferns and liverworts, and I could see no sign of *Corybas*.

### 2. Lake Tongongoe

Dan Hatch wrote in *Orchid extracts from the Matthews correspondence*, "The Matthews kept a punt on Lake Tongongoe, which enabled them to go directly across the lake to the west coast, rather than endure the 'awful tramp' round the shoreline; and which later enabled them to explore the swampy margins, which were otherwise inaccessible".

It was a big swampy lake, as the *Acheron's*

map of 1857 suggests (see next page).

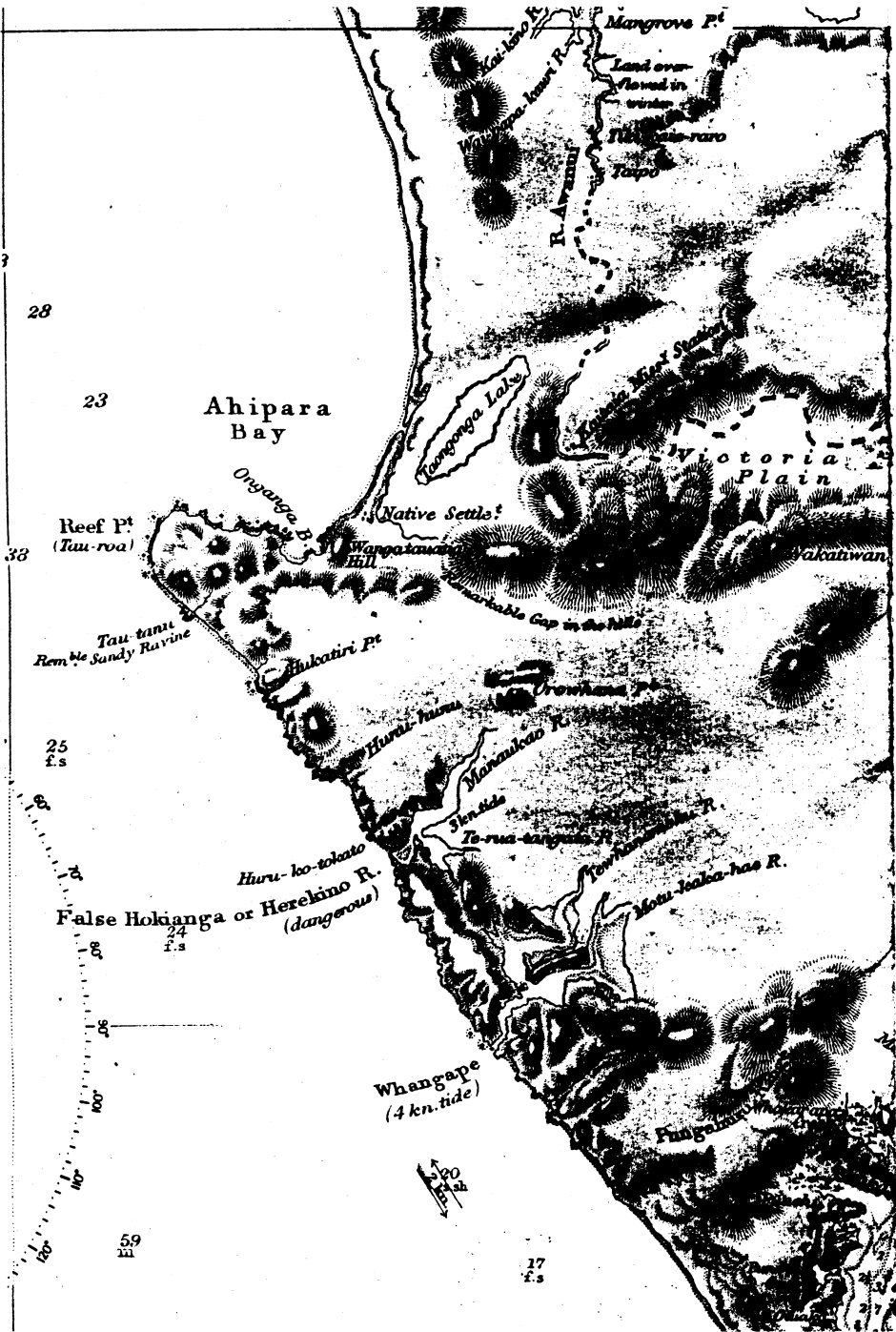
RH Matthews wrote to Cheeseman (12 December 1904), "I am posting a bottle containing a specimen of *Thelymitra* for identification. I picked it at the foot of the low ranges on the west side of Tongongoe Lake. This plant was the only one in flower". Cheeseman was later to describe it as *Thelymitra matthewsii*. On 11 October 1909 Matthews wrote "The boys returned across the lake from the west coast last night. They found a fair number of the new *Thelymitra* but too late for flowers"; and on 5 September 1910 "it is certainly a little beauty, and distinct... 3 flowers...", and in 1914, "I found 4 flowering specimens of *Thelymitra matthewsii* on 13 September".

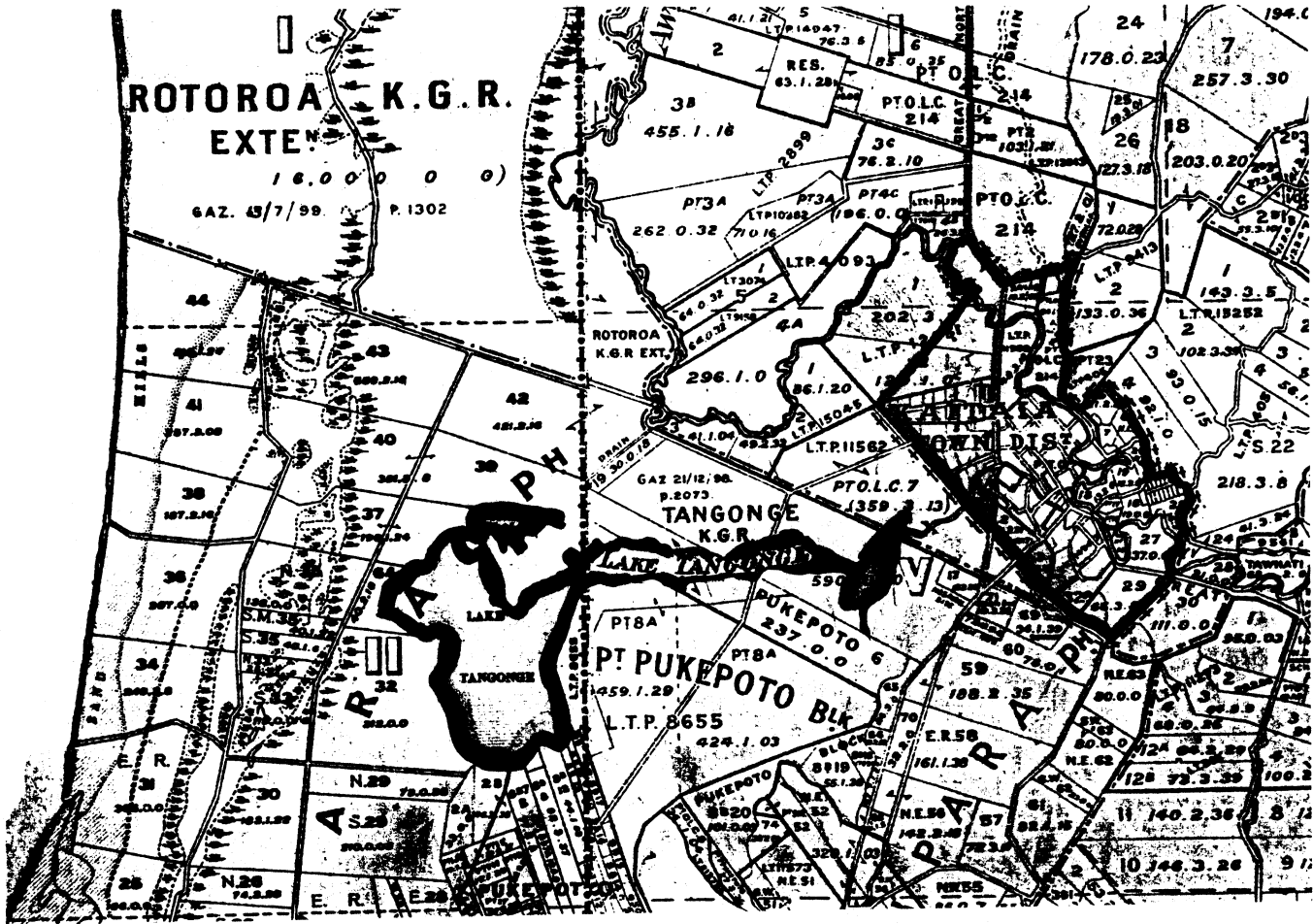
In 1911 Cheeseman described *Corysanthes carsei*, found by Harry Carse and HB Matthews in "peaty swamps between Lake Tongongoe and the coast".

By 1918 the land between Kaitaia and the coast had been surveyed into farm blocks, and the drainage of the lake had already reduced it (see map on page 21). On 25 September 1919 the *Northern Age* reported:

### THE ORCHID.

DURING Mr. H. Blen Matthews' recent visit to Kaitaia he was successful in collecting some sixty specimens of orchids of two very rare varieties. (*Thelymitra-Matthewsii*), discovered some years ago between Lake Tongongoe and the Coast by the late R. H. Matthews; and (*Corysanthes-Carsei*), discovered at the North end of the lake by Mr. H. Blen Matthews. This is the only place that these varieties of orchids have been found in New Zealand and probably the world; and as they will disappear with the reclamation of the swamp, Mr. Matthews is to be congratulated on the valuable specimens added to the botanical collections of New Zealand.





The big fertile plain between Kaitaia and the sandhills behind the sea has some remnant swamps, mostly filled with gorse and manuka; there is a small stretch of water, but it is hard to get to. I roamed several hectares of recently slashed scrub on marginal farmland there in late October and did not see a single orchid. But although *Corybas carsei* may be extinct there, the Age

seems to have been wrong about the sites for *Thelymitra matthewsii*: Matthews repeatedly mentioned the hills to the west of the lake — that is to say, the Ahipara highlands — surely a more typical habitat for this little orchid, which seems to prefer dry barren clay areas to the wetlands around a lake.

*I am grateful to the Far North Regional Museum in Kaitaia for permission to reproduce maps — Ed.*

## Australian notes

◆ *Monadenia bracteata* in West Australia, 1946. Rica Erickson illustrated the South African weed orchid in her *Orchids of the West*, and her drawing is reproduced here. Watch for this weed in NZ. ⇨ ⇨

◆ Bob Bates spoke on **endangered orchids** at the NOSSA June meeting. Fifty orchids are estimated to have become extinct in South Australia since settlement, and another 50 are threatened. The reasons include clearance of 90% of good orchid habitats; altered grazing patterns; weeds, introduced pests — rabbits, goats, aphids, snails, insects, virus, fungi; use of herbicides and fertilisers; changed fire regimens; the island effect in remaining bushland pockets; draining of swamps; change of climate; collectors, pickers, offroad vehicles. What, he asked, could NOSSA do as a group? His answers: education and public relations; lobbying on conservation issues; surveys and studies of orchids concerned; contacting managers and landholders; weeding and pest control; join a bush care group or the Adopt an Endangered Species Programme; hand pollination, re-introductions, seed sewing; sowing seed in flasks; long term seed storage project; cultivation.



◆ A **Native Orchid Growers Network** has been established in Victoria. Half of the Victorian species are considered rare or threatened. The Network thus involves growing enthusiasts, the Royal Botanic Gardens in Melbourne, and the Department of Natural Resources and Environment. It brings together expertise in cultivation with knowledge of endangered populations, and provides an opportunity for integrated conservation projects entailing off-site storage and propagation of threatened

species, and reintroduction to secure sites.

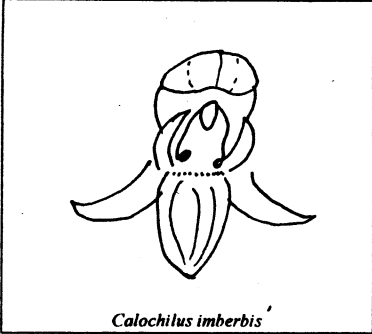
◆ South Australia has an **Adopt an endangered species** programme, in which individuals or groups adopt actual populations of endangered orchids in their area, and formulate recovery actions, weed, hand pollinate, monitor, fence and generally manage these populations. By 1995 over twenty groups were already involved — landowners, friends of parks, and NOSSA members.

◆ This paper was written by Bob Bates, and is reprinted from NOSSA Journal

**CALOCHILUS ROBERTSONII - FORMS & FREAKS IN SOUTH AUSTRALIA**

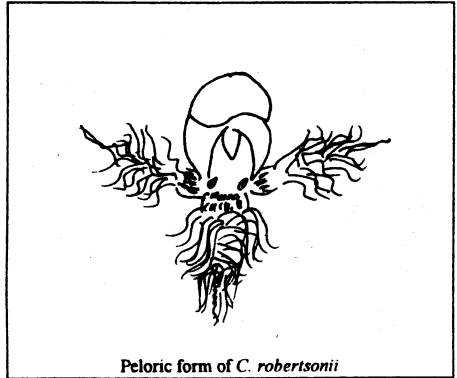
by R.BATES

*Calochilus robertsonii* the common bearded orchid in South Australia seems to be prone to appearing in odd guises. Actually it has been said that *Calochilus* are closely related to *Thelymitra* so maybe the beard itself is something of a disguise!



*Calochilus imberbis*

One of the most beautiful forms of *C. robertsonii* I've seen is the albino; the silvery beard of this albino has a ghostly sheen. Sometimes there is a faint tinge of pink. Such albinos appear about once in every 1000 plants.

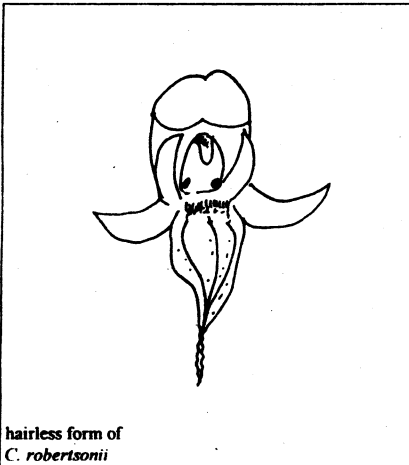


Peloric form of *C. robertsonii*

Perhaps the weirdest freak I've seen is the peloric form where all petals are bearded (see illustration). Sometimes whole colonies of this beauty occur and we have seen some on NOSSA excursions.

Occasionally the beard of *C. robertsonii* is lacking and the labellum is a simple petal without adornment. This form is sometimes treated as a distinct species *C. imberbis* (meaning naked), but as it turns up at random in populations of normal *C. robertsonii* it should not be treated at species level.

Such beardless 'beardies' have been found near Spring Mount (Southern Lofties), Parndana (Kangaroo Island) and near Penola in the South East.



hairless form of *C. robertsonii*

On a trip to Kyeema on October 25 this year, two plants were located of a form with a labellum of the normal shape ie with a long tail and not a rounded petal as in *C. imberbis*, but without any cilia. In colour the labellum was striated red and green. Curiously I have seen photos taken by Bob Markwick of an almost identical plant in Victoria! A collection was made and photo taken of this strange Kyeema form which once again was growing with normal *C. robertsonii* (see illustration).

Of course there may be more than one species of beard orchid in SA going by the name of *C. robertsonii* as there is a more colourful swamp form which differs in having a purple leaf (not glaucous as in the woodland form) and with striped petals. In any case the South Australian forms are quite different from the type or true form of *C. robertsonii* and may even be close to *C. gracillimus*. They are likely to be given a new name however.