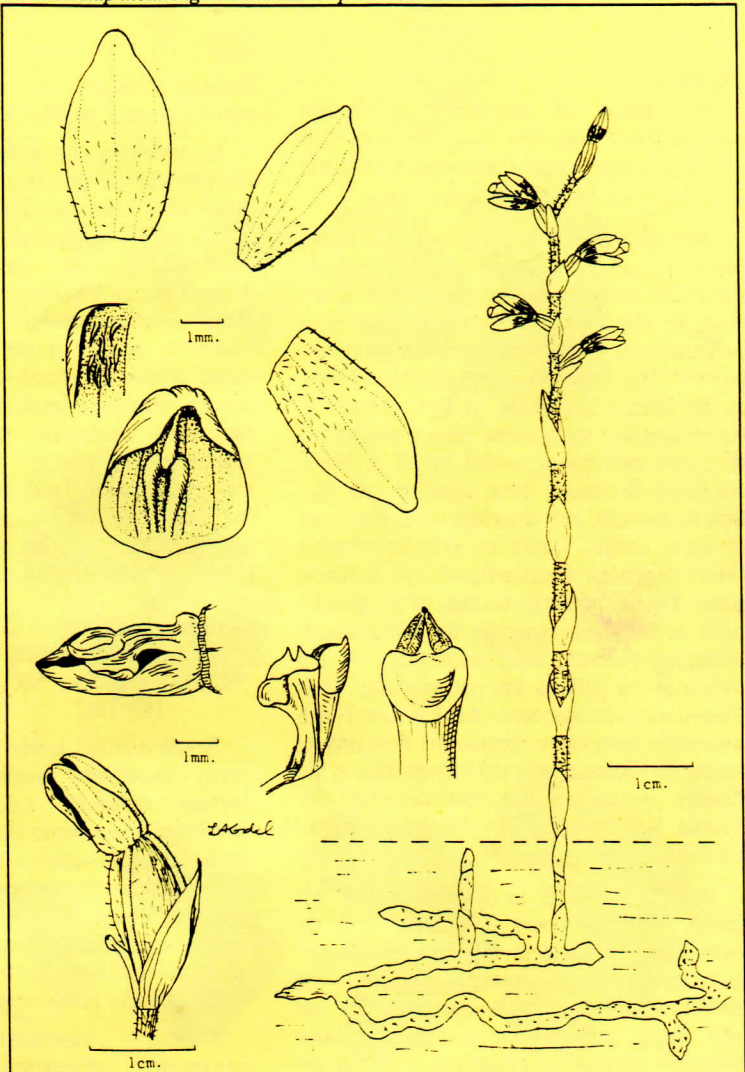




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***Danhatchia australis* (Hatch) Garay and Christenson**
General habit of the plant redrawn from Hatch in *Trans. Roy. Soc. NZ, Bot.* 2(14):186, 1963. Floral details drawn from a herbarium specimen collected at the type locality, Glorit, by ED Hatch s.n. on 5 January, 1964. See over for reprint of the description.

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Danhatchia, a new genus for *Yoania australis*

by Leslie A Garay, Virginia, and Eric A Christenson, Florida, USA

Reprinted from *The Orchadian* 1995; 11 (10): 469-471.

ABSTRACT

Examination of specimens of *Yoania australis* Hatch from New Zealand reveals it to represent a new genus, *Danhatchia* Garay and Christenson of the Subtribe *Goodyerinae*.

Saprophytic orchids are rather difficult to place in the ever changing phylogenetic and/or systematic arrangement of the orchid family since, to a great extent, they are survivors in cul-de-sacs of evolutionary experimentations. In early 1963, Edwin D. Hatch consulted Garay at the Orchid Herbarium of Oakes Ames in connection with the possible generic assignment of a new saprophytic orchid found in North Auckland Peninsula, New Zealand. At that time he provided only drawings of the plant and of floral details. Based on that information Garay suggested the Himalayan and Japanese genus *Yoania*, primarily because of the general habit of the plant, especially the subterranean branching rhizome, since information on the nature of the pollinia was not available. Thus *Yoania australis* was born. At that time Hatch was justly hesitant to include his new finding simply in *Yoania* due to the two pollinia in the flowers, instead of the four described for *Yoania*. So he proposed the Subgenus *Tairaia* for this disjunct species.

Many years later, in September 1978, Mr Hatch sent specimens to Garay and an examination of them provided important new information which drastically altered the generic placement of this unique plant. The soft and fragile pollinia with a small, globular viscidium attached to a bidentate rostellum are characters of the Subtribe *Goodyerinae* rather than those of the Tribe *Cymbidieae* where the genus *Yoania*, which is characterised as having bipartite, sessile, waxy pollinia situated on a large, quadrate viscidium, belongs. Our

findings confirm a similar observation previously made by Moore and Edgar in 1970.

In reviewing the genera of the Subtribe *Goodyerinae* we find that this unique plant is rather near to another saprophytic genus from Asia, namely *Chamaegastrodia* Makino and Maekawa, especially resembling in habit *C. poilanei* (Gagn.) Seidenf. and Rao. It differs from *Chamaegastrodia*, however, in the resupinate flowers, in the structure of the lip which is basally adnate to the sides of the column, creating a small, saccate cavity and in the short, bidentate rostellum which is triangular in outline. Because of these characters together with the saprophytic habit this singular plant represents a hitherto undescribed genus which we wish to name most fittingly after its original author.

***Danhatchia* Garay et Christenson, gen. nov.**

Syn.: *Yoania* Subgen. *Tairaia* Hatch in
Trans. Roy. Soc. N. Zeal. Bot. 2(14):
185, 1963.

Sepala similia, concava, extus glandulosa; petala angustiora; labellum basi columnae breviter adnatum, valde concavum seu naviculare, basin versus aliquantum saccatum et intus utrinque subulato-echinatum; columna erecta, paululo arcuata, sursum dilatata; stigma amplum, orbiculare, marginatum; rostellum in ambitu triangulum, apice bidentato-excisum; anthera dorsalis, erecta, bilocularis; pollinia 2, mollia, viscidio parco subgloboso affixa.

Plantae saprophyticae; rhizomate subterraneo, prorepenti, ramoso; caulibus erectis, glanduloso-pubescentibus, laxe plurivaginatibus, apicem versus laxe paucifloris; bracteis vaginis caulium simillimis; floribus semiapertis, resupinatis; ovario ovoideo, sessili, parce glanduloso.

Sepals similar, concave, glandulose externally; petals similar to sepals but somewhat narrower; lip basally adnate to the sides of column for a short distance, very concave or navicular, towards its base slightly saccate, inside the involute base prominently subulate-echinate; column erect, slightly arcuate, somewhat widening above; stigma large, orbicular, marginate; rostellum triangular in outline, bidentately excised; anther dorsal, erect, 2-locular; pollinia 2, very soft and fragile, united by a subglobose viscidium.

Plants saprophytic with subterranean, branching rhizome; stem erect, glandulose-pubescent, intermittently covered with several, inflated sheaths, towards the apex laxly few-flowered; bracts undifferentiated from sheaths; flowers resupinate with the lateral sepals somewhat spreading; ovary sessile, sparsely glandulose.

Species singula, adhuc nota, Nova Zelandia incola.

Typus generis: *Yonia australia* Hatch =

Danhatchia australis (Hatch) Garay et Christenson, comb. nov.

Basionym: *Yonia australis* Hatch in Trans. Roy. Soc. N. Zeal. Bot. 2(14):185, 1963.

TYPE: New Zealand: North Auckland Peninsula, Mt Auckland (Glorit). Dec. 24, 1962. R. and J. Beever s.n. (AK). Holotype not seen!

The plants, as was noted by St. George and McCrae, are autogamous. They are found always in close association with taraire [*Beilschmiedia tarairi* (A. Cunn.) Benth.], a tree in the avocado family, Lauraceae. *Danhatchia australis* is saprophytic/parasitic on a mycorrhizal fungus (*Lycoperdon perlatum*) of taraire (Campbell, 1970).

Excellent colour photographs of this unique plant and its habitat may be found in Johns and Molloy (1983: 62-63).

ETYMOLOGY

It is a privilege as well as a great satisfaction to dedicate this new genus to Mr Edwin Daniel Hatch, F.L.S., the most knowledgeable orchidologist in New Zealand, from whose pen, since 1945, over 40 scientific publications have elucidated our understanding of all the orchids known to be native as well as adventive to New Zealand.

ACKNOWLEDGEMENT

We wish to thank Mr Edwin D. Hatch for providing specimens of the rare *Yonia australis* as well as for colour slides of living plants and floral details taken by Mr J.N. Munro.

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contains orchid literature including rare texts and modern useful accounts, ads from growers and societies and a 2000+ picture library in full colour. It will soon be available in a Windows version (currently DOS). Hey, but listen folks, you can't order it over the Internet - only by fax (USA 407 585 0654) or snail mail.



You'll have to be quicker than this. On 12 November *Pterostylis banksii* (or something similar) were in full flower at Whenua Tapu north of Wellington. As I passed one flower an insect was struggling to crawl out over the upper edge of the lateral sepal. The yellow speck of colour was a pollinium stuck to it. For a second or two I froze, then as I made a grab for flower and all, it flew off. I must remember to make that net....



What's this then? The photograph overleaf is of a *Corybas* found at Pureora by Allan Ducker and Margaret Menzies. There were four flowers in a colony a metre across, surrounded by *Corybas trilobus*, and in a locality where *Corybas* "Whiskers" and *Corybas* "A" were also found. The leaf was typically *trilobus*; but the flower had a shovel-shaped dorsal sepal extending beyond the labellum, which was deeply grooved between two rounded longitudinal ridges to form a prominent anterior escutcheon; the sepals and petals rather tended to the *rivularis* complex.



A strange *Corybas* found among *Corybas trilobus* at Pureora

My bet is that it was a *C. trilobus* x *C. "A"* hybrid.

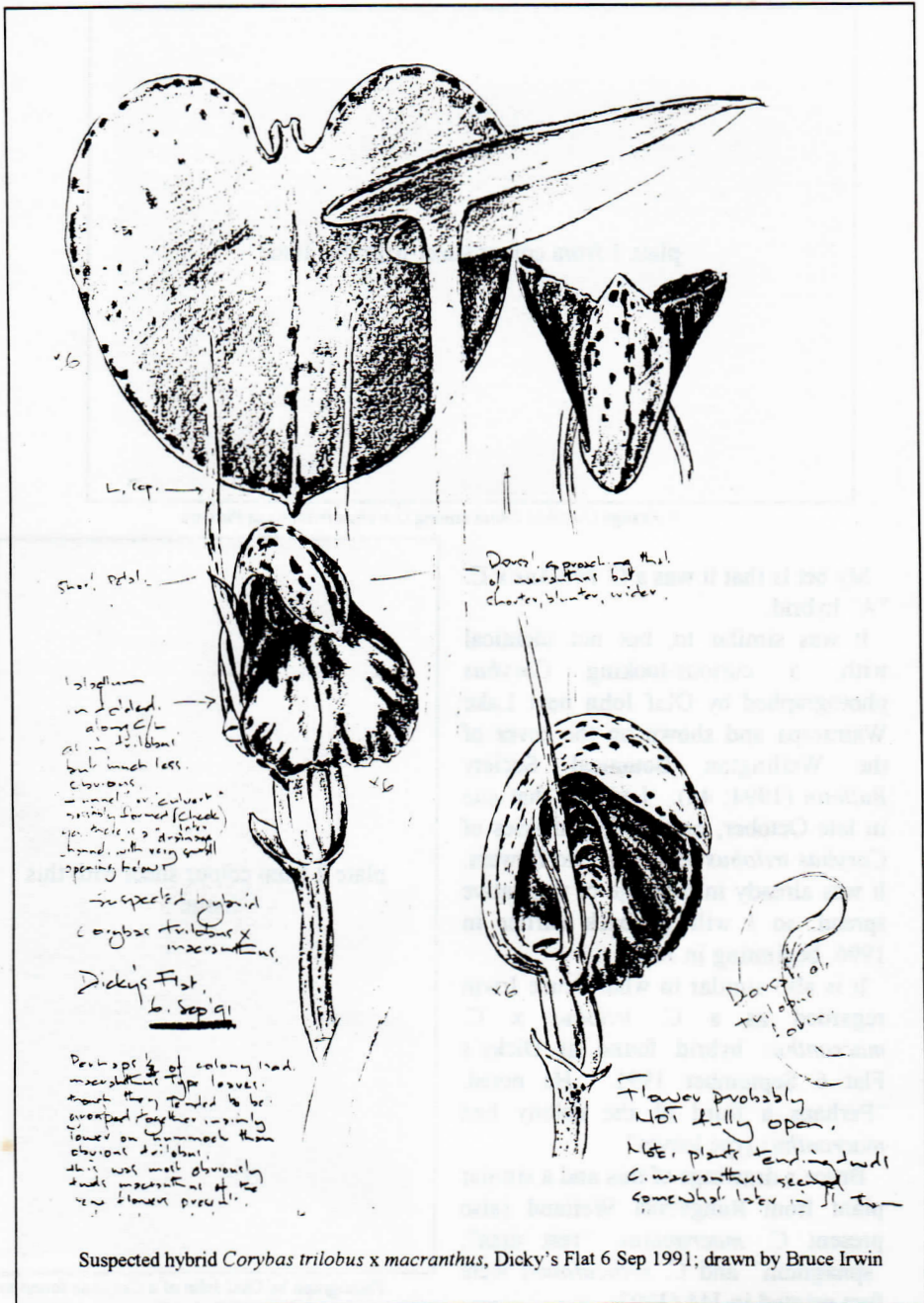
It was similar to, but not identical with, a curious-looking *Corybas* photographed by Olaf John near Lake Wairarapa and shown on the cover of the Wellington Botanical Society *Bulletin* (1994; 46). I visited that site in late October, only to find masses of *Corybas trilobus* leaves but no flowers. It was already in its stage of vegetative spread, so I will go back earlier in 1996, beginning in July.

It is also similar to what Bruce Irwin regarded as a *C. trilobus* x *C. macranthus* hybrid found at Dicky's Flat 6 September 1991. He noted, "Perhaps a third of the colony had *macranthus* type leaves".

Bruce's drawings of this and a similar plant from Rangataua Wetland (also present *C. macranthus*, "rest area", "sphagnum" and *C. orbiculatus*) were first printed in J44 (1992).

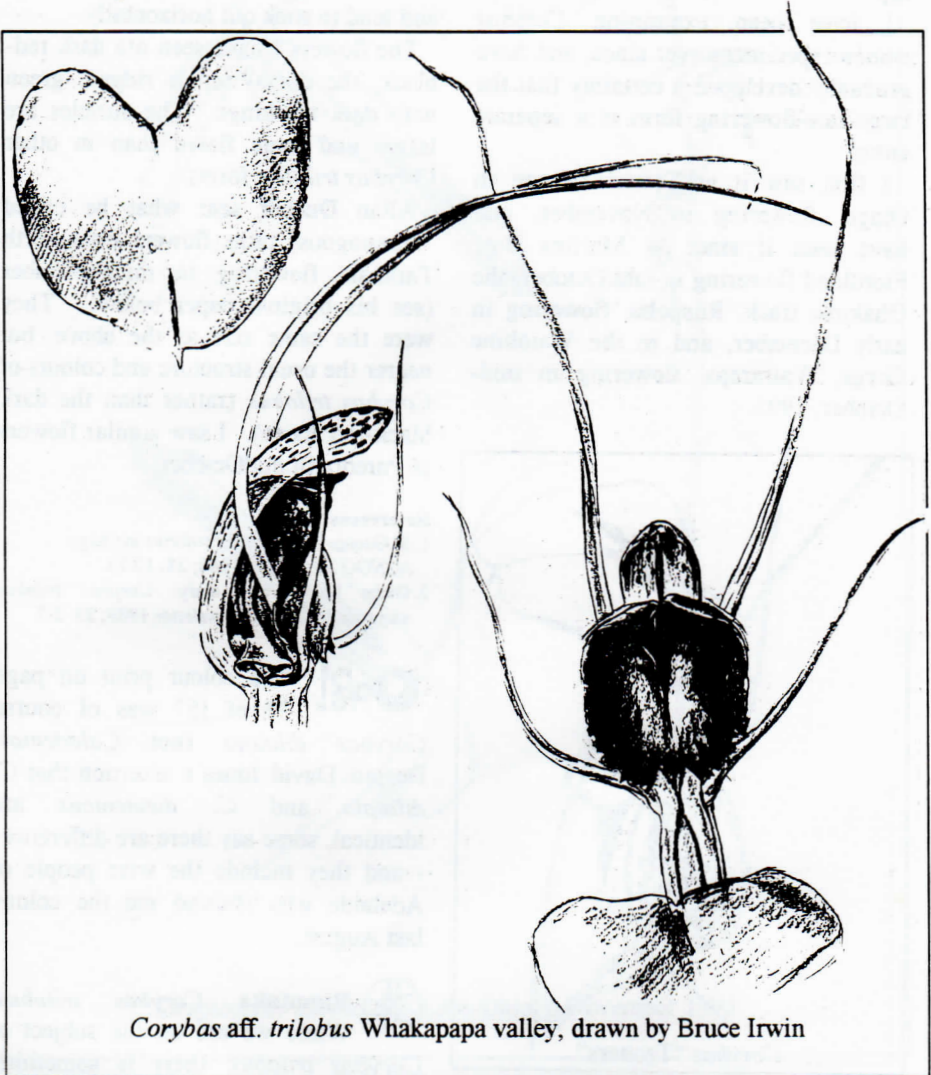


Photograph by Olaf John of a *Corybas* found to the west of Lake Wairarapa




Funnily enough I had finished writing the above when Bruce Irwin wrote about a field trip he and others had taken, based at Pokaka - about a kilometre above the Chateau in the Whakapapa valley they found "... the presumed *Corybas trilobus* hybrid I once reported from Rangataua (see J44, p12). Leaves

were more or less orbicular and flowers rose above petiolate leaves.... The colonies seemed to be extensive. Though flowers showed considerable variations in width and length of dorsal sepal and petals, suggesting a hybrid swarm, I think perhaps they warrant species rank."



Corybas aff. *trilobus* Whakapapa valley, drawn by Bruce Irwin

 **Corybas "Trotters":** eight years ago I wrote about two forms of *Corybas trilobus* growing in different parts of Otago [1], and shortly after, Max Gibbs pointed out the bewildering range of *C. trilobus* forms at Iwitihi, five of which he was able to distinguish [2].

I have been examining *Corybas trilobus* specimens ever since, and have gradually developed a certainty that the large late-flowering form is a separate entity.

I first saw it at Trotters Gorge in Otago, flowering in November, and have seen it since at Martins Bay, Fiordland flowering in late October, the Ohakune track, Ruapehu, flowering in early December, and in the Waiohine Gorge, Wairarapa, flowering in mid-October, 1995.



This is one of the "aff. *trilobus*" forms, herewith tagged *Corybas* "Trotters". It is a large plant, the leaves up to 5cm across, on a long petiole of up to 10cm, the flower usually under the leaf, its lateral sepals long and vertical, emerging above the level of the leaf "layer". The petals are much shorter, and tend to stick out horizontally.

The flowers I have seen are dark red-black, the dorsal sepals ridged, green with dark markings. The auricles are larger and more flared than in other *Corybas trilobus* forms.

Allan Ducker sent what he called "humungous" large flowers from north Taranaki flowering in midSeptember (see his original paper below). They were the same size as the above, but nearer the usual structure and colours of *Corybas trilobus* (rather than the dark black-red above). I saw similar flowers at Pureora in midOctober.

References

1. St George IM. *Corybas trilobus* in Otago. *NZNOG Newsletter* 1988; 28: 10-13.
2. Gibbs M. Iwitihi diary: *Corybas trilobus* variations. *NZNOG Newsletter* 1989; 29: 2-7

Oops!

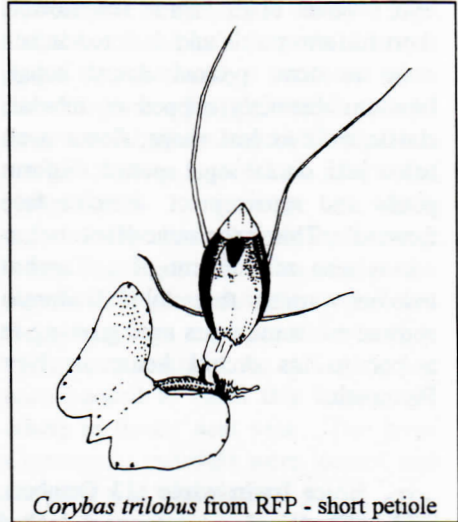
The colour print on page 34 of J57 was of course *Corybas dilatata* (not *Caladenia*). Despite David Jones's assertion that *C. dilatata* and *C. diemenicus* are identical, some say there are differences - and they include the wise people of Adelaide who showed me the colony last August.



Rimutaka *Corybas trilobus*. While we are on the subject of *Corybas trilobus*, there is something

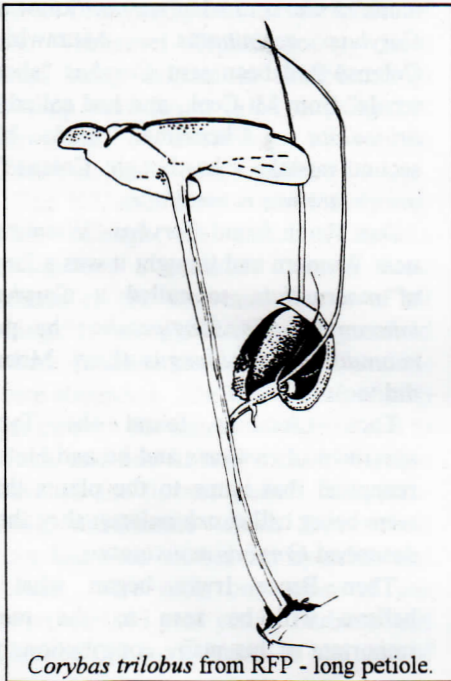
strange about our local Rimutaka Forest Park version too. It's a small dark flower, rather taller from the front, giving an oval (rather than the usual more rounded) appearance, its dorsal sepal ridged, ending in a fine point. It is dark red-black, above the leaf (which is shortly petiolate). But right beside it is a similar flower with a leaf that has a much longer petiole - are they the same?

We have probably overrated the importance of flower-above-the-leaf versus flower-below-the-leaf as a distinguishing feature; the critical point is the presence or absence of a leaf-stalk (petiole) - and the position of the flower in relation to the leaf is often simply related to its length. Both of these had petioles, the first short, the second long.

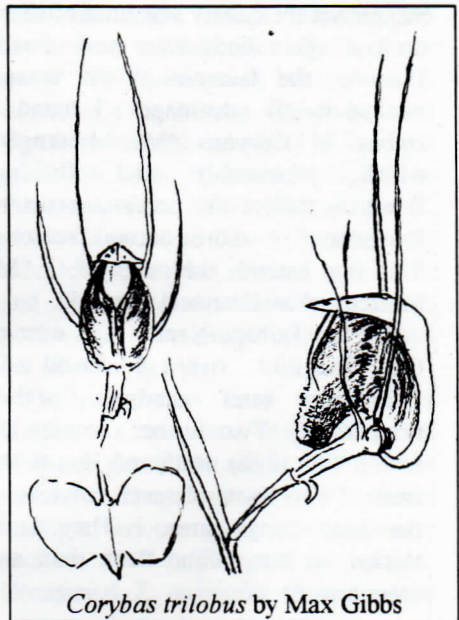


Corybas trilobus from RFP - short petiole

As it happens, Max Gibbs showed me a book of his drawings at Iwitahi, and in it are sketches of a remarkably similar plant.



Corybas trilobus from RFP - long petiole.



Corybas trilobus by Max Gibbs

Max's notes read, "Dark red flower, short filiform petals and dark red sepals - up to 4cm; peaked dorsal sepal; labellum distinctly cupped or tubular; classic *trilobus* leaf shape; flower well below leaf; dorsal sepal spotted; filiform petals and sepals erect; auricles face forward". This is the same plant.

It is also reminiscent of a *Corybas trilobus* variant that John Dodunski showed me some years ago, growing in a pot in his orchid house in New Plymouth.



Bruce Irwin wrote (23 October), "The *Corybas* 'rest area' looked very bad at the Oturere Rest Area last Thursday. Ash from Ruapehu had washed down almost covering many plants. They were in small bud and looked as though they might abort. At Rangataua the colony was unaffected so far but again buds were very small. However the lateness of the season worked to my advantage. I found a colony of *Corybas* 'Mt Messenger' which presumably had finished flowering before my previous visits to Rangataua in more normal seasons. This find extends the range of *C.* "Mt Messenger" well beyond Taranaki.

"On the Taihape-Napier road west of the Rangitiki river I found *C.* 'Waiouru', (and nearby) *Corybas orbiculatus*. Two further colonies lay within 1km to the north and 3km to the west. I now know of seven colonies in the Moawhango area. They seem thicker on the ground there than any other area."



"My little darling". When Allan Cunningham found what was to be called *Corybas rivularis* "in the cavern of the great falls at Kerikeri" he can have had no idea what confusion would surround this plant for the next 150 years. When he wrote to William Colenso in 1838 asking whether the latter had seen "My little darling" on his journeys, he and Colenso both thought there was one single *rivularis*. Colenso did find a similar plant (probably *Corybas* "Waiouru") near East Cape and thought it was *rivularis*. GM Thomson found another (probably *Corybas* "A") in Dunedin's Northeast Valley about 1900 (it's still there), and thought it was *rivularis*. And by 1906 Cheeseman had the identification thoroughly wrong and had given the name *rivularis* to what we now know as *Corybas acuminatus*. Meanwhile Colenso had been sent *Corybas* "short tepals" from Mt Cook, and had called it *orbiculata*. Cheeseman made his second mistake - he thought Colenso's *orbiculata* was *rotundifolia*.

Dan Hatch found *Corybas* "Waiouru" near Waiouru and thought it was a form of *macranthus*, so called it *Corybas macranthus* var. *longipetalus*; he put *rotundifolia* in *oblongus* (Lucy Moore did too).

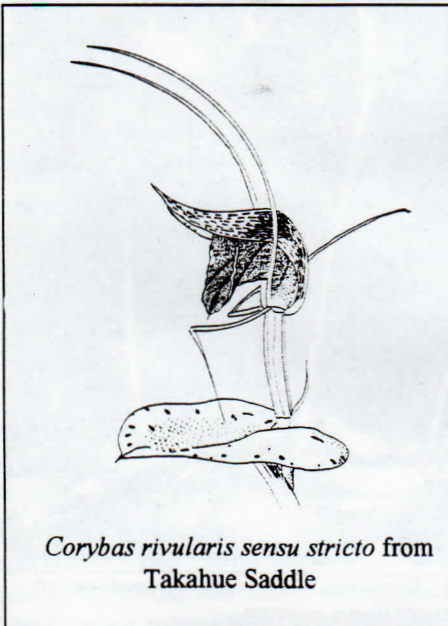
Then Clements found the Type specimen of *rivularis* and he and Hatch reapplied that name to the plants that were being called *orbiculatus*; they then described *Corybas acuminatus*.

Then Bruce Irwin began what I believe will be seen as the most important of his many contributions to

NZ orchidology - the differentiation of the various forms of *Corybas rivularis*.

He recognised that Hatch's *Corybas macranthus* var *longipetalus* fell within the *rivularis* group and tagged it "Waiouru". Others were tagged, and then Molloy found Colenso's *orbiculatus* and recognised that it was "short tepals" so reapplied the name. Descriptions of two more species from the *rivularis* complex ("A" and "Mt Messenger") are in print. More are sure to follow.

What then is "My little darling", the true *Corybas rivularis*? The likelihood is that it is the plant Bruce Irwin has tagged *Corybas* "Kerikeri" - a species found in several places in Northland. I first saw it at Takahue Saddle, in flower on 4 November and illustrated here.



KE Blackwell wrote, "After checking my slides I find some taken at Craigieburn January 1992 showing the *Thelymitra hatchii* with the extra 'column arm' as per drawing p9, December Journal..."

Whenua Tapu near Plimmerton, north of Wellington, has an interesting roadside bank, with *Corybas oblongus*, *C. cheesemani*, *Caladenia* sp., *Thelymitra longifolia* and several other *Thelymitra* species including "pseudopauciflora", *Microtis unifolia*, a curious slim bronzed *Pterostylis banksii* growing near *P. montana*; and, on 12 November, a forest of 60 *P. foliata* in flower and elongated in early fruit, spread over a couple of square metres - new arrivals since last year.

Cryptostylis subulata was a delight to see in the wild at Kaimaumu, Lake Ohia and Motutangi. It is in such numbers now that it is hard to accept that it had not been present earlier than the 1980s when Digby Graham discovered it. One plant was over a metre tall, with sixteen flowers at various stages of development.

For those disbelievers who want proof that *Pterostylis nutans* really was found flowering at Waihaha (as related in J57), here is the photograph. Matthews's 1921 print of the Northland plants, still present then (His son had found them early in August 1910 "on the brow of a tableland, overlooking Okahu valley... on the poorest of soil"), follows.

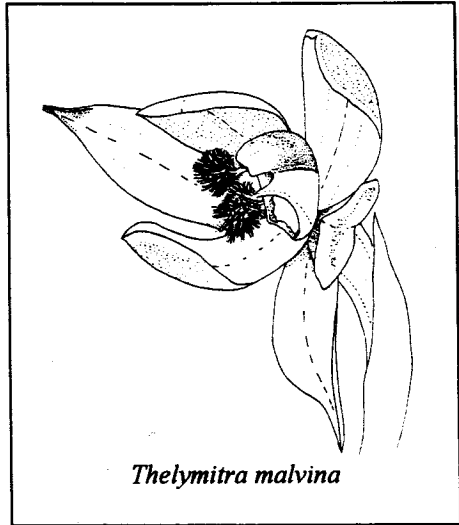
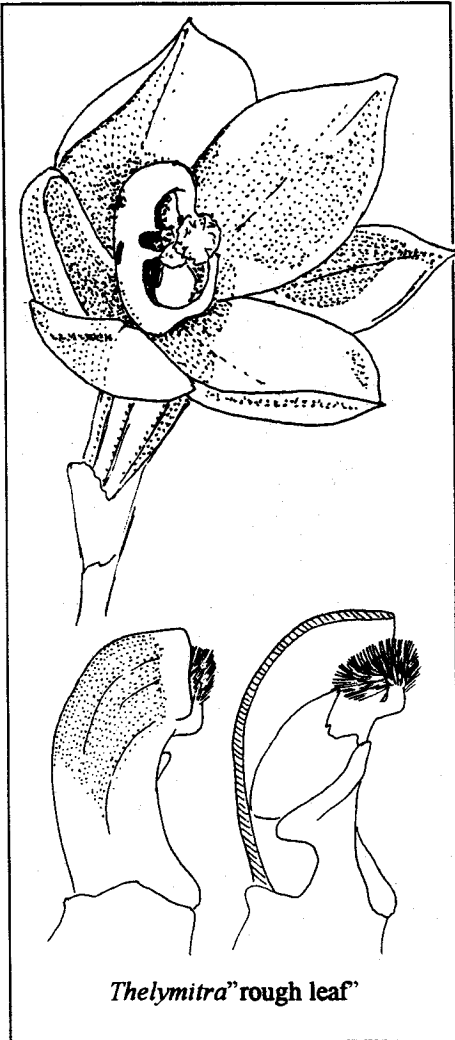


Pterostylis nutans at Waihaha, 1995



Pterostylis nutans near Kaitaia on 19 August 1921, photographed by HB Matthews, reproduced with permission from the Auckland Museum collection.

It was interesting to see *Thelymitra malvina* at Kaimaumau and *Thelymitra* "rough leaf" at Motutangi in early November. Each has a column midlobe that extends forward almost as a tube - indeed, one "rough leaf" column actually partly enclosed the white cilia.



I had a chance to revisit some old haunts on 13 November. The unstable clay at Shag Point had tumbled down covering some of the colonies I remembered - but *Corybas macranthus* and *Pterostylis foliata* were in full flower and very plentiful. *Caladenia* "aff. *carnea*" was in flower, and a few flowers of the local form of *Corybas* "A" persisted. It was too early to check on the *Thelymitras* - though *T.* "pseudopauciflora" was in mature bud. On the way south to Dunedin I was sad to see that the site of the largest colony of *Thelymitra formosa* I have ever seen - 50 plants at least - is now a quarry.

That scion of Wellington botany, AP Druce, wrote in 1950, "Very few orchids are found on the western hills (i.e. the hills to the west of the Hutt Valley and Wellington Harbour)... ." Not to be put off by this, immigrant from Otago Pat Enright, who now lives

beneath Mt Kaukau in the west Wellington suburb of Ngaio, has looked out his back door. This *Journal* has previously reported his discovery of *Microtis oligantha* on Kaukau. He (late November) reported another find - a grassland *Pterostylis* about 10-15cm high. It is *Pterostylis montana* "vera". By which I mean the small, bronze-coloured species with the "boxy" upright flower, flat lateral sepals barely overtopping the galea, labellum twisted to the (observer's) right. Specimens I examined on 22 November had empty anthers, the pollinia having fallen onto the prominent cordate stigma.



Pterostylis montana, Kaukau 22 Nov.



Small versions of *Pterostylis banksii* with short, upright, grassy leaves keep turning up. Are they simple habitat effects? This plant was sent from Kapiti Island by John Sawyer of DoC in Wellington, and I have seen similar plants at Whenua Tapu and in the Kaueranga valley near Thames.



Pterostylis banksii from Kapiti (natural size)



The curious exploded *Pterostylis* of Upper Morrison's Creek

In J41 I wrote about a colony of strangely disconnected *Pterostylis*, leaning perhaps to an affinity with *P. montana*, near Dunedin. I was thereabouts this December (5 years

later) and found them again - perhaps 60 plants in a 1 x 2.5 metre area. "Normal" *P. aff. montana* grow in profusion within a metre of the colony. The abnormal flowers are so open (because of the failure of fusion of the

dorsal sepal and the petals) that the normal insect pollination mechanism could not possibly work, yet the pollinia had been removed from several flowers, others had pollen grains scattered over the stigma, and some had set fruit.



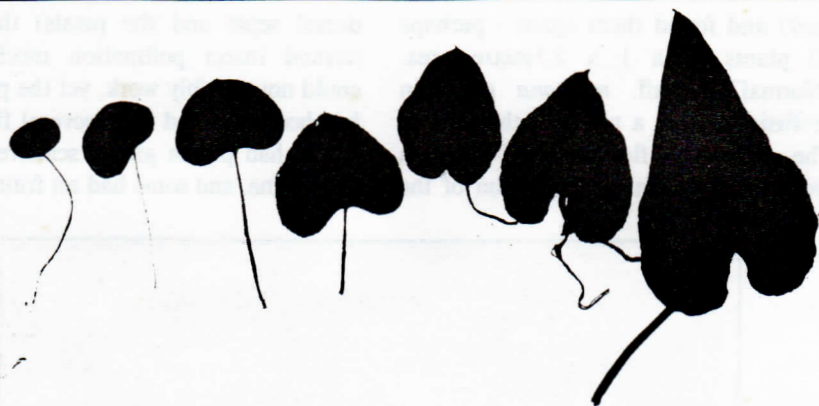
Mutant flowers of *Pterostylis aff. montana* from Upper Morrison's Creek



If you are looking for *Corybas rivularis* subspecies, waterfalls are the answer. I can quote good authority - no less than Allan Cunningham and Eric Scanlen (see above) - and I recall seeing them at Dog Creek Falls near Hanmer last summer. Armed with such wisdom, I looked at a couple of waterfalls at Waikaremoana in December. Sure enough there are large colonies wet with the spray beneath the upper falls (below the road) on the Aniwanuiwa river, and on the Korokoroowhaitiri stream, off the Wairauamoana arm of the lake. These sites must be visited next season.



Waikaremoana in December revealed *Corybas acuminatus* in fruit - a range of leaf sizes in one small colony is shown overleaf - only the largest two had flowered - interesting that they start oval, broad and smooth, and end up elongated, veined and wavy-margined. Also found: *Corybas trilobus* leaves, *C. rivularis* ssp., *Pterostylis cardiostigma* (fl), *P. patens* (fl), *P. banksii* (fl), *P. graminea* (fl), *P. aff. montana* (fl), *Caladenia* "green column" (fl), *C. aff. iridescens* (fr), *Adenochilus gracilis*, *Earina mucronata*, *E. autumnalis*, *Dendrobium cunninghamii*, *Microtis unifolia*.



Leaves (natural size) from a colony of *Corybas acuminatus* at Waikaremoana

Original papers

Microtis arenaria and *M. rara* in New Zealand

by Ian St George

Allan Ducker found an interesting *Microtis* at Motutangi. Similar to *Microtis unifolia*, but the labellum had distinct lateral and midlobes, the lateral lobes extending well down beyond the deflexed pointed midlobe. He found it again in the Far North a few days later.

I took photographs of the Motutangi plant. A few weeks later I read an account by Bob Bates of a field trip in South Australia where he described *M. arenaria* as having a bilobed labellum, and I wondered whether this was it. I wrote to Bob with the photographs, and he replied,

“Yes, this is a good match for *Microtis arenaria* (*M. biloba*) the commonest *Microtis* in southeastern

Australia. The *M. arenaria* interpretation is by Mark Clements who has examined the Type at Kew. *M. biloba* is a later name. It is particularly common on the coast and the inland or woodland form has a longer labellum. The distinguishing features are the upturned apiculus on the dorsal sepal (in *M. unifolia* it is a short apiculus often decurved) and the strongly bilobed labellum with a decurved apiculum, long humped ovaries, etc.”

Clements catalogued the species as *Microtis arenaria* Lindley, Gen. sp. orchid. pl. 306 (1840). Type: ‘Tasmania, Sandy hills, Circular Head’, Jan. 1837, R. Gunn 916 (holo K-L!, iso AD! K! W!). [1]. Synonyms are *M.*

Lindley, and *M. biloba* Nicholls.

Nicholls illustrated *M. biloba* [2, 3], and wrote, "A small (or comparatively small) species up to 25cm high, similar in habit to *M. unifolia*. Inflorescence rather short



Microtis arenaria from Motutangi

(4-5cm). Dorsal sepal erect, concave, with a prominent acuminate apex, about 3mm long. Lateral sepals free, revolute on each side of the labellum, oblong-lanceolate, obtuse, about 3½mm long. Petals erect, linear, obtuse, about 2½mm long. Labellum oblong-quadrate, 3½mm long; lamina green, margins irregular, pale yellow; apex prominently bilobed, the lobes angular; 2 large dark-green calli at the base and a minute one near the tip. Column short. Anther obtuse. Auricles small....

Characteristic features of this species are the yellowish tinge pervading the whole plant, and the curious bifid labellum from which it derives its name" [2].

Bob Bates's letter continued, "*M. unifolia sensu stricto* is either rare or doesn't occur in South Australia. The species attributed to *M. unifolia* in Australia are *M. media* (WA), *M. frutetorum* (woodland in southeastern states) and several undescribed taxa throughout.

"It is likely that some of

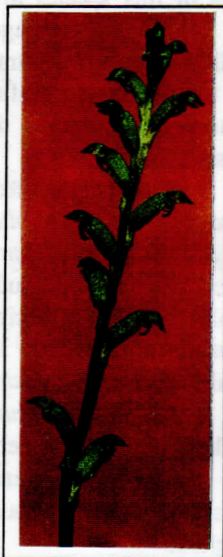
these undescribed *Microtis* also occur in NZ.... When I had the NZ material on loan 20 years ago I lumped most of it under *M. unifolia*. It is certainly time all the *Microtis* species were recognised. NZ has *M. unifolia*, *M. parviflora*, *M. aff. parviflora*, *M. arenaria*, *M. oligantha* and *M. rara* at least."

(David Jones says that *M. rara* "can be distinguished [from *M. unifolia*] by its slender habit with well-spaced, prominently stalked flowers which have a long labellum". *M. unifolia* "differs from *M. rara* by its crowded flowers on a plumper ovary and a shorter labellum" [4].

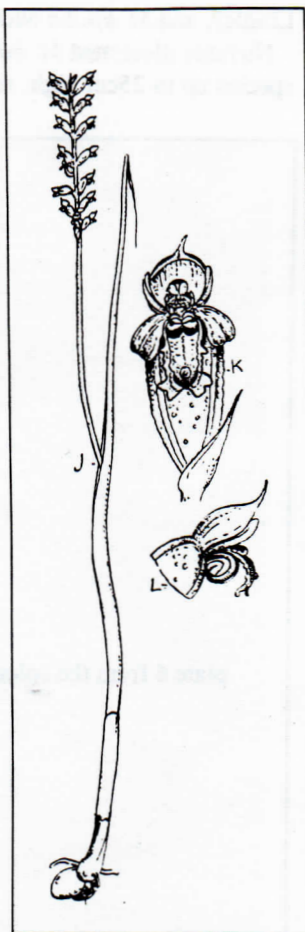
Aha! I hear you say - I always wondered about those tall plants with the well-spaced flowers.)

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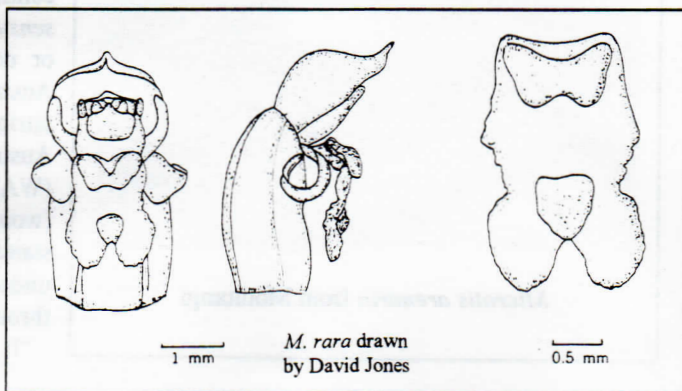
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4. Jones D.L. *Native orchids of Australia*. Frenchs Forest, Reed Books, 1988.



▲ *M. rara* (?) at Iwitihi 5 Jan 96



Detail from Nicholls [2].
J. *M. biloba* sp.nov. - Typical plant. K. - Flower from front.
L. - Flower from side. ➤



Return to Taranaki: a *Corybas* addict's diary

by Allan Ducker, Te Atatu

15 September. Thought it was time for a trip to Taranaki again to catch up with the thousands of *Corybas* which show off their beauty at this time of year.

Graham Marshall and I set off on Friday to head for south Taranaki - the coastal route via Raglan, Kawhia, Marakopa, Awakino and Mt Messenger - stopping at likely orchid spots.

Called in to the Bridal Veil Falls and found large colonies of *Corybas trilobus* with huge leaves and "humungous" flowers - never seen the likes before. Also found in bud *Corybas acuminatus*, *C. macranthus*, and a *Corybas rivularis* type - could be *C. "A"* or a type to confuse you.

Travelling on to Mt Messenger we found *Pterostylis* aff. *montana*, *Corybas* "Mt Messenger" and *C. "A"* which video'd very well in the headlights of a Mazda Capella at 6.45 p.m.

As we arrived in Stratford at 8.30 p.m., en route to Margaret and Duncan Menzies of Mangamingi, their daughter Karen invited us to a local gathering. The people and hospitality were excellent. Arrived at the Menzies's at 10.30 - what a day! Orchids, videos and booze!

Woke next day to the great hospitality of Duncan's hot cuppa tea and porridge at breakfast. Margaret had a houseful. Bob and Anne Talbot also stayed the weekend.

We discussed the day's agenda over breakfast, and it was decided that Anne and Duncan would look after the house

and farm duties, while Margaret, Graham and I filled the chillibin with food to make a picnic lunch. Bob decided to make his own.

We decided to head for Dawson Falls; en route through Eltham we picked up Clive Perry, who had seen *Corybas rivularis* flowering at this time last year.

My request was to play in the snow first, so we went on up to the snow above the Falls. Bob, being a kid at heart, started a snow fight - looking for orchids and dodging missiles we all had fun - but found not a sign of any orchids up at that level.

Stopping at the car park above the Falls we went in search of the *Corybas rivularis*, which we found only in bud. On returning to the cars it was lunch time....

... we set off to Omoana in search of orchids we knew would be in flower. Along the roadside banks were *Corybas "A"* and *C. orbiculatus* in their full beauty and in great numbers. With Margaret's guidance we also found several different forms of *C. trilobus*, and one colony of a *C. rivularis* type and early signs of *Pterostylis*.

Back to the house after dark, to the smell of a hot roast dinner.... With a long day behind us some of the party played cards and looked at some of my video footage of that day and previous days....

We awoke to the sounds of birds chirping and the rattle of teacups. We had breakfast and then we went in

search of more orchids. The previous year Margaret had found a *C. rivularis* growing in a paddock of grazing sheep, so after some video footage and a coffee we flew up the paddocks (some easier than others), and would you believe it, Margaret was right. Out in the open, hard to find in the grass, orchids

growing and flowering in great numbers, covering large areas, and in different valleys.

So it seems orchids grow where they like to grow - not where you think you know they grow. The moral is, look for orchids wherever you go.

Corybas, albino, epiphytic and humungous [1] - also missed chances
by Eric Scanlen, Papakura.

Albino

Back in 1977, Dianne Duder found a patch of healthy but palest green *Corybas oblongus* in a piece of bush on Brian's and her farm out of Clevedon. Dan Hatch opined that it would most likely be sterile if it were an albino and that it must have spread vegetatively. The column, who had been there with the Bot Soc, decided that this was as good as a challenge and promptly took up the cudgels - well, only 18 years later that is. On 8 October, 1995 he descended (in the rain again) with Allan B [2] Ducker and Andrew Dakin. Before long, Allan had nosed out three plants in early flower (the slope was quite steep). Dianne said that no one had been back to look in all those 18 years, the patch hadn't increased in size but there were fewer plants, now straggling around a barish trowel sized area? Regular maroon-labellumed specimens were flowering only a metre away and beyond. *Pterostylis rubricaulis*, and *Cyrtostylis oblonga* were in bloom all around, the latter's delicate flowers ruined by the same rain

which ensured that the albinos got minimal filming and videoing. But a promise was made to check them regularly for seed formation. This challenge has to be met. Who would like a look next year? A modest expedition is on the books.

Epiphytic

Te Toto gorge, 30 September on the seaward side of Mt Karioi, Pirongia State Forest Park; a brook burbles through the scoria and basalt of this extinct volcano. It holds a nice patch of *C. trilobus* and another of *C. macranthus*, in flower on a wet bank further up the stream. Alongside, about 20 of the latter were happily growing four metres up a *Cyathea medullaris*. At least one plant showed a flower peeping out from under the leaf, as both the column and Allan can prove with unretouched telephoto evidence.

Humungous No 1

200 m downstream of the Fairy Falls, Waitakere Ranges, 10 September. A luxuriant *Corybas acuminatus* on a 100

mm wiry red stem, stood out of a healthy group. Alongside were equally luxuriant *Acianthus sinclairii* in seed pod. On the stream bank, ranks of *C. rivularis* were in bud. Bruce Irwin, by 'phone says it is probably *C. "whiskers"*.



Acianthus sinclairii by Max Gibbs

Humungous *Corybas galore*.

Allan spotted several humungous *C. "Waiourus"* [3] at the impressive Bridal Veil Falls out of Raglan, on 16 September. He returned with the column two weeks later with better wet-weather gear, to face the spray laden wind from those 55 m high falls. These *C. "Waiouru"* had shallow transparent

"bibs" but were otherwise quite similar to *C. "A"*. They were in full bloom with their maroon flowers having transparent and wide-spread, long tepals. There were several nestled on a dripping, vertical sandstone face, draped with verdure. This is the one Dan called *C. macranthus* var. *longipetalus*. Has any one seen them farther north? The two clambered through the heightened spray blast on the debris toe closer to the falls to spy out the yorkshire fog growing from that undercut face of columnar basalt which is the reason for being of the falls. Allan wrung out his dripping beard and the column dried his glasses just as the former spotted several *C. "whiskers"* (whiskers looking at whiskers?) peeping through the grass. The green flowers are maroon at the back similar to *C. "Mt Messenger"* [3] but there is more red around the upper wings of the labellum and it has miniscule hairs covering the blade of the labellum. *C. "whiskers"* also have a droop snoot, the largest auricles of all the *Corybas*; (a sandfly could probably squeeze through), and it is perfumed, possibly only in the evening; for what pollinator? Directly behind the falls is a huge, dust dry cavern with nettles and space to put three buses side by side but no orchids. Incidentally, a few *C. acuminatus* with barely acuminate leaves, were flowering by the path to the falls. All around them were legions of *C. trilobus* in plenteous flowers from 16 to 30 September but all were finished, along with the *C. "Waiourus"*, by black Friday October. Malcolm Campbell came on this occasion but he wasn't

dressed to face the wet gale from the falls in spate. The *C. trilobus* were flowering on large and even humungous leaved plants. Remember the piece from Allan's Huia trip in the NZNOG Journal No. 52? "All the *C. trilobus* had minute leaves at this time of year [June-July] but a large proportion of them were in flower. A couple of months later you may find reefs of large leaved plants but flowers will be few and far between or absent at that time." This Waitakeres, Bream Tail and Hunuas trait has not been taught to the Bridal Veil *C. trilobus* nor the Iwitahi ones (which flower into December) nor the Ongarue ones.

Which brings us to the last but definitely not the least, field trip of the write-up. Bruce Irwin had organised a shearer's quarters full of NZnoggers, to search out *Corybas* species at Anne Fraser's place on black Friday. That night we were treated to Allan's specialty; video close-ups of some NZ orchids on a slowly rotating turntable. The impression of depth and the views from all angles made identification a cinch for potted plants but there are still some problems to be ironed out for the rare untouchables. The search for *Corybas* pollinators by John Dodunski and Allan on that Friday night was unfruitful but Saturday morning saw the party clustered around *C. "A"* along a dripping road bank. Later, they were found aplenty in the bush on some curious steep swampy seepages just above the river. Many plants fell into the humungous bracket with 50 mm long leaves. Also spotted in these

shaded bogs, were beds of *C. "whiskers"*, (without the droop snoot); one patch with several 12 mm long slender brown flies in attendance. These suspected pollinators were unfazed by close-up lenses and flash-guns but flew off instantly, draping their long legs, when a little spider darted in. Other photos show the same mini daddy-long-legs on *Earina mucronata*, *E. autumnalis* and *Bulbophyllum tuberculatum* flowers. None of the shots, sad to say, showed any hint of pollen. *C. trilobus* in flower were common and one patch inhabited one of those treacherous steep bogs. If you want to find the place, climb down off the Ongarue-Ngakonui Road to the bank of the Mangakahu Stream where it cascades eerily through tumbled, car sized boulders.

Catherine Beard and Aunty Anne took us to see their *C. oblongus* on a mossy, tea-tree clad knoll but they were only in bud as were several *Pterostylis cardiostigma*. A few *P. alobula* were flowering.

It has to be said that the women showed up the men in a daring fording of the river which was running high. Allan and Ian St George upheld male pride by leading off in thigh deep, murky water then Anne, Catherine, Margaret Menzies and Sue Bergerson followed to the side stream waterfall. The column, Bruce and Bob Talbot stood by to record any disasters on film and of course, to rush for help if needed. The fordiers found plenteous *C. "whiskers"* and *C. "A"* around the waterfall and thankfully returned

unscathed but they were glad to warm themselves in front of the fire as the rain set in on that dreary Saturday afternoon.

Missed chances

After a hot shower and a hearty meal, the party heard Bruce tell the story of his find of a suspected *Pterostylis nutans* at Waihaha in 1991. Bruce suggested we call in on the way home on Sunday. This was no short cut for Margaret, Bob, John or Ian. Bruce wasn't going and the column said he wasn't interested in searching in the rain, for an "extinct" NZ orchid that was common in Oz. So that seemed to be that. An excellent evening was spent at Fraser's poring over Anne's new Australian orchid books and her fine handiwork in gem cutting and wood turning. The steaming cups of coffee made for a convivial evening. Thank you Anne and Bruce for making an excellent trip possible. The rain

stormed down all night and morning. Allan, the column and Malcolm headed home as did Graham Marshall and Sue. They slipped past the Waihaha Reserve with barely a glance in the tedious rain. But treachery was afoot! Ian, Margaret, Bob and John who had lagged behind with excuses of a puncture and a missed turning etc., etc., headed up the track making their now famous find of the "extinct" *Pterostylis nutans*!

Congratulations are due, of course but considering his disinterest in this common Australian orchid, why does the column feel so totally miffed? and Allan, by 'phone, expressed his feelings vehemently in some incomprehensible French.

Glossary, references

1. Humungous: Hollywood for much bigger than expected.
2. B. short for barber.
3. *Corybas* "whiskers", "Waiouru", & "Mt Messenger": NZNOG Journal No 55, p 23.
4. Stop press in the NZNOG Journal No. 37.

Gastrodia aff. *sesamoides* in Auckland City

by Peter J. de Lange, Science & Research Division (Regional Station), Auckland Conservancy, Department of Conservation, Auckland.

Sometimes our less common indigenous plants can turn up in the most unexpected places. For example my discovery of what was once considered a seriously threatened sedge, *Fimbristylis squarrosa* growing in the cracks of the tiles in the garden bar of my old student post-lecture haunt at Hillcrest Tavern, Hamilton. Or the time when I

discovered *Hypolepis dicksonoides* pushing up through the asphalt down by the wharf off Lambton Quay, Wellington City (now alas an ugly shopping complex). Since I moved to Auckland in September 1993 I have found further oddities in unexpected places, and one of these I discuss in some detail here.

During December 1994 while heading down Symonds St toward the university, I discovered a few metres north of the City St / Symonds St intersection, a small flowering patch of the pot bellied orchid *Gastrodia* aff. *sesamoides*. The orchids were growing beneath pin oak (*Quercus palustris*) and river oak (*Casuarina cunninghamiana*), in a thick leaf mulch mainly of the latter. So novel was this find that it took fully ten metres of further amble for my brain to fully comprehend what I had just seen. It is not, after all, every day one finds a saprophytic orchid growing less than a metre from a crowded Auckland city pavement!

I began a thorough search of the area which revealed eight stems, five in flower, three in bud. Each stem bore 3-5 pinkish, pleasantly scented flowers. I returned the following day to photograph these, and noted with some asperity a novel threat to this population in the form of some particularly pungent stomach ejecta (vomit) artistically "placed" on one of the better specimens. Such is, I guess, the risk of an orchid opting for a life in the streets of inner Auckland!

I am aware that elsewhere in the country *Gastrodia* spp. sometimes occur in urban areas, and many of these occurrences are associated with exotic plantings - e.g the NZFRI campus, Rotorua (EK Cameron, *pers. comm.* 1994), or along the banks of the Avon in Christchurch (BPJ Molloy, *pers. comm.* 1994). What sets this Auckland site apart is the highly developed

environment (concrete, steel and asphalt abound), without any obvious seed source. Indeed the orchids' location in the main commercial sector of the city means that any pre-settlement indigenous vegetation is not exactly common nearby, let alone any post-settlement indigenous forest. So whence came the seed?

From examination of the herbarium holdings of *Gastrodia* at AK and AKU it would appear that this genus has never been common in the mainland Auckland region. Only two species of *Gastrodia* have been recorded from the region, *G.* aff. *sesamoides* and *G. minor*. In AK and AKU there are seven collections of the former from four locations spanning the last 64 years. The only ones that are probably still extant are North Woodhill (AKU 19090, AK 179251) as these were collected from protected areas of indigenous vegetation (EK Cameron, *pers. comm.* 1994). *Gastrodia minor*, on the other hand, is presently known from just one location, Spragg's Bush in the Waitakere Ranges (AK 151985, AKU 13618). While *Gastrodia* species are notoriously cryptic, there is a strong local botanical community specialised in searching for the elusive (e.g. *Yoania*), and they should have found further sites for *Gastrodia* around Auckland by now if the perceived scarcity was simply the result of having been overlooked.

So returning to the original question, "Whence came the seed?" Simply put - I don't know.

Thelymitra pauciflora, *T. intermedia* and *T. "pseudopauciflora"*
by Bruce Irwin and Ian St George

We believe *Thelymitra* "pseudopauciflora" is not just a form of *T. pauciflora* but is so consistent that it deserves separate species rank. We suspect it is actually *Thelymitra intermedia*.

1. *T. pauciflora*. Robert Brown described *Thelymitra pauciflora* in 1810; "Perianth - open. Column - cucullate, half the length of the sepals. Midlobe naked, emarginate, the lobules rotund and entire; the ends of the lateral lobes penicillate; Spike - few flowered" [3]. His plant thus had an open flower, a column with a double midlobe, each "lobule rotund and entire" - not just cleft, in other words. That is an appearance seen in many *T. pauciflora* - see the middle specimen in the colour photograph below.

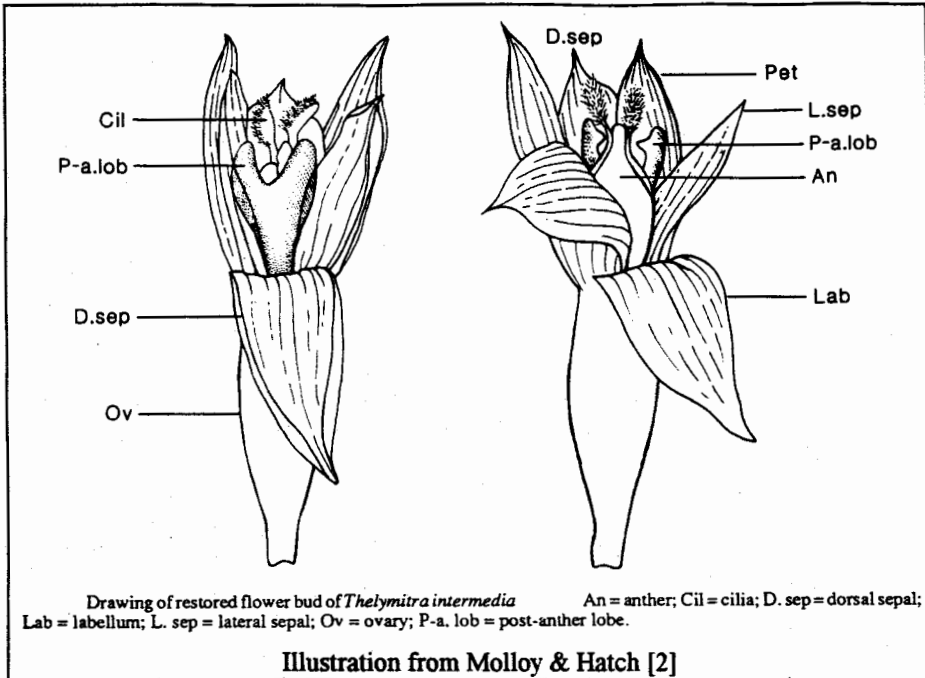
William Henry Nicholls noted wide variation in the columns of *T. pauciflora*, and drew several [4]. David Jones wrote "*T. pauciflora* exhibits a bewildering range of variation which would seem to be almost beyond classification. Variable features include flower size and colour, length of the column hood and degree of inflation and depth of notching, column markings and colours and the colour of the hair tufts" [5].

2. *T. intermedia*. In early November 1874 Sven Berggren (see Historical Reprints) found a sun orchid at the Bay of Islands: he described it as *Thelymitra intermedia* [1]. He wrote,

"In a shape not significantly different from the delicate forms of *T. longifolia* stand the here-described; with respect to column appearance between the mentioned species and *T. ixioides*. The column midlobe is shorter than the sidelobes, sharply tilted, not so clearly dome-shaped as with *T. longifolia*, neither jagged nor fringed at the edges, the sidelobes longer than the midlobe, in the tip having a long hair brush.

"The following two *Thelymitreae*, previously known only from Tasmania, were also found in New Zealand, namely *T. ixioides* Smith at the Bay of Islands, and *T. venosa* Br. at Omatangi in the neighbourhood of Lake Taupo. The firstmentioned species is characterised by spotty perianth leaves [petals and sepals] and a column midlobe which is in three parts and jagged, the latter by a multi-bent stem, fleshy leaves, large blue-violet flowers, broad blunted thin perianth leaves, a column which lacks sidelobes and has the midlobe split into two inward rolled lobes, straight at the tip and through papilla-less anthers."

In 1990 Brian Molloy reported his examination of the original specimen at Lund in Sweden; he identified it as *T. pauciflora* [2], and illustrated the restored flower bud as shown below.



When she revised the genus *Thelymitra* for Vol II of *Flora of New Zealand*, Dr Lucy Moore faced a dilemma. She had to assign correctly the published names of *Thelymitra* species to plants in the field. After much deliberation, the tangle was sorted out except for one orchid apparently without a name and one name without an orchid. Could the extra name be assigned to the extra orchid?

The extra name was *T. intermedia*. The orchid lacking a name (now *T. tholiformis* [2]) could perhaps be thought of as intermediate between *T. longifolia* and *T. ixioides*, just as clay, macaroni, or many other substances could be regarded as intermediate between chalk and cheese. Reluctantly Lucy linked the spare name with the

spare orchid. She was to be proved wrong [2] - *T. tholiformis* does not fit Berggren's description and does not match the Type.

3. *T. "pseudopauciflora"*. On the other hand, the plant now tagged *T. "pseudopauciflora"* fully agrees with Berggren's description, has until now been regarded as a form of *T. pauciflora* (and thus matches Berggren's Type), and has a column identical with that drawn and engraved by Berggren (the illustration is not so stylised as has been stated - see Historical reprint below)

Towards the end of her life, Lucy Moore became convinced that her interpretation of *T. intermedia* in *Flora II* was incorrect. She hoped that Doug McCrae or Bruce Irwin would

rediscover the correct plant. Unfortunately she died before Irwin became convinced that *T. "pseudopauciflora"* was quite distinct from *T. pauciflora* and probably identical with *T. intermedia*.

T. "pseudopauciflora" is readily distinguished from *T. longifolia* by the narrower, more channelled and more upright leaf. From *T. pauciflora* which it more closely resembles, *T. "pseudopauciflora"* differs

1. by flowering about three weeks earlier at comparable altitudes thus making direct comparison more difficult,
2. in having smaller and less highly coloured flowers - a soft pink, greyed by greenish veins in central North Island areas - rather more blue towards Northland,
3. in having a more slender column, lacking the "shoulders" usual on *T. pauciflora*, so that from ovary to apex the back of the column forms a single uninterrupted curve. The colour of the post-anther lobe never approaches the dark blackish-purple of *T.*

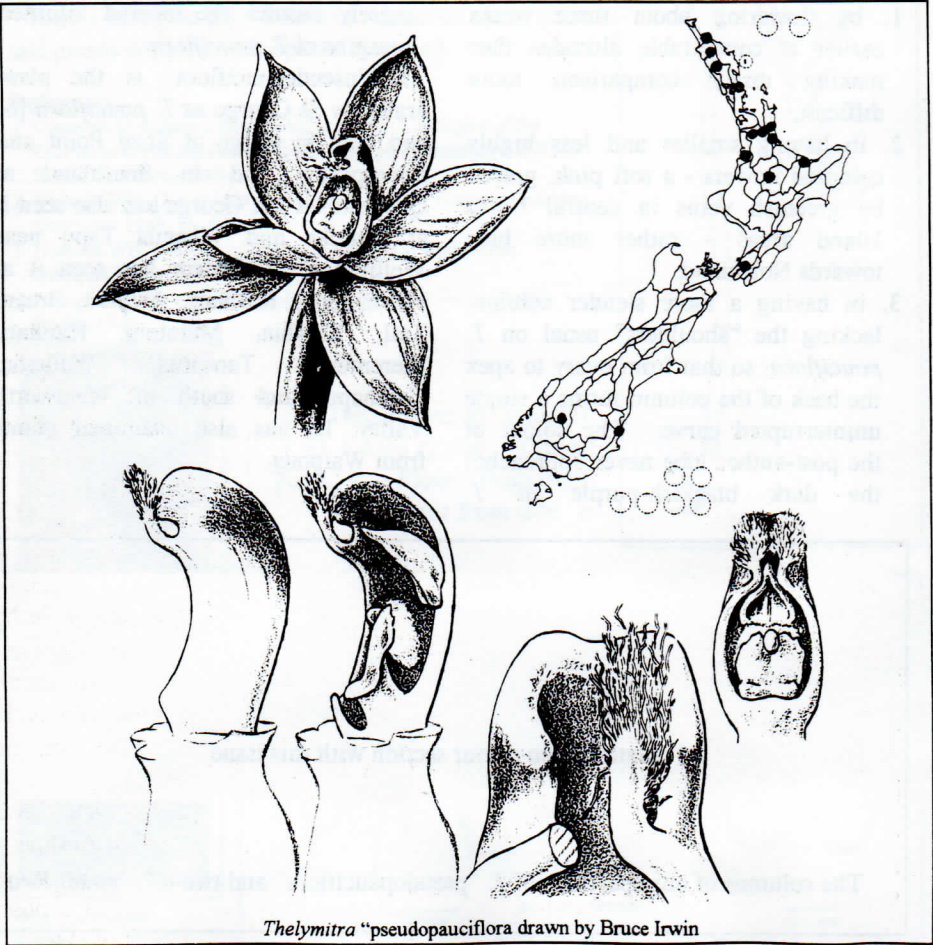
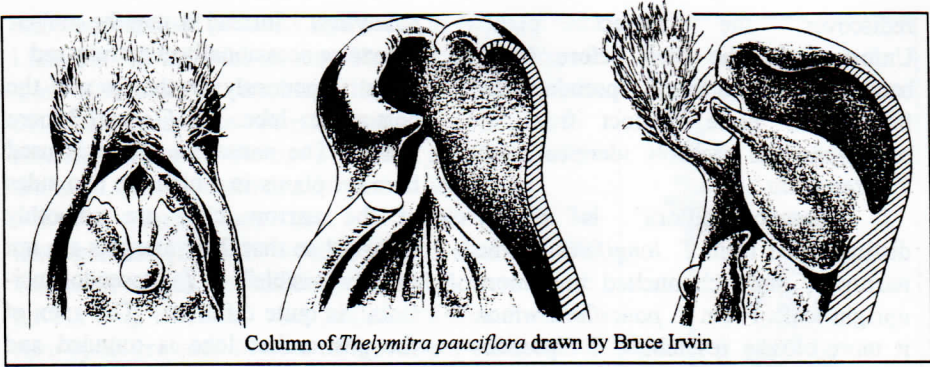
pauciflora. Instead it may be amber, bronze or occasionally even ruby red.

4. most importantly, in the apex of the post-anther lobe. In *Flora II* Moore states, "The name *pauciflora* is used here for plants in which the two sides of the narrow cleft are smoothly incurved so that their margins are not usually visible". *T. "pseudopauciflora"* is quite different. The apex of the post-anther lobe is rounded and blunt rather like *T. longifolia*. It merely mimics the tapered inturned margins of *T. pauciflora*.

T. "pseudopauciflora" is the plant drawn by St George as *T. pauciflora* [6] and seen in Otago at Shag Point and Silverpeaks, and in Southland at Queenstown. St George has also seen it at Kaitoke and Whenua Tapu near Wellington, and Irwin has seen it at Kaimaumau, Karikari, Ahipara, Bream Tail, Kawhia, Maratoto, Katikati, Meremere, Taneatua, Waihaha, Torehape, and south of Wentworth Valley; he has also examined plants from Waipoua.



The columns of one specimen of *T. "pseudopauciflora"* and two of *T. pauciflora*



Conclusion

The authors believe *T. "pseudopauciflora"* is identical with Berggren's *T. intermedia*. Because in the fresh state *T. "pseudopauciflora"* so closely mimics *T. pauciflora*, it is not surprising that Molloy considered the 115-year-old Type specimen of *T. intermedia* to be identical with *T. pauciflora*. Why Berggren considered his plant to have a column intermediate between *T. longifolia* and *T. ixioides* must always remain a mystery - neither *T. "pseudopauciflora"* nor *T. pauciflora* could be considered thus. He was certainly familiar with *T. ixioides* as his description reveals.

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Historical reprint

Sven Berggren (1837-1917) and *Thelymitra intermedia*

"A Maori girl on some of the far out cliffs, fishing in the whirling waves, in her fluttering clothes she sits like a statue on the cliffs that are washed over and over by the breakers; a picture worthy of the chisel. I saw her in Moetangi when she returned with a little basket on her back - the windblown hair concealing the wellformed face but not the brown eyes.... she had bewitching eyes..."[1].

The man with an eye for a pretty girl was Sven Berggren, a Swede who studied marine life and collected lichens and cryptogamic plants in New Zealand. He was Professor of Botany at Lund, and was introduced to Sir Julius von

Haast by a letter from Prof. S. Loven, a zoologist who had asked Haast for specimens from the south seas.

Berggren travelled extensively in New Zealand in 1874-75, became one of Haast's close friends, and an Honorary Member of the N.Z. Institute. He wrote in the *Transactions* on an alga and illustrated it [2]. The Alexander Turnbull Library has watercolours by Berggren, and a typescript of the translation of his diaries [1].

These reveal a philosophical, even poetic nature, an "unEnglish freshness" [3]. He had anxieties about social standing and status: equality as opposed to "bowing down". He described a

"foppish but pleasant looking Scotsman going to Church with his family. He carries four hymn-books, gilt-edged and shining in his gloved hand, which he holds in front of him in the same manner in which the barmaid carries her tray - in order to show himself off ... "

He walked and rode over a good deal of the country, learned some Maori, and described Maori life, ways and characters with individuality and sympathy -

"In Pakenu 16 year old schoolgirls in hats and flowers writing on the blackboard - on the beach schoolchildren, Maoris galloping on horses with cloaks and slouch hats."

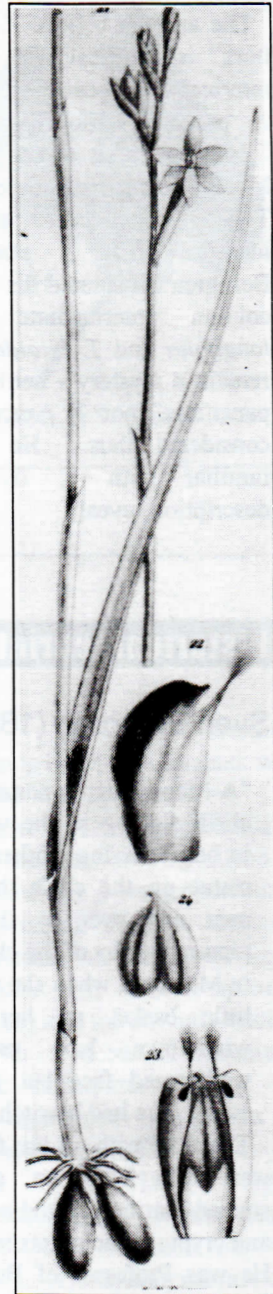
His description of a visit to the celebrated Pink and White terraces is lyrical -

"Grass tufts grow out of the lake everywhere. The two islands, the mountains in the background, white and redgold stripes. Blue steam over the Te Tarata river... dirt white and finely lined, horizontal ledges; blue flat bathing pools, the lower ones near the lake almost violet - leaning down like a beautifully shaped glacier.... I wandered up the beautiful steps, white as marble, silicone. Blue pools all differing in depth with narrow cracks between them from which water sometimes drops. The opening of the pools often only some inches wide. The ledges come in all heights from a couple of inches up to 6 or 8 ft. Half angular edges, arranged like steps. Like works of art. Beautiful in miniature and details. The first pool has an island covered by ferns. Around the pool are pebble stones and much steam."

He left for the Bay of Islands on 8 October 1874. Among the plants Berggren found there was a sun orchid which he called *Thelymitra intermedia*, and which he drew for lithography in a fashion that has been described as stylised, but appears quite accurate [4: see figure].

On 4 November his diary mentions new plant finds, but by the 7 November entry his exasperated translator noted, "The last 4 pages of the diary are more or less impossible. Very crowded text.... only fragments can be translated".

Thelymitra intermedia, part of a lithograph by Sven Berggren, 1878.
Key: 21. Plant - natural size 22. Column from the side. 23. Column from the front. 24. Anther." >



We are thus deprived of Berggren's description of the actual finding of *T. intermedia*, but a fragment from 9 November reminds us of the hazards of plant-collecting -

"Spread my plants out in the sun. At 1 o'clock we were to continue. Calm but a sudden whirlwind came and scattered my plants among the ferns and 2 pieces of paper blew away up into the air and rose to about 1000 feet towards Hokianga...."

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Orchids north of Auckland - a series of papers

1. Native orchid conservation trip by Neville Hewinson, Whangarei

On Saturday 14 October 1995, twelve of us from the Whangarei Orchid Society set off for a day trip to the Motutangi Swamp, situated about 22km north of Kaitaia with Ranganu Bay and Harbour on its eastern side and Ninety Mile Beach to the west.

The weather forecast was marginal for the weekend which was a bit worrying as none of us will ever see 21 again. After a while the sun came out to my relief but as we neared the Maungamuka Ranges the cloud came down and so did the rain and a few comments. I replied "Wait until we get over the Maungamuka's - we'll be right" which created further comments. Imagine my relief when the sky got brighter as we neared Kaitaia.

On to our destination, a farm on the southeast side of the swamp at a place called Kaimaumau where we arrived at about 10.30am and were met by Barbara, a dear old lady of 83 who knows all the botanical names of the plants in the area and who for many months now has been walking over certain areas of the farm (which is going to be planted in trees) which a spade and two buckets and transplanting orchids, ferns and anything else that are endangered.

So after a quick cup of tea and a bite to eat off we went armed with trowels, army shovels and supermarket bags. First we went to see the *Cryptostylis subulata* growing in a small area. They were first discovered in 1975-6 the seed

having blown over from Australia. In the last year or so they are becoming established over a wider area, another year or two will make a big difference.

Then it was on to where we were going to transplant the orchids but we had to watch where we trod because *Thelymitra* and *Microtis* were everywhere. Then it was down to business. We dug up *Thelymitra longiflora*, *T. malvina*, *T. carnea*, pinks and creams, *T. pulchella*, clumps of *Caladenia alata*, one only *Pterostylis tasmanica*. Then back to the house for lunch after which the planting began.

Then some decided they wanted to see the grass tree (*Dracophyllum*) which has a trunk about 20-25mm diameter and is 2 metres or so high and the leaves like blades of grass grow out of the trunk. There we also found *Caladenia* "green column". Unfortunately we were probably a week or so too late to see them in flower but they all had seed pods. Then we found *Calochilus herbaceus* much to Barbara's delight. In 50 years of living at Kaimaumau Barbara had never seen a *Calochilus* there before.

The NZ Native flycatcher Sundew was everywhere (they trap sandflies and mosquito with their flower heads). Kumeraho (*Pomaderris*) - the gumdiggers used the flowers as soap when washing. *Pimerlea prostrata* - native daphne - was everywhere and so was a terrible vine the Maori called taihoa (wait a minute). It grows along the ground but fortunately not south of

Ahipara.

The Motutangi Swamp is a very destitute area. It is mostly covered with stunted ti-tree (manuka) and gorse. It was originally covered in kauri forest and with the weight of the trees they sank probably 40-50,000 or more years ago and another forest grew on top of them. In the 1920s and 30s the gumdiggers dug pits 20 to 30 feet square and 12 feet deep looking for gum and their wives stood on the top pumping the water out with pumps made from tins. The watertable on the 14 October was only about 100 to 150mm below the surface on the higher ground.

We came home through Mangonui and down the east coast and arrived in Whangarei about 7pm. Very weary but very pleased with ourselves. I estimated that we transplanted about 1200 orchids. I don't know why as there will still be 100s of 100s or millions still there and they will keep growing amongst the new trees.

This was my third trip to Kaimaumau and I have a few natives growing in my tunnel house with my *Dendrobiums*, *Cattleyas* and *Odontoglossums* etc very successfully. The *Cryptostylis subulata* grows like a weed and is multiplying vegetatively. I haven't been successful yet in pollinating it. (I've only tried the once with a few flowers). The books tell you the *Cryptostylis* flowers from November to March. In my conditions they are always in flower and like plenty of water - they are a swamp plant.

2. The Far North CCCCCHOGM*

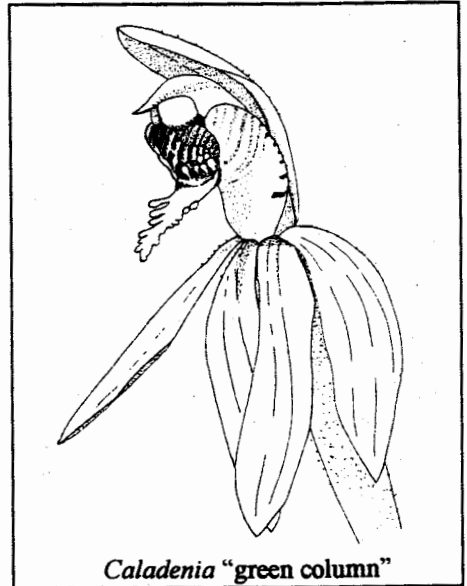
by Eric Scanlen

*Stands for *Calochilus*, *Cyrtostylis*, *Cryptostylis*, *Caladenia*, *Corybas* Hunting Orchid Group, Mainly.

Nine dedicated NZniggers met at Bream Tail Reserve at 10 am on 3 November 1995 to sample the late spring flowering species. Bruce Irwin, that dedicated conservationist and top orchid expert, picked delicately at the first flower bud and the whole head "came away in his hand". No matter, there were plenty of stems around but it was the only *Thelymitra aemula* we found there.

Several *T. "pseudopauciflora"* had to be prised open and solved the column's long term mystery of what this species was, intermediate between *T. longifolia* and *T. pauciflora*. The photographers had to bustle in ahead of Bruce to these shyly opening *Thelymitras*. His identification was near flawless but his technique left only a bare column with all the tepals in a heap on the ground. The back of the column was smoothly convex and coloured a medium greenish brown. The column (not the writer!) had only a shallow notch in front of the yellow anther cap. Several of the group bumped into some pot plants and later into a couple of dread-locked gentlemen most interested in the group's doings. Anne Fraser showed them her orchid sketches and they retired confused. What does one do? *Pterostylis graminea* was plentiful and several quite reddish specimens had the camera buffs grovelling in the leaf mould yet again. The *Corybas rotundifolius* now had 230

mm seed stalks, in the tradition of all the *Corybas*, in order to better distribute their seed. *Caladenia* "green column" and some bug-eaten *C. carnea* var. *bartlettii* were in bloom as were some multi-flowered and scented *Thelymitra* aff. *longifolia*. *Microtis parviflora* was sparse but in flower displaying its smooth labellum. Allan Ducker added *Corybas oblongus* to the list for his favourite reserve, bringing the total to 33 species.



Caladenia "green column"

On to Hewitts Reserve between Maungatapere and Kaikohe and the seven in bare legs started to suffer the scratches of tea tree, *Hakea* and gorse.

Thelymitra ixioides, *T. pulchella* and *Caladenia* "green column" were open and had the photographers busy. *Caladenia alata* and *T. "rough leaf"*, the group's main target here, were in seed pod causing some pain to add to the scratched legs.

Kaikohe for petrol, Kaitaia for a KFC dinner and so to Whatawhiwhi camping ground where the nine eased their frames thankfully into bed. The main aim of the field trip was to search out numerous species mapped by Doug McCrae in this area. Doug had sent maps of each species' distribution to Allan and now the party was poised to do the searching in this sand-dominated Far North of swamps and gumfields.

Saturday dawned with Allan soft-soaping the ladies with a cuppa in bed; did he realise what an invidious precedent he had established? Soon the party in three cars were toiling over a winding muddy "short-cut" across the Maungataniwha Range from schoolless Takahue to Broadwood for a rendezvous with Ian St George. Bruce and Ian were keen to examine *Corybas* "Takahue" on the abandoned Takahue-Broadwood Road where Bruce had located it some years back. The steady rain, lunch standing in the dripping bush (again) and fording a flooded branch of the Manganuiowae, did not deter the ten too much. Catherine Beard was busily noting all the plant species despite the rain and her phenomenal botanical knowledge was only now beginning to be appreciated. Yes, *C. "Takahue"* was found but the column is grief-stricken about the results of his photography in

the wet. *C. "Takahue"* turned out to be the basic *Corybas rivularis*, sometimes known as *C. "Kerikeri"*. Healthy *Pterostylis banksii* in full bloom were like grass in some places. One chewed *Caladenia* came in for undue attention because there wasn't much else.

The rain eased, the party headed back to Whatawhiwhi, this time via SH 1, and after a good dinner some set off again into the local tea-tree, gorse and *Hakea*. These hills at the end of the Karikari Peninsula have been burnt over numerous times in the last 100 years which might explain the paucity of orchids there but John Brigham came up with a *Thelymitra* "new to science" or so we fondly imagined. Its *T. pauciflora* type column was pale pink and had white cilia held high, obscuring a bright yellow horse-shoe shaped anther cap with a near black patch behind. But John's flower was finished and could not be properly identified.

Guy Fawkes Day had the party at Kaimaumau Road where petite fellow NZnogger, Barbara Hoggard was waiting with tea and coffee for everyone. In her intriguing garden was a *Thelymitra malvina* which, with a little prising, got much attention from the southerners who hadn't spotted it before. Its pink whiskers (cilia), long forward-thrusting blue column topped with yellow and reddish brown, were set off by paler blue tepals. Barbara led us into her area of swampy tea-tree, *Hakea* and *Acacia* where several *Cryptostylis subulata* were in flower. The cameras started clicking. The eleven pairs of eyes soon triumphed. Margaret

Menzies spotted a solitary *Calochilus herbaceus* with its dark red beard, in front of a bluish purple patch, otherwise green tepals with red stripes on the lateral petals. *Caladenia carnea* var. *bartlettii* with beautiful, tiny cerise flowers, dotted some drier ground. At each side of and at the root of the yellow, wavy edged mid lobe, most had two poorly formed calli but one otherwise identical specimen, had only one. The identification of and variation amongst *C. minor-carnea* was debated with the only conclusion being that these species could do with careful revision. A solitary pale bluish pink *Thelymitra "pseudopauciflora"* was open and got thoroughly worked over by the photographers.

Numerous *Thelymitras* transplanted by Al Blumhardt, and eleven others of the Whangarei Orchid Society from areas being drained in the Motutangi Swamp were found to be thriving, but flowering had finished on all but the *T. malvina* in Barbara's garden.

The NZNOG party slashed their way west through the taihoa (*Cassytha paniculata*, a parasitic twining liane related to the tawa and taraire of all things?) into a swampy old gumfield where Barbara assured us that orchids once abounded. She hadn't been able to get through the taihoa in recent years to check and now it was a case of where have all the flowers gone? The man-made disturbance which the orchids love had been blotted out by scrub and taihoa. We took our leave of our sweetheart, 83 year young Barbara and checked out some tracks at the end of

Kaimaumau Road close to the sand hills and the sea. John's "new to science" orchid was disclosed; it was none other than *Thelymitra "darkie"* which showed up in several places, mostly finished but one gave the ten a good look, after some concentrated prising which unfortunately broke some tepals even before Bruce got at it. The sepals were mauve with greenish/indigo veins and the petals were a purplish/blue with a darker centre stripe. An earlier trip has been booked to catch this beauty and others in flower next year. Two more *Cryptostylis subulata* were located and the party was jubilant.

Monday morning broke fine with more cuppas in bed: he's stuck with it now! Ten enthusiasts were soon bog-slogging on the edge of Lake Ohia. Catherine Beard and Aunty Anne found bare feet easier despite the 30,000 year old kauri snags popping up everywhere. Where has all the water gone? This lake too is being drained. In amongst the sedges, *C. subulata* was abundant making a mockery of Sunday's jubilation. Has it really multiplied to this extent since 1975? Pink, striped *T. pulchella* was in flower here among more common blue, striped specimens and *T. malvina* was common in rotten pockets in those ancient kauri stumps but all were in fruit.

The party, now sated with "Texas longhorn" *C. subulata*, headed off to the Ahipara gumfields south of 90 Mile Beach. Bruce reminisced on the multiple varieties and their abundance; back in 1987. Things had changed. Occasional *T. pulchella* showed above

the scrubby tea-tree, pale pink *T. aff. longifolia* showed on a road bank and *Caladenia carnea* var. *bartlettii* was spotted and videoed. Were there perhaps some *Calochilus herbaceus* in bud by the track? Anything else was rare, in bud or finished. Even common old *Thelymitra longifolia* showed itself only once and had to be prised open. It was a clashing change to stumble upon more pot plants, 100 or so amongst the dense rushes at the gum washing area. The weight of numbers is a comfort on these occasions.

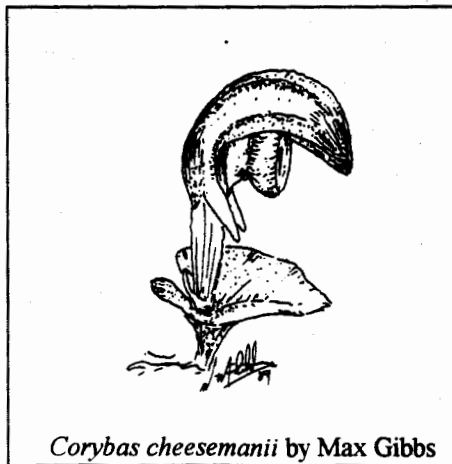
On Tuesday, the column set off home with Sue Bergerson and Bruce to leave the others to it. Ian spent the day with the others at Allan Summers' Motutangi farm which was "Not great for orchids where we looked" before flying out. Allan's video however showed two specimens of the blue *T. "rough leaf"* with broad rhomboid tepals, all overlapping when the perianth was wide open, and a pale mauve, squat column having a yellow, helmet-like anther cap. Catherine departed whilst the remaining five set up camp at the northern extremity of the seal; Waitiki Landing.

Allan rang the column on Friday 10th, and related all their finds in that irritating way he has. In flower, he said, were numerous *Pterostylis tasmanica*, a *Thelymitra aff. longifolia* with twenty flowers open and *Calochilus herbaceus* (two forms, one being all green; albino?). Also about 100 *Corybas cryptanthus* with their leafless, bent-over seed stalks, plentiful *Cyrtostylis oblonga* and *Pterostylis*

brumalis (both in seed), without any kauri, *Corybas cheesmanii* seed stalks in "weed proportions" and others that the column couldn't possibly care less about. Bob Talbot added eleven species to his personal list of photographs and Allan's videos confirmed his sickening bragging then revealed some further remarkable finds. *Thelymitra aff. longifolia* with greenish yellow sepals and another with bright orange at the front of the anther cap. This farthest north area is a must for next year.

Postscript 1. One of Allan's finds turned out to be *Microtis arenaria* - see the paper in this issue. Allan found it again at Ngaere Swamp east of Eltham on New Years Day 1996.

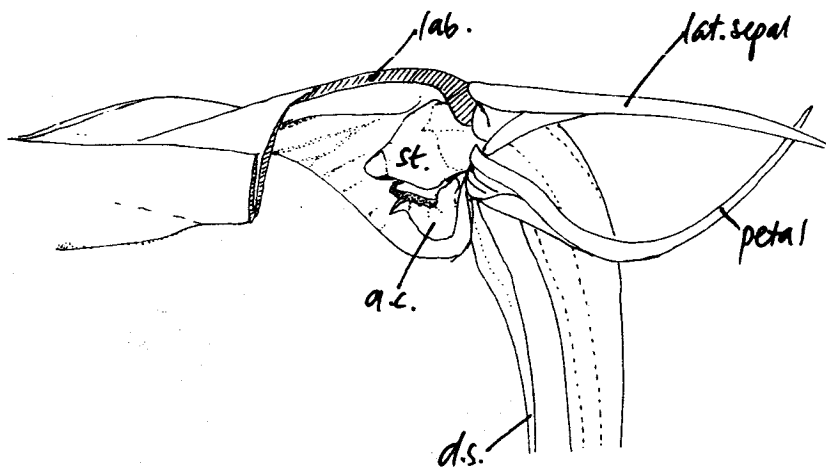
Postscript 2. 19 November, Allan, Sue and Rob Graham spotted *Pterostylis cardiostigma* at Sunny Vale Road, Massey. Has anyone seen it further north? The column has given up being green with envy, nothing else keeps pace with this guy; maybe growing a long curly beard would do the trick?



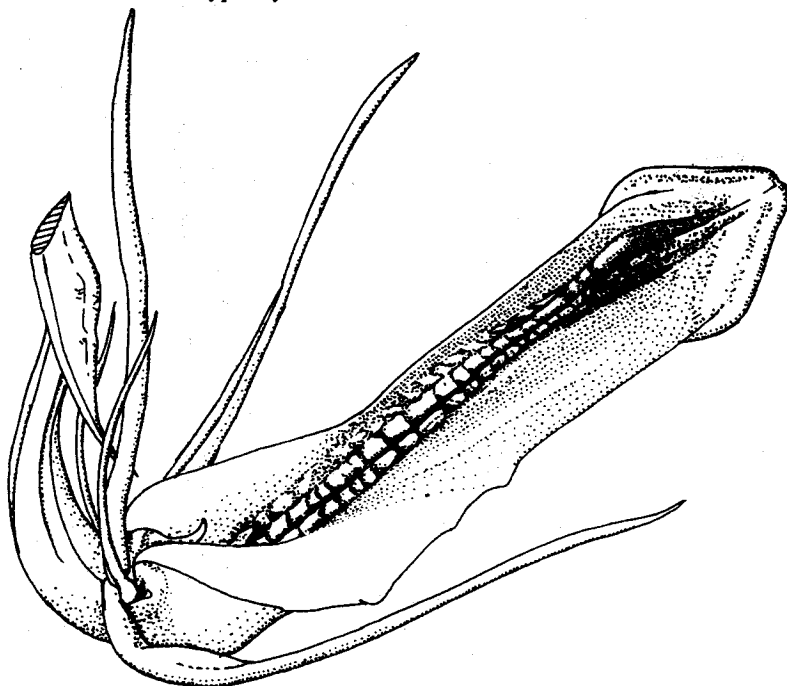
Corybas cheesmanii by Max Gibbs



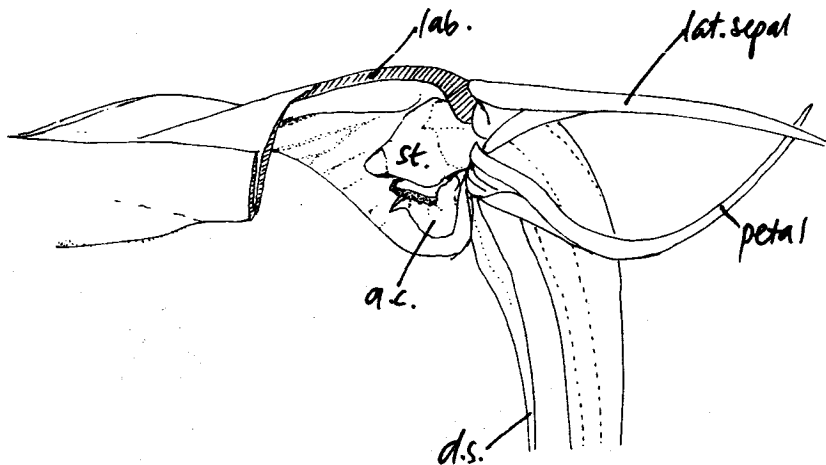
Cryptostylis subulata at Lake Ohia, 6 November 1995



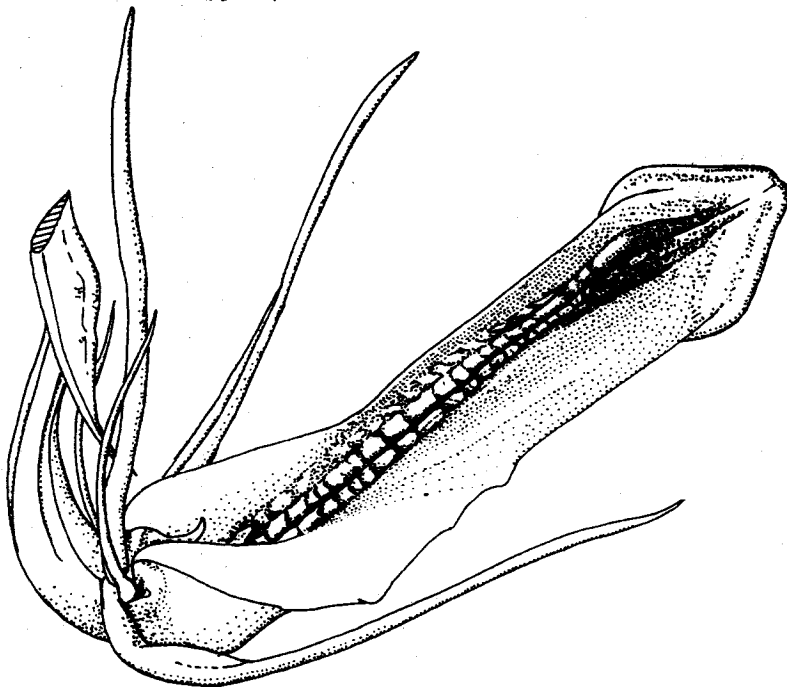
Cryptostylis subulata: dissection to show column



Flower from below



Cryptostylis subulata: dissection to show column



Flower from below

3. *Thelymitra matthewsii* (Cheeseman) in the Far North

by Anne Fraser, Pureora

Thelymitra matthewsii (Cheeseman) was recorded by a group which visited the North Cape area in October 1995.

One fully open upward-facing flower was seen, the magenta and deeper violet-striped tepals and bright gold column arms looking startling in the somewhat inhospitable surroundings. Very small, beguilingly twisted leaves of two or three other, presumably young plants were seen here as well. Later two further approximately 10-12cm plants were also recorded. These are at a different site from the one previously mapped in the area. The number of plants seen bodes well for the future.

DP McCrae, in *A survey of orchid flora of Te Pahi Farm Park* (1988-89) considered the discovery of *Thelymitra matthewsii* to be one of the most interesting finds of the Survey, and noted that the original location of *T. matthewsii* was 100km further south [1].

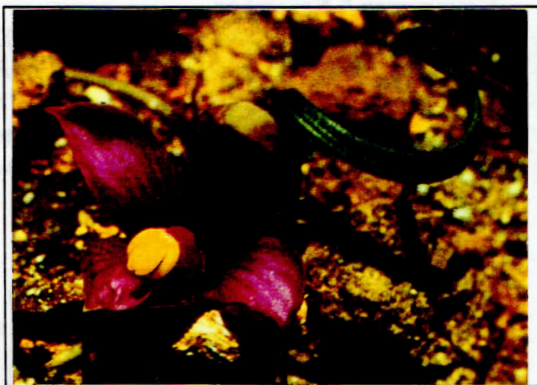
Loss of suitable habitat in the area of the original discovery by RH Matthews near Ahipara has resulted in this species being included in the Rare, Endangered and Northland endemic categories (McCrae 1988-89).

David Jones (1993) wrote that *T. matthewsii* is closely related to *T. spiralis* (Lindley), another variable spiral-leaved orchid. They can be confused, but the striped perianth segments, ovate column-arms and grape-like calli are diagnostic for *T. matthewsii* [2]. One of those instances when one badly needs to go back for another look! In the excitement of the moment important points are often overlooked.

Thelymitra matthewsii is regarded as comparatively rare in Australia. David Jones regards it as sporadic and nowhere common, though of wide distribution in southern states. Little variation is seen in southeastern states but the southwestern populations show differences which he considers need further study.

Molloy and Johns (1983) listed *T. matthewsii* as extinct in New Zealand, felt it needed priority conservation "if it turned up again because of its rarity in Australia as well" [3].

The best conservation measure for this and other rare endemic and migrant species is what is being largely done in the north - conservation of large areas of natural habitat.



Thelymitra matthewsii, North Cape, 22 Oct 95
photo by Sandra Jones sent by Dan Hatch

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4. Orchid species lists for sites in the north

by Catherine Beard

Two reserves in the mid-north 3 November

- *Acianthus sinclairii*, seed; *Bulbophyllum pygmaeum*; *Caladenia* "green-column", fl; *Caladenia* aff. *iridescens*, fl; *Caladenia minor*, fl; *Chiloglottis cornuta*; *Corybas cheesemanii*, seed; *Corybas oblongus*, seed; *Corybas rotundifolius*; *Corybas trilobus*; *Microtis unifolia*, fl; *Orthoceras novae-zelandiae*, fl; *Pterostylis alobula*, fl; *Pterostylis banksii*, fl; *Pterostylis graminea*, fl; *Pterostylis rubricaulis*, fl; *Pterostylis trullifolia*, fl; *Thelymitra aemula*, fl-seed; *Thelymitra* aff. *longifolia*, fl-seed; *Thelymitra longifolia*, fl-seed.
- *Caladenia* "green column", fl; *Thelymitra* aff. *ixioides*, fl; *Thelymitra* "rough-leaf", seed; *Thelymitra pauciflora*, fl; *Thelymitra pulchella*, fl.

Takahue 4 November

- *Acianthus sinclairii*, seed; *Caladenia minor*, fl; *Corybas rivularis*, fl; *Dendrobium cunninghamii*; *Earina mucronata*; *Microtis parviflora*, fl; *Microtis unifolia*, fl; *Orthoceras novae-zelandiae*, bud; *Pterostylis banksii*, fl; *Thelymitra* "pseudopauciflora", fl.

Kaimaumu 5 November

- *Caladenia minor*; *Calochilus herbaceus* (YAY!), bud-fl; *Cryptostylis subulata*, bud-fl-seed; *Genoplesium pumilum*, seed; *Prasophyllum colensoi*, bud; *Thelymitra* "darkie", bud-fl; *Thelymitra* ?"rough-leaf"; *Thelymitra aemula*, fl-seed; *Thelymitra malvina*, fl (in her garden also); *Thelymitra* "pseudopauciflora", fl-seed; *Thelymitra pulchella*, fl some white fls with blue stripes.

Lake Ohia 6 November

- *Caladenia* sp., seed; *Cryptostylis subulata*, a bursting abundance of it...bud-fl; *Thelymitra* "darkie"; *Thelymitra malvina*, seed; *Thelymitra pauciflora*, fl; *Thelymitra pulchella*, bud-fl.

Ahipara 6 November

- ?*Calochilus herbaceus*, top eaten off...uncertain; *Caladenia minor*; *Corybas oblongus*, seed; *Corybas rotundifolia*, seed; *Microtis parviflora*, fl; *Microtis unifolia*, fl; *Prasophyllum pumilum*; *Thelymitra* "darkie", bud/fl; *Thelymitra aemula*, seed; *Thelymitra* aff. *longifolia*, fl; *Thelymitra carnea*; *Thelymitra* aff. *ixioides*, fl; *Thelymitra malvina*, fl; *Thelymitra pauciflora*, fl; *Thelymitra* "pseudopauciflora", fl; *Thelymitra pulchella*, fl.

Motutangi Swamp 7 November

- *Cryptostylis subulata*, fl (including HUGE one in c.15cm water, approx 1.2m tall with 16 flowers); *Microtis parviflora*, fl; *Microtis unifolia*, fl - some plants with deep notch in labellum; *Thelymitra* ?"rough-leaf", fl; *Thelymitra* aff. *longifolia*, fl; *Thelymitra pauciflora*, fl; *Thelymitra* "pseudopauciflora", bud-fl.

Four areas in the Far North over the next few days

- *Acianthus sinclairii*; *Caladenia alata*; *Caladenia* aff. *iridescens*; *Corybas cheesemanii*; *Corybas cryptanthus*; *Microtis parviflora*; *Microtis unifolia*, the one with a very cleft labellum; *Orthoceras novae-zelandiae*; *Pterostylis tasmanica*; *Thelymitra* aff. *longifolia*, including one plant with 20 open flowers; *Thelymitra longifolia*; *Thelymitra pauciflora*.
- *Thelymitra* "darkie"; *Thelymitra pauciflora*; *Thelymitra aemula*.
- *Acianthus sinclairii*; *Caladenia* "green-column"; *Caladenia alata*; *Caladenia minor*; *Corybas cheesemanii*; *Corybas cryptanthus*; *Corybas rotundifolius*; *Cyrtostylis oblonga*; *Gastrodia* aff. *sesamoides*; *Microtis parviflora*; *Microtis uniflora*; *Pterostylis alobula*; *Thelymitra longifolia*.
- *Caladenia minor*; *Calochilus herbaceus*, some plants with green beards; *Corybas cheesemanii*; *Genoplesium pumilum*; *Microtis unifolia*; *Orthoceras novae-zelandiae*; *Prasophyllum colensoi*; *Thelymitra* "darkie"; *Thelymitra* ?*pulchella*; *Thelymitra aemula*; *Thelymitra* aff. *longifolia*; *Thelymitra* aff. *ixioides*; *Thelymitra longifolia*; *Thelymitra pauciflora*.

Australian notes***Caladenia* splitting**

Bob Bates reported (ANOS Geelong Group Bulletin August 1995) that the blue-flowered *Caladenias*, including *C. deformis*, are to be placed in a genus of their own - i.e. *Cyanicula*. "*Caladenia* in the broad sense is an artificial genus, a conglomeration of vaguely related orchids with a wide range of pollination strategies, chromosome numbers, chemical compounds, morphology, etc. Many such as *Leporella* (*L. fimbriata*

has been known as *Caladenia fimbriata*) and *Leptoceras* (*L. menziesii* has been known as *Caladenia menziesii*) have already been split off.... In addition to the blue flowers (which suggest a distinct pollination strategy and different chemical compounds) the glandular hairs on the leaf and scape are different from those of the other *Caladenias* and the pointed tubers are more like those of *Glossodia* and *Elythranthera* than *Caladenia*".

***Caladenia minor* variations**

Garry Guide reported (NOSSA *Journal* 1995; 19 [9]: 86-87) on a field trip to Kyeema and Loftia Park. A number of *Caladenia* species were found, including some of interest to NZ: "... there were dozens of tiny *Caladenia minor* just 3-5cm tall.... On a patch of clay was another tiny *Caladenia* which at first we thought was *C. minor*, but these had rounder sepals, green outside and a different labellum. When someone found 'true' *C. minor* in a sandy patch nearby with its narrow sepals, red striped outside, slenderer stems, red ovary and red blotched labellum we knew they were different taxa and it was decided the round species was *C. pusilla*.... it was obvious that some flowers were going straight from bud to seed capsule without opening - the ends of the sepals were stuck firmly together!.... At the edge of a burnt swamp thicket was the tiniest

white-flowered *Caladenia*, again related to *C. minor*. It seems there are at least four members of this complex of miniature self-pollinated orchids in the Adelaide Hills - i.e. *C. minor* 'slender pink', *C. pusilla*, *C. prolata* and this little pale-flowered swamp 'critter'. It will be interesting to hear what David Jones thinks of all these! Before we finished at 2 pm we had even found the larger pink *Caladenia carnea*...."

The ANOS Victorian Group *Bulletin* reports that this has been the best terrestrial season in memory.

NZ *Thelymitra* hybrid on show

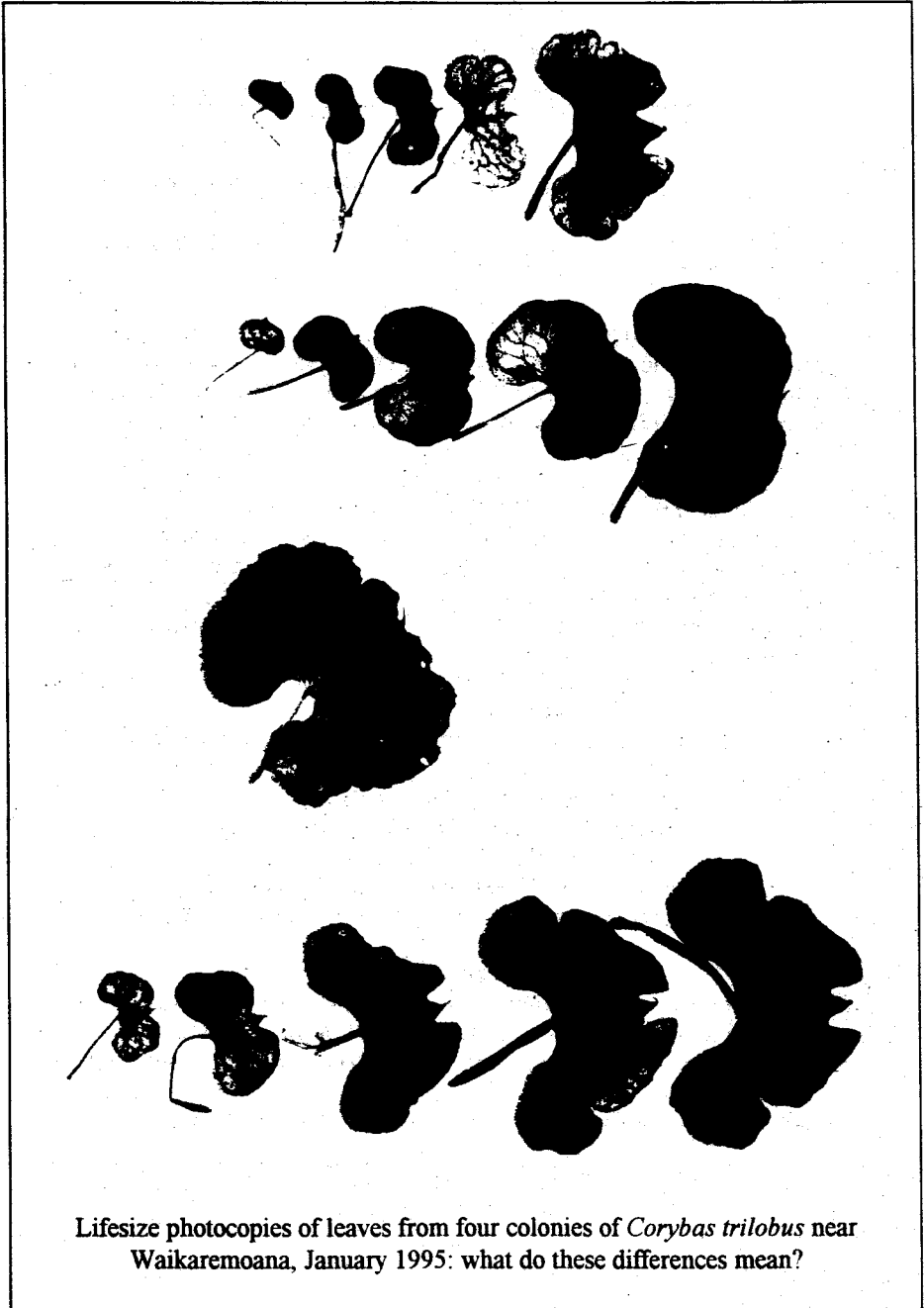
NOSSA *Journal* November 1995 reported, "...some interesting hybrids including one made by Doug McCrae from New Zealand eight years ago, i.e. *T. pulchella* x *T. longifolia*, a pretty plant with lolly-pink, striped flowers."

THIRD AUSTRALASIAN NATIVE ORCHID CONFERENCE AND SHOW 1996

Flinders University, Adelaide 26-30 September 1996: "We are hoping to be able to present the largest and most spectacular display of native Australasian orchids ever staged; one that will be talked about for years to come". NOSSA would be keen (1) to have a *Conservation Officer* there from each group - if anyone is interested in attending in that capacity, please write to your editor; (2) to have a *poster display*, (3) There is a *raffle* (tickets \$1) for a bound copy of WH Nicholls's original three volumes of *Orchids of Australia*.

STOP PRESS

The paper describing *Corybas* "A" and *C.* "Mt Messenger" is to appear in the March issue of *New Zealand Journal of Botany*. Watch out for it.



Lifesize photocopies of leaves from four colonies of *Corybas trilobus* near Waikaremoana, January 1995: what do these differences mean?