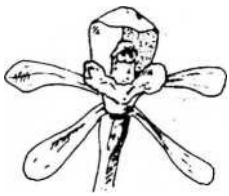
NEW ZEALAND NATIVE ORCHID GROUP



Newsletter No 21.
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EDITORIAL

A different Newsletter and a new editor. Thanks to all for your good wishes, and on behalf of Dorothy Cooper for the many messages of thanks and appreciation that you sent her with your subscriptions.

I can only echo them. It was her enthusiasm and dedication that started this Group and she kept it up for five years. We do wish her well in her new commitments.
Please keep up the letters and contributions — we learn by sharing information.
. Please pay your subscription now if you have not already done so — we need you this year for the orchid mapping scheme; if there is no receipt with this Newsletter. please send me $5.00 now, or regrettably this will be your last (unless, of course, you are receiving complimentary copies).
Conservation of our orchids is becoming an increasingly important issue (see REVIEW below); here is a piece I wrote during a visit to England last year.

ORCHID HUNTING IN FARTHEST ENGLAND.

▪ In this part of Yorkshire we are in Wuthering Heights country. By late June the weather in England should be warm, but here it is bleak, misty drizzle chills us as my guide and I leave our vehicle beside a farm gate, walk up a gently sloping field, cross a drystane wall by a style, and, quiet now, talking in whispers and careful of footfalls, climb up beside the stream. The colours are grey and grey-green; mostly grey. Trees drip. Rock hilltops loom like forts at either side in the eerie quiet of the mist. A blackbird startles, dashes shattering away. There is at last a barely discernable track, a fence, another stone wall; now an old gate with an incongruously modern and efficient-looking lock. We climb over, move quietly forward.
A guard appears suddenly in the mist: "You are trespassing on private property." He is young, and despite a balaclava and several layers of clothing, he hugs himself against the unseasonal chill. His tent looks wet and cold, and we can see he has just shed his sleeping bag; a Frederick Forsyth paperback lies face down on the groundsheet. Bare feet have been hastily thrust into wet shoes -- his toes curl uncomfortably as we talk.
He will live here for a week. He is one of nine volunteers who in turn will guard the last plant in Britain of the Lady's Slipper orchid (Cyprepedium calceolus) during its flowering season. (The protection is necessary: the same mad malice that leads collectors to take the eggs of endangered birds threatens endangered plants too. Last year all the Monkey orchids at one of only two remaining sites in Britain were stolen). We argue sweet reason, and at last he mellows, leads us up the steep side of the valley, past the fine trip wires that would ring a bell in his tent at night, takes us on up to the wire cage that completely covers the plant. Even now, a week past their best, the flowers are magnificent — the plant 30cm high, each flower as wide as your palm, with maroon petals and the great yellow moccasin of a lip that gives its name. The Lady's Slipper, the Frauenschuh. the Sabot de Venus. For when the gods and goddesses strolled the earth, a sudden thunderstorm made Venus run for shelter, and in her haste she lost a golden slipper. The next day a shepherdess saw it, and ran to pick it up, but as she reached out it vanished, its place taken by an exquisite flower in the shape of a little slipper.
There are seven flowers on the Yorkshire plant this year, and already they have been hand pollinated, a hopeful annual ritual that has for many years failed to produce

seedlings. Our guard lifts the cage, searches for slugs, watches carefully while ! take photographs (only of the flowers mind; he will not allow wider shots that might be used to identify the site), and we take our leave.

For many orchids their beauty has been their own downfall. The largest and most showy of the European orchids have simply been collected to the point of extinction, transplanted to gardens where inevitably they have perished. An 1873 catalogue advertised the English Slipper Orchid (once called the "common" Lady's Slipper) at 10s 6d a dozen, even though in the same year Sowerby's English Botany remarked that it was "...very rare and now nearly if not quite extinct".

■ At a secret place near Cambridge we park our van in a layby near a crossroads. I check the map reference, reread the instructions I have been given - and we set off into the pine forest. Almost at once we are on a track, and it has been recently used, if broken twigs and bent grass tell the truth. Indeed, within 300 metres we hear voices, and have come upon tall wire-netting, and find it encloses a quarter acre shallow pit. In the pit three people are working — two on wooden walkways, one on the ground. They are taking the annual census of the Military orchid (Orchis militaris); using a triangulation method they are finding new plants by checking against the positions of old ones recorded in earlier years. This year there are about 180 plants, a good year. The Military orchid was thought to be extinct by the 1920s in Britain. Then in 1947 some plants were found in Buckinghamshire, and in 1954, to everyone's delight, this large colony in a Suffolk pit.

■ East Sussex. We climb steeply from the road into a private reserve. Downland this, the rolling chalk hills of southern England (the Downs are uplands: the word comes from the Anglosaxon dun which means a hill). Rabbits scatter and we keep an eye on the ground to avoid holes. Richard Adams who wrote Watership Down lives nearby. We walk a kilometre on old pasture, cowslips, wild violets — to the Parish boundary hedge, climb up to the top of this iron-age hill fort, sacked by the Roman Emperor Vespasian, and reach the site of the charming little Burnt orchid (Orchis ustulata), its clusters of pink-and-brown flowers about the size of white clover. This year 462 flower spikes have been counted. It is the best year since 1973.

■ At Park Gate Down in Kent it is Open Day. A warden lives in a caravan for the six weeks flowering season of the Monkey orchid (Orchis simia). The orchids were transplanted here in the 1920s and have been successfully hand fertilised ever since. The main colony is enclosed in a locked wire-netting surround: a single plant outside the enclosure has its own wire cage. There are nine flower spikes this year (two plants were eaten by slugs), here in its northernmost European site. Adders are protected here too. We tread very carefully.

■ Sussex again, later in the season. The cowslips have given way to buttercups. Up over iron-age fortifications to the top of another hill; a quarter circle to the right, down a fence-line to a style, along a track that skirts the hill, and — we don't have to search further, for already an orchid-lover is there, photographing the curious Man orchid (Aceras anthropophorum), each spike bearing a dozen or so flowers in the shape of a hanging man. Six plants have reappeared this year.

■ We join a private party arranged by the Kent Trust for Nature Conservation to visit the Late Spider orchid (Ophrys fuciflora) at one of its few remaining sites. We walk a kilometre through cattle pasture to a twenty-metre square of wire-netting on a gently sloping hillside. The party has been a chatty one, but as we approach the site talk gradually fades, there is a hush, a curious shared feeling of reverence, and then at last we are almost tiptoeing forward as if to a holy place. Three plants of eight are flowering, a poor season, for usually there are at least twenty-five at this place. The flower is extraordinary -- the orchid looks like an insect, even to the extent that nectar droplets mimic eyes.

■ Britain has about fifty wild orchids, and we saw and photographed most of them last northern spring. Many of them are watched, counted, guarded, and kept secret because people feel they are precious. Precious because they are rare and beautiful things.

Could we let it happen in New Zealand?

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NOTES

*We have had our first view of Thelymitra formosa in December and Bob got some good slides. Actually we have previously seen some immature flowers which we thought were T. formosa and have since found spent flowers but these at Rotorua were at their peak, though few in number. We can see why they are called 'beautiful'.... Beryl Goodger, Tauranga. (While we are with the Goodgers, congratulations on the beautiful photographs of wild orchids that regularly grace the journal, Orchids in New Zealand -- Ed).

"...moving to Taranaki is more than marriage and a complete change of lifestyle. As far as native orchids go, I had been familiar only with the epiphytic orchids and Pterostylis spp. It was with great delight I discovered, on the farm, a clay bank with many plants of Thelymitra longifolia — all in flower, plus Microtis unifolia. Sadly, I didn't know the behaviour of Thelymitra or I'd have rushed back with my camera that day. Of course not a bloom since!...

Between Christmas and New Year Val (Smith) led a group on one of the 'Summer nature programme' outings, and I thus made the acquaintance of four or five more orchids. My appetite is well and truly whetted! Now I cannot go anywhere without searching for orchids!".... Shirley M Thomson, New Plymouth. (It's called orchidomania, Shirley, and you may never recover — Ed).

"Curing the summer months of 1985-6 Frank Hudson and I decided that we would try to find Yoania australis. as we live within a stone's throw of Mt Auckland, the type locality. The day we spent searching Mt Auckland yielded no Yoania. but when we were shown the species list for Mt Auckland (Ross and Jessica Beever) we took note of the map reference for a farm at nearby Glorit, where the Beevers had found Yoania in the past. The farmer was happy for us to search his patch of bush. He remembered the Beevers from their visit of more than twenty years ago. Our first visit was on 29 December 1985, and we very soon found a patch of Yoania – about fourteen stems in all — under a thick layer of taraire leaves and nikau fronds. A week later (5 January 1986) we searched the bush on Frank's farm at Kaipara Flats, then crossed onto his neighbour's property. There we once again found about fourteen stems of Yoania. This time a number of the stems were on ridges which had been bare in the recent flood rams, but again were in taraire-dominant bush. On 12 January 1986 an outing was organised to some taraire bush at Wayby, near Wellsford. Yoania was quite widespread in this bush. The stems were up to 15cm high. This had been a very wet summer. A year later, after a very dry spring and summer, the Kaipara Flats and Wayby sites had far fewer stems and they were only about a third the size of the plants seen in the previous season".... Maureen Young, Warkworth.

"Top of the south is an ideal environment" is how Jean Jenks, Upper Moutere headed this paragraph: "Prasophyllum pumilum has established itself not only in the Golden Bay area (NZNQG News letter June 86) but in May the same year a colony of adult plants was sighted high on a scrubby ridge high above Waihinau Bay in the outer Pelorus Sound. These plants, a few still showing remnants of their flowers, were growing in hard dry clay. The finds lead me to believe they could be increasing in other locations in the South Island. One highlight of my 1986-87 holiday was finding Yoania australis in NW Nelson. Plants bearing 3 to 5

mushroom coloured flowers were scattered over several metres. Their habitat differed from that in the north. Here they grow in clearings among the litter under nikaus surrounded by mixed native bush, covering ancient sand dunes. Being told of this location gave me a starting point for the search, but their size, only up to 15cm, and camouflage didn't make finding easy. Fortunately I have a sharp-eyed husband: husbands do have their uses?"

"My usual late November trip to the Te Anau area was a dead loss. This year the orchids in that area are about three or four weeks later than usual; consequently nothing was in flower other than Microtis unifolia. In fact most flowers in well-known areas were not even in bud. and some hardly showing above ground. After a couple of days we gave up, and just had a lazy holiday.... The Gastrodia cunninghamii was out again at the (Dunedin Botanical) Gardens, and I counted 24 plants. I had seen what I thought was G. minor at Te Anau outlet but it was only 6" high (1985), also G. cunninghamii at Lake Gunn 24" high (1985) neither showing buds at that time; no sign of either this year so no confirmation possible".... Lyn Young, Mosgiel. (I have seen G. minor only at Southland's Wadena Bog down this end of the country. Petrie's type locality was in the Town Belt, Dunedin, under manuka; that was in 1893, but within a few years it had disappeared from the site, as GM Thomson observed, "choked out in all probability, by stronger and coarser aliens". In both Moore & Edgar, and Dorothy Cooper's book, Dunedin persists as a locality — and indeed in a later paper Petrie recorded it from Opoho Creek, where manuka and kanuka persist — worth a good look? I had the pleasure of seeing G. sesamoides just in flower at Southland's Wadena Bog on 14 January 1986 (G. cunninghamii was long past flowering), at a site found by Gordon Watson of Invercargill and David McNaughton of Kapuka; its southern range now extends to Stewart Island — Ed).

"Many thanks for the delightful bulletin that the Group publishes. I hope to get over there for a holiday sometime in the next couple of years and look forward to meeting some of the members of the Group. I was wondering if you could supply me with the names and addresses of any of your members who may be interested to correspond on the growing of NZ terrestrials viz-a-viz Australian species, or possibly to swap tubers from time to time. I would very much like to hear from anyone in New Zealand."... Malcolm R Thomas, 23 Outlook Drive, Berwick, Vic 3806, Australia. (Please reply direct to Mr Thomas if you are interested — but don't forget the MAF's regulations about import of live plant materials! — Ed).

"Some thoughts at random: tell us how many members are in the group now and how far afield we reside; suggest the form in which 'finds' and observations could be made to make easier collation at some later stage; tell us the quality of sketch that would be acceptable for xeroxing in the Newsletter."... . Stan Butcher, Lower Hutt. There are 120 on the mailing list, Stan, but only 81 have paid their 1987 sub so far -- I will print a full list by region in a future Newsletter; our formal orchid mapping scheme will get under way just as soon as the third revision of the New Zealand Ecological Regions maps are available from the Biological Resources Centre in Wellington — observation forms are designed and ready to go (thanks too to Morley West, Lake Okareka for sending a copy of his orchid record sheet); quality in art is not a thing I feel capable of defining — but the drawings need to be clear and sharp, black on white. Please send me some to look at — Ed.

Lucy Moore, Warkworth gives us the benefit of her vast experience in this clarification of Pterostylis graminea:

A Pterostylis pair:

	graminea	rubricaulis
Stem	green	often reddish
Leaves		
young shape	"narrow"	"broad"
adult number	5 (-4)	3 (-4-5)
Flower		
dorsal sepal		
viewed from back	narrow	bulging
pale stripes	broad	narrow
tip	short, not uptilted	longish, uptilted
lateral sepals		
tips projecting	shorter than flower	equal to flower
sinus	long	short
labellum		
midnerve	little prominent scarcely percurrent	prominent projecting
tip	no sharp twist	twisted to right
column		
length	longer than labellum	shorter than labellum
wing	long	short
stigma	more or less oblong	more or less ovate

"Pterostylis graminea is recorded -from many parts of New Zealand but is not necessarily uniform throughout, quite apart from differences directly related to immediate habitat conditions. In Rodney County, stretching from coast to coast north of Auckland city, this is a common species, flowering in September. In some places, as in Parry Kauri Park, Warkworth, it grows and flowers along with var. rubricaulis which therefore might be regarded as a separate species; elsewhere only one or other of the two is to be found in a bush remnant. Tabulating differences between these two grassy-leaved plants, as they occur in our restricted area, may contribute to an understanding of the whole graminea complex.

"In this, as in other small botanical projects, I am glad to have field help from members of the Mid-North Branch of the Royal NZ Forest and Bird Protection Society; Alan McKenzie of Wayby has taken a special interest in this Pterostylis problem".

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REVIEW

Here is a book of passing interest to NZ orchid enthusiasts. It is Four of JN Rentoul's series called Growing orchids and this is the one on the Australasian families (Lothian Publishing Co, 1985. 129.95 incl GST). There are some fine photographs of many of the Australian species and hybrids, as well as a good few of orchids we share with Australia. Some of his ideas (on taxonomy and geographic spread for instance) and some of his prose are idiosyncratic to say the least, and there are some imperfections — one photograph is reproduced upside-down, and the illustration labelled Chiloglottis gunnii certainly isn't — but he addresses the conservation/cultivation debate wisely: "... the removal and cultivation of native orchids from the Australasian region should not occur unless from threatened areas.... Orchid societies in particular should encourage members to leave the plants in their habitats and if they wish to cultivate them to do so on the basis that they curb

their activities to taking as few as possible, making sure that the places where they have been found are left with good populations. Greed is too often the guiding principle, but it is hoped that those who read these words will always look for them in their habitats rather than have the ambition to dig them up and convert them into cultivated 'slaves'. Too frequently the would-be grower tires of his '.slaves'." Too true.

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HISTORICAL NOTE

NEW ZEALAND ORCHIDS COLLECTED DURING COOK'S VOYAGES.
by ED Hatch.

Banks and Solander found eight species of orchid during the time the Endeavour was on the NZ coast, four epiphytic and four terrestrial. Seven of these were illustrated by Sydney Parkinson, the exception being Pterostylis banksii which was considered to be identical with a species illustrated later in the Australian section of the manuscript. Somewhat naturally these orchids were all common coastal species and it is interesting that Solander thought the perching plants to be parasitic, which of course they weren't. The first orchid to be found (again somewhat naturally) was Microtis unifolia, at Te Oneroa near Gisborne, where the Endeavour lay 8-11 October 1769.

In the following list Solander's unpublished names are given in capital letters.

1. Bulbophyllum pygmaeum
EPIDENDRUM PYGMAEUM
parasitic
Whitianga 3-15 November 1769

2. Dendrobium cunninghamii
EPIDENDRUM PENDULUM
parasitic on trees
Whitianga; Totaranui in Queen Charlotte's Sound; 15 January - 6 February 1778

3. Drymoanthus adversus
EPIDENDRUM ADVERSUM
parasitic on trees
Whitianga; Totaranui

4. Earina mucronata
EPIDENDRUM MUCRONATUM
parasitic on trees
Whitianga

5. Microtis unifolia
OPHRYS PORRIFOLIA
grassy hills everywhere except D'Urville Island

6. Orthoceras strictum
OPHRYS CORNUTA
hills
D'Urville Is. 26-31 March 1778

7. Pterostylis banksii
ARETHUSA TETRAPETALA
shady places — this differs from the Australian plant (Pt. revoluta) in having several stem leaves, often a span long
Whitianga

8. Thelymitra longifolia
SERAPIUS REGULARIS
in flat grassy areas and beside rotting logs; in Australia near Endeavours River (Th. aristata?)
Tolaga Bay 23-29 October 1769
Whitianga

During Cook's second voyage, that of the Resolution in 1773, the Forsters found Microtis unifolia and Thelymitra longifolia again, and added Earina autumnalis to the list — but I wrote a note about this in Newsletter no.18, June 1983 , p 3

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HISTORICAL NOTE

THE PUZZLE OF *Spiranthes*. OUR PINK LADIES TRESSES ORCHID.

by Brian Molloy, Botany Division, DSIR, Lincoln.

The orchid genus *Spiranthes* was erected in 1818 by the French botanist Louis Richard to accommodate the distinctive "spiral" orchids formerly placed in *Neottia* and other genera by earlier writers. The name *Spiranthes* is now conserved under the International Code of Botanical Nomenclature and cannot be changed, along with other conserved orchid names like Bulbophyllum, *Dendrobium* and *Pterostylis*.

In 1982 Lesley Garay of Harvard University listed 42 species of Spiranthes compared to the 50-100 species accredited by previous workers. Most of these occur in the north temperate regions of the world, but a few grow in tropical and subtropical areas and extend south as far as Tasmania and NZ.

The current Flora of NZ (vol 2, 1970) lists one species, *Spiranthes sinensis*, and gives its distribution as NZ, Australia and Asia, thus making it our most widely distributed orchid. Frankly, I have found this difficult to accept, especially since it is well known that a complex range of plants is included under its name. In 1964 the Japanese botanist Siro Kitamura attempted to resolve this problem by recognising subspecies, and NZ and Australian plants were assigned to *S. sinensis* subspecies *australis*. However, I have found the subspecies *australis* appellation equally untenable because of the range of forms that occur throughout the distribution area of the subspecies.

At this point I believe it is useful to trace briefly the history of how the NZ Ladies Tresses orchid derived the name *Spiranthes sinensis* ssp. *australis*. I will attempt this in chronological order, touching on some of the chief moves as I see them:

1750 — French naturalist Jean Etienne Guettard, in *Hist. Acad. Roy. Soc. Mem. Math. Phys. (Paris, 4)*. p.374 erects the genus *Neottia* .... *Neottia* Guett.

1790 — Portuguese naturalist Joao de Loureiro, in Flora Cochinchinsis. p. 520 erects the invalid genus *Aristotelia* and describes *A. spiralis* is based on plants collected in China. *Aristotelia spiralis* Lour.

1807 — South African botanist Christiaan Persoon in *Synopsis Plantarum* 2, p. 511 describes *Neottia sinensis* and transfers *Aristotelia spiralis* to it *Neottia sinensis* Pers.

1810 — Scottish botanist Robert Brown, in *Prodr. Flor. Nov. Holl.*, p. 319 describes *Neottia australis* based on plants collected near Port Jackson, NSW ....*Neottia australis* R.Br.

1818 — French botanist Louis Richard, in *Mem. Mus. Paris 4*. p. 50 erects the genus *Spiranthes* ..... *Spiranthes* Rich.

1843 -- English botanist John Lindley, in *Edward's Bot. Reg*. 16. p. 823 transfers *Neottia australis* to *Spiranthes* along with 15 other "at present known" species. *Neottia sinensis* is not mentioned .... *Spiranthes australis* R.Br.) Lindley.

1853 — English botanist Joseph Dalton Hooker, in Fl. Nov. Zel.1. p. 243 describes Spiranthes novae-zelandiae from plants collected in "Northern Island" (North Auckland) by William Colenso .... Spiranthes novae-zelandiae J.D.Hook.

I860 — Joseph Dalton Hooker, in Fl. Tasm. 2, p. 15 describes Tasmanian plants under Spiranthes australis .... Spiranthes australis (R.Br.) Lindley.
1864 — Joseph Dalton Hooker, in Handbook N2 Fl., p. 667 refers NZ plants to Spiranthes australis and reduces S. novae-zelandiae to synonomy .... Spiranthes australis (R.Br.) Lindley.
1873 — English botanist George Bentham, in Fl. Austral 5, p. 314 refers Australian plants to Spiranthes australis . Spiranthes australis (R.Br.) Lindley.

1906 — NZ botanist Thomas Cheeseman, in Man. NZ Fl. 1st ed., p. 667 refers NZ plants to Spiranthes australis .... Spiranthes australis (R.Br.) Lindley.

1908 — American botanist Oakes Ames, in Orchidaceae 2, p. 53 transfers Neottia sinensis to Spiranthes sinensis and reduces S. australis to synonomy..... Spiranthes sinensis (Pers.) Ames.

1920 — German botanist Rudolph Schlechter, in Bot. Centr. Beih. 37, pp. 349-355 reinstates Spiranthes novae-zelandiae for NZ plants; S. australis for Australian plants; and describes var. tasmaniensis for Tasmanian plants..... Spiranthes novae-zelandiae JD Hook S. australis (R.Br.) Lindley var tasmaniensis Schltr.

1925 — Thomas Cheeseman, in Man, NZ Fl. 2nd ed. p. 337 refers NZ plants to Spiranthes australis .... Spiranthes australis (R.Br.) Lindley.
1946 — NZ orchidologist Daniel Hatch, in Trans. Roy. Soc. NZ 76. p. 66 refers NZ plants to Spiranthes sinensis Spiranthes sinensis (Pers.) Ames.

1964 — Japanese botanist Siro Kitamura, in Acta. Phytotax. Geobot. 21t p. 23 describes Spiranthes sinensis subspecies australis to accommodate Australian and NZ plants Spiranthes sinensis (Pers.) Ames subsp. australis (R.Br.) Kitam.

1970 -- NZ botanist Lucy Moore, in Fl. NZ 2. p. 155 refers NZ plants to Spiranthes sinensis Spiranthes sinensis (Pers.) Arnes.

1979 — Australian botanist Winifred Curtis, in Students Fl. Tasmania 4A. p. 128 refers Tasmanian plants to Spiranthes sinensis subsp. australis Spiranthes sinensis (Pers.) Ames subsp australis (R.Br.) Kitam.

More recent accounts of NZ native orchids by Dorothy Cooper (1R81) and by John Johns and myself (1983) refer NZ plants to the same subspecies.

So much for the names used for our Ladies Tresses orchid and their brief "genealogy". In the next Newsletter I will, attempt to portray what our plants have to say about all this' Meantime, I would gladly respond to any comments or queries that might be forthcoming.

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