NEW ZEALAND NATIVE ORCHID GROUP Newsletter no.5 March 1983

Dear Member,

Firstly let me apologise for putting Newsletter no.5 at the top of the last issue in December. I don't know what I was dreaming about and didn't notice until half way through folding them for posting. I changed those I still had left to do but other copies were already sealed in their envelopes, so could you please check your last newsletter which should of course, have been no.4.

Secondly, grateful thanks to all those who have renewed their subscriptions for this year. If you haven't done so this will be the last newsletter you will receive, enclosed please find a form to fill in to make things easier.

Thirdly, it was wonderful to get letters of support for setting up this group and many thanks to all those who took the time to add their views on where we go from here. The majority want to leave things as they are for now, affiliation with other societies was not generally favoured, so, as long as everyone out there puts pen to paper and the articles keep coming in, I will continue to put them together as a newsletter. If anything happens to \underline{me} - beware, it will all be put in someone else's lap!

Lastly, I would like to thank all those who have sent in reports, - however small, on the orchids they have found. That's what this is all about, and is the only way we will learn about our native orchids from all parts of New Zealand. I'm aiming towards a map of some sort in the future showing distribution of species, but in the meantime reports can be shared by ail and Vm sure we will all learn something.

Dorothy Cooper, 14 Avalon Crescent; Lower Hutt

One peculiar find I had this summer was a very large specimen of Gastrodia. On 15th Jan 1983 on the new Puffer track Kaitoke, near Upper Hutt a specimen 94cm high, with 23 flowers which were fawn with white petals, was found beneath beech trees, one metre from the track in a very shaded locality. I thought at first it was G. secamoides, but on dissecting a flower found that it had the short column of G. cunninghamii. I have already found dark green-black specimens with a long column, as in G. sesamoides which is supposed to be cream to brownish-yellow, and now this yellow-fawn specimen of G. cunninghamii, previous specimens which I have found, have all been dark greenish-black. Moral - don't rely on colour! Please send in any reports of colour variations in specimens of this genus in which you have also examined the column.

E.D.Hatch replies:

- G. sesamoides must be based on the Australian form, it has been matched well in several Auckland localities, (see illustration in Cady and Rotherham, 'Australian Native Orchids')* (But colour variations cannot be termed new species Ed.)
- G. cunninghamii has a short column and is the common high country Gastrodia (Found 2.1.83 on the Great Barrier, A. E. Wright.)
- <u>G. minor</u> previously not recorded north of National Park, has appeared over the last 3 seasons in Spragg's bush in the Waitakeres, with manuka. The column is short. (I have found this in Takaka Ed.)

The plant illustrated in my book plate 7, looks, like cunninghamii but has a long column, similar plants have been found near Invercargill - L.B.Moore. Now we have a plant looking like sesamoides with a short column! We either have 2 new forms or we are getting hybrids!

NATIVE ORCHID ENVIRONMENTS

Gordon Sylvester, Wainuiomata

To the untrained eye most species are not easily recognisable in the field especially when not in flower. Some species have adapted to new and unusual environments occasionally with considerable success; for example Chiloglottis cornuta in Pinus radiata a stands in both New Zealand and Australia. The main environments in which orchids are found are as follows:

Urban: needs little description, genera found are Thelymlitra and Microtis.

Rural: generally open pasture/ cultivated land left fallow, mainly Thelymitra, Microtis, Orthoceras.

Light scrub: manuka up to 3m and open; <u>Pterostylis</u>, <u>Thelymitra</u>, <u>Chiloglottis</u>, <u>Caladenia</u>, <u>Microtis</u>, <u>Acianthus</u>, <u>Calochilus</u>.

Heavy scrub: manuka, gorse, shrubby trees; <u>Pterostylis</u>, <u>Thelymitra</u>, <u>Microtis</u>, <u>Chiloglottis</u>, <u>Corybas</u>, <u>Acianthus</u>.

Forest: Dendrobium, Bulbophyllum, Earina, Gastrodia, Pterostylis, Corybas, Adenochilus, Yoania, Drymoanthus.

Swamps: Spiranthes, Microtis, Prasophyllum, Aporostylis, Thelymitra, Pterostylis, Corybas. ~

Semi-alpine, alpine: <u>Pterostylis</u>, <u>Prasophyllum</u>, <u>Lyperantus</u>, <u>Corybas</u>, <u>Aporostylis</u> <u>Thelymitra</u>, <u>Caladenia</u>, <u>Microtis</u>, <u>Orthoceras</u>.

Providing there is minimal interference from livestock, some species thrive in farm areas. High light Levels can cause leaves to change colour and shape in exposed situations (e.g, Thelymitra).

Some genera prefer morning sun on open banks, others the afternoon sun. Drymoanthus seems to prefer the northern faces of established trees such as Red Beech etc., often in lichen growths with high air movement.

<u>Pterostylis</u> seems to prefer shaded areas with little air movement although afternoon sun for short periods has been noted.

It is difficult to generalise environments over such a wide geographic range as New Zealand has, but reference to C.A. Fleming's book shows a diagram on the ecoclimatic conditions plotted for beech species which would require little or no adaptation for orchids.

ref. Geological History of Hew Zealand and its life. G.A. Fleming 1979 p.86.

MICROTIS UNIFOLIA 'The tough One'

as told to Phil Tomlansen, Wellington.

"These billy humans think that we orchids are always pampered and delicate—but I can show them a thing or two. Wellington's Mayor Fowler may think he is a 'hot shot', but I don't think much of his asphalt footpaths. I have been able to grow right through them, admittedly with some difficulty. Although I may not have been able to reach my full size, as the clumsy feet of these stupid humans don't always avoid me, I have I still produced my flowers despite everything. I do, however, find Wellington Parks and Reserves Department more accommodating. In a nice bed in their Botanical Gardens, amongst other shrubs which have not been at all well weeded, I and my friends have thrived, reaching quite gigantic size. Together we make a lovely display despite all those lovely 'weeds' the gardeners seem so determined to grow.

While I am generally confined to the ground, I can show how adaptable I am by growing in trees as well. Some two metres above the ground I have established myself flowering and multiplying over the last 3-4 years or bo. There may be a nice fork in the tree where plant detritus has accumulated, but I do like this lofty perch for a change, as shown by my large size.

Many plants, and that includes many of my orchid cousins, are somewhat choosy about where they grow, but, I don't mind very much; as a result you can find me in all sorts of places. Therefore don't insult me by calling me 'delicate'!"

TWO PTEROSTYLIDS THAT APPEAR TO BE 'HOOKED' ON KAURI

I have, been aware for 40 years that <u>P. brumalis</u> L.B.Moore and the plant Cheeseman described as <u>P. graminea var. rubricaulis</u> (Matthews) were to be found in the immediate vicinity of the kauri, but it wasn't until 1968 (N.Z.J. Bot.6:p.463) when Dr Moore described <u>brumalis</u> and I looked at the species afresh, that I realised that neither plant had ever been found anywhere else. While both can and do grew in the soil, they seem to prefer the loosely packed debris which builds up around the bases of the trees, growing entangled in fungal hyphae among the noduled kauri rootlets. I have found only <u>brumalis</u> in stands of pole (or ricker) kauri, while rubricaulis grows both with <u>pole and</u> with mature trees.

P. brumalis needs no further discussion, except to say that it appears at present to be confined to an area between Warkworth and Coromandel, being most abundant in the Waitakere and Hunua ranges. Dr Moore (lbid,p,486) records specimens in CANTY from Birkdale (Auckland North Shore) in 1920 by H.B. Matthews, and from Mauku (Waiuku) in 1899 by H. Carse; and there is a specimen in AK from the Pukapuka Bush. Mahurangi West, collected by Phyll Hynes in 1971. It may still linger in kauri reserves on Auckland's North Shore, but these are becoming in general too trampled to be suitable. Mr John Smith-Dodsworth made a survey during June 1982 of the north-eastern Coromandel ranges and recorded it from 5 localities, in each case with pole kauri.

Rubricaulis Matth. sens. stricto has a wider recorded range. From Taiharuru Bay in the north-eastern Coromandels (J. Smith-Dodsworth) northwards to Kaitaia. I have myself found it throughout the Waitakere and Hunua ranges; Albany, Coatesville and Auckland North Shore; Kaeo in the far north: Waipoua and Trounson forests; Atuanui Forest near Glorit on the Kaipara, always with kauri, both pole and mature, never elsewhere. I don't believe it to be part of the graminea complex and in 1949 (Trans.Roy. Soc. N.Z. 77:p.240) I transferred it to the montana I still hold to this opinion.

I asked Dr Ross Beever to look at the mycorrhiza of both these orchids and he tells me that there is \underline{no} apparent connection the kauri. The fungus is stimulated by the the piled-up decaying debris, while the orchids respond to the combination of the abundant fungi and the easily penetrated, moisture retaining debris layer. Whatever causes which to happen, there they both are, the <u>Pterostylis</u> and the kauri growing in beauty side by side.

An interesting note from John Campbell, Christchurch. He had picked a Pterostylis flower - with stem but minus the tuber, and put it into a jar of water awaiting identification. It was identified as P. areolata, and as it was lasting well he left it in the jar topping it up with water. After 2 or 3 weeks a root had grown half way around the jar and eventually a tuber formed! A second root appears to be sprouting and so John has added a few drops of Phostrogen to the water and so recording the first hydroponic Pterostylis! Might be interesting to try with other genera.

FOR SALE

'Orchids, A Golden Nature Guide' \$10.00 Full of accurate coloured pictures of hundreds of orchid species from around the world. Long unobtainable.

D. Cooper, 14 Avalon Crescent Lower Hutt.

I have also still got some copies of my book on native orchids price 0\$9.00 (now. 12.95 in shops).

Notes from Australian Journals:

On the growing of Thelymitra and Caldenia seeds - L.T. Nesbitt

These seldom multiply vegetatively. Pollinate by hand, the flowers collapse within a few days and seed pods develop rapidly. Within two months the pod is mature and, splits open. Check daily in spring and pick those that are beginning to split. Seed can be sprinkled immediately on top of the pot, or if you intend to repot, can be stored in paper envelopes, stored cool and dry, for sowing in the autumn. It appears that the mycorrhizal fungus necessary for germination of the seed is most active at this stage. Seedlings should appear late winter to early spring.

Also from 'The Orchadian*:

When growing native terrestrials, use pine needles on top cf the compost, add more if eroded by rain; these become a solid mass of fungus threads and mess. In Australia, Thelymitra matthewsii flowers early (September), so in checking around New Zealand for this species make sure you don't leave it too late. I have remembered seeing unusual plants of Thelymitra in the Wellington hills, which I took for deformation due to spraying. All I remember is their curled leaves and very narrow flowering stems, early in the flowering season, so I must check these this year.

 $\underline{\text{T.pauciflora}}$, $\underline{\text{T. carnea}}$, and $\underline{\text{T. ixioides}}$ flower in October in Australia, and $\underline{\text{T. venosa}}$ in December. So relate the flowering times of these species to that of $\underline{\text{T. matthewsii}}$ when looking in your area.

Thelymitra leaves are already up in the Wellington area.



From "A Field Guide to the Native Edible Plants of New Zealand" by Andrew Crowe

 $\underline{\text{Microtis unifolia}}$, common throughout New Zealand; the small tuber was eaten by maori children and by adults too when other food was scarce. The Tuhoe tribe of the Urewera district sometimes roasted them (Best). Tubers of $\underline{\text{Microtis}}$ species were also eaten by Australian aborigines.

Orthoceras stricture (mamaika), north of Westport. Tuber is edible. Eaten by pre-European maori (Colenso 1868) contains salep (kind of starch). Crisp tender texture when raw with a sweet watery taste.

<u>Gastrodia</u> - rhizomes can be eaten after roasting or steaming in an earth oven - part of winter food supply of maori, especially of Tuhoe tribe of Urewera district.

<u>G. cunninghamii</u> (huperei), south of East Cape in beech forests. The maoris believed that huperei, unlike other plants did not grow from the earth but was created by the gods. This species was also called perei or maukuuku; when looking for these tubers they would never be called perei, but only maukuuku; if the wrong name was mentioned during the search the roots were said to hide themselves. This kind of superstition was not peculiar to the Maori, for the Tahitians had a similar custom when looking for their arrow-root. Tubers contain salep.

Tubers of G. sesamoides are not recorded as a Maori food. They have however been eaten by the aborigines of Tasmania, and have been described as tasting somewhat like beetroot (Maiden).

Thelymitra longifolia (maikuku), common maori potato.

T. pulchella (maikaika)

Tubers said to be edible and eaten by the Maori (Andersen). Crisp and slightly bitter when raw, like an insipid potato when boiled for a few minutes. Tubers of Thelymitra species were eaten by Australian aborigines.
