NEW ZEALAND NATIVE ORCHID GROUP

Newsletter No.18 June 1986

Dear Member,
Well I'm typing this in front of a roaring fire, trying to keep warm, - which makes me think of some of our very hardy little orchids- out there surviving in frost and snow.

Our distribution map scheme awaits the return of the

organiser from a trip to the UK, and a note from him just as he left says that he thinks it will have to await the ecological District maps. NZ is divided into 169 ecological districts, and descriptions of these are being worked up for publication. Looking back on our 17 newsletters I find there is a great deal of information in them already that wouldn't have been published elsewhere, so keep up the good work with your reports. I have included short summaries of some reports this time, many other details are included in your writings but

the size of the newsletter prevents listing everything. Maybe one day we will get it all on computer!

Thank you Philip Chandler for your notes, and all your detailed work Dean Pendrigh, some of which is included here. Keep those reports flowing, the smallest note may be useful to someone, who knows, you may

help change the course of science!

Dorothy Cooper, 37 Waimea Road, Waikanae.



D. Cooper I have recently been reading about the underground orchids found in Australia, and this led me to review articles about our <u>Corybas</u> <u>cryptanthus</u>, the New Zealand 'underground' orchid. I thought some of you may search and find this orchid in other areas:

J.B.IRWIN (1): During October 1949 I spent several days near Kaitaia, inthe company of Mr Owen Gibson of New Plymouth, searching for some of the rare orchids reported many years previously by R.H. and H.B.Matthews.

Realising that Corybas unguiculatus would have finished flowering 2 months previously, we paid particular attention to all seeding <u>Corybas</u> which appeared in any way unusual. We made several interesting finds near Kaitaia but were still looking for <u>C. unguiculatus</u> when we reached Wellsford on our way back to Taranaki. There in long-established manuka scrub, Owen paused to examine what he thought to be a group of seeding Corybas.

No leaves were showing so he removed the loose leaf mould expecting to find a withered leaf at the base of the stem. To our surprise he uncovered a fragile, translucent, red-flecked bract about ¾ inch long. Unlike Corybas the plant had no tubers. Below ground the plant consisted of a succulent, branching caudicle from which the flower stem arose at intervals of about 4 inches. At the base of each such stem and beneath the surface was the enlarged bract mentioned above. The stems were about 4ins high topped by single ripe capsules.

A hurried search revealed about 20 seed heads in groups of 3 or 4 over an area about 20 yards square. We collected several plants which we later showed to Mr Dan Hatch of Auckland whose work on N.Z. orchids appears in recent volumes of the "Transactions of the Royal Society of N.Z." We suspected that the strange plant was a native of Australia and that the original seed had been blown across the Tasman. Mr Hatch assured us, however, that no similar orchid had as yet been reported from that country.

Two months later on a beech ridge up the Waitotara Valley I found 3 seed heads identical with the Wellsford plants. Had I not been searching carefully for these plants, they would have remained unnoticed among the thousands of seeding Corybas trilobus present. Now that the orchid's

existence is known I feel sure that it will be found in other localities. On June 4th this year, Mr Hatch, Mr Bartlett of Silverdale and I revisited the Wellsford locality. After much careful searching we found two plants which bore buds 1/10th inch long still covered by leaf mould and moss. The buds were enclosed within the bracts which at this stage were very tiny. Mr Hatch suspects the flower blooms below the surface, the seed capsule being raised after fertilisation.

Postscript: After the above was written Mr Hatch again visited the Wellsford locality and this time succeeded in finding a plant in flower. The orchid, as it turns out, is a species of <u>Corybas</u>, but a most unusual and interesting member of that genus. As suspected the flower did not show itself on the surface and was only found by removing the moss layer. The orchid will be fully described in the Transactions in due course. - Ed.

1952 HATCH, E.D. (2): described the species in detail, pointing out that it was not strictly subterranean, for the rhizome lies on the surface, but it is subterranean in effect, for rhizome, leaf and flower are all buried beneath the surface debris. The two subterranean orchids in Australia, Rhizanthella gardneri and Rhizanthella slateri (syn.Cryptanthemi slateri, see "The Orchadian" June 1985), both consist of a tuberless, leafless, branching rhizome which flowers beneath the surface of the soil. Hatch further suggested that the species was almost certainly self-fertile and said all the flowers normally set seed. He also described how the tubers would become superfluous, - Gibson had the Waitotara rhizomes under cultivation at New Plymouth and reported that under the stimulus of the artificial environment, mature plants did form tubers before dying out.

Ecology in his paper is given as: Waitotara - Nothofagus forest with little undergrowth. <u>C. saprophyticus</u> (syn.) was found under clumps of moss among a colony of <u>C. trilobus</u>. Wellsford - a horseshoe shaped ridge enclosing a small valley facing east. Mature, rather open, manuka scrub dominated by <u>Leptospermum scoparium</u>, and containing the association usual in incipient <u>Podocarp-Kauri forest</u>. Ground cover dominated by large clumps of a species of the moss <u>Leucobryum</u>. <u>C. saprophyticus</u> was found both under these clumps and the twig debris where the manuka was more compact.

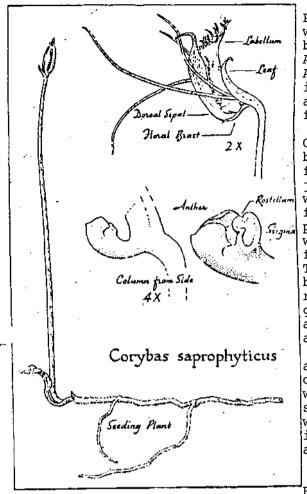
Other orchids recorded from the area were: Thelymitra longifolia, T. pauciflora, Pterostylis trullifolia var., Pterostylis trullifolia var., Pterostylis, Acianthus fornicatus var. Sinclairii, A. reniformis var. oblongus. Caladenia carnea var. minor, Earina mucronata, Prasophyllum pumilum, Corybas trilobus, C. oblongus.

J.B.IRWIN. 1954 (3): Corybas saprophyticus has been found in flower (Oct.1953) by Mr E.E. Ensor of Reefton, in bush on the lower slopes of the Victoria Range near Rotokohu. His is the only record of flowering plants since Mr Hatch found the solitary flower near Wellsford, from which the species was described. The plants were found quite by chance; while lunching in the bush Mr Ensor idly brushed aside the deep leafmould and in doing so exposed the flowers.

As the flower is borne beneath the leaf-mould the plant is not noticeable until the seed head is raised well clear, of the surface by the elongation of the peduncle after fertilisation. It could then pass for any other species of <u>Corybas</u> from which the leaf had already withered. Doubtless this orchid will be found to have a much wider distribution if botanists keep an eye open for these apparently leafless seed heads.

The accompanying drawings of the flower are from a fresh specimen, one of a number sent to the Dominion Museum by Mr Ensor. It is now preserved in the herbarium of the Botany Division, Latimer Square, Christchurch.

TONY WHITAKER, 1957 (4): One day in the summer of 1955-6 Piers Hunt and I were out looking for Bulbophyllum in the beech forest behind the



Corybas Sarophyticus J. B. Irwin

Pinehaven School (Upper Hutt). On our way back Piers noticed what he took to be a seed head of Caladenia var. minor. As we were not certain we took it to Mr A.Druce for identification. He told us it might be $\underline{\text{Corybas cryptanthus}}$ and asked us to look for the flowers the following August.

On July 17 (1956) we went over to the beech forest again and I found 5 flowers of <u>C. cryptanthus</u>, their tips just showing above the leaf mould. This we cleared away, thus exposing the flowers completely. Mr Druce later took photographs of the flowers. The plants were growing in a sheltered spot only a few yards from an open grass paddock. They were growing in the leaf mould of black beech, though there were several rimu and kahikatea trees nearby. The ground was flat, moist but not swampy, and received a certain amount of afternoon sun.

Later on we found more flowers and by the end of August we had seen over forty. On September 6th, flowering was nearly over. In December we saw several seed heads (some in places where we had not noticed flowers), but in early February we could not find

When I was away camping at Ruakaka Bay, Queen Charlotte Sound, last Christmas, Michael Christeller and I found some while we were digging for

maori relics I found underground stems of <u>C. cryptanthus</u> under some manuka. One of the plants had a seed head.

E.O.CAMPBELL, M972 (5) i states; "It is reasonable to conclude that Corybas cryptanthus is, at least in part, an epiparasite on the roots of Nothofagus and derives nutrient from the tree roots through the agency of a fungus. She also lists a few more localities in her introduction. I hope this summary whets your appetite and helps guide you in your searching. Any more information on Corybas cryptanthus?

References:

1) J.B.IRWIN, 1950. Notes on the finding of a new saprophytic orchid.

3) J.B.IRWIN, 1954. <u>Corybas saprophyticus</u>. Wgtn. Bot. Soc. Bull. 27, 1954, p.22-23.

4) TONY WHITAKER, 1957. Corybas cryptanthus (saprophyticus). Wgtn. Bot. Soc. Bull. 29. 1957, p.3.

5) E.O.CAMPBELL, 1972. The Morphology of the Fungal Association of

Corybas cryptanthus. J. Roy. Soc. N.Z. 1972. Vol.2, no.1, pp.43-47.

6) E.D.HATCH, 1963. Notes on the N.Z.Orchids, II. Trans. Roy. Soc. N.Z. Vol.2, No.14. Sept. 1963.

Wgtn. Bot. Soc. Bull. No.23, Sept.1950: 2, p.23-24.

2) E.D.HATCH, 1952. A New Species of Corybas Salisbury, and a note on some name changes in Wahlenbergia Schrader. Trans.Roy.Soc.N.2. Vol.79, Pts 3-4, pp.366-69.

Summarising a Report by BARBARA Mc GANN of Oamaru:

10/11/85 Herbert State Forest 17 miles south of Oamaru - Corybas trilobus in flower, Pterostylis and Thelymitra not in flower yet.

15/12/85 Herbert State Forest - Thelymitra pulchella beginning to flower; Caladenia lyallii in flower, Pterostylis montana in flower, Thelymitra longifolia in flower. Orchids seem 2-3 weeks later this year.

28/12/85 Pineapple walking track, Dunedin - Aporostylis bifolia flowering, Caladenia lyallii in flower.

2/i/86 Bushey Beach, 1-2 miles from Oamaru - Microtis unifolia in flower, Thelymitra finished.

14/1/86 Camerons Flat, west of Makarora (Mt.Aspiring N.P.) - Microtis unifolia, Microtis ?oligantha. Prasophyllum ?colensoi all in flower.

Pterostylis. Corybas and Chiloglottis cornuta past flowering.

And from MAX GIBBS of Taupo:

During a field trip to Lake Rotoiti (7/2/86) I had the opportunity to have lunch on shore instead of on the boat. Above the landing the spreading arms of the Pohutukawa tree were bearded with the curly canes of <u>D. cunninghamii</u>. These wispy canes were liberally decked with grapesized green seed pods looking like bead curtains. Some of the lower branches had plants still in flower. These were white with deep rose on the lip although a pure white form was also seen later. While the trunks of the trees were covered with the fern <u>Pyrrosia serpens</u>. <u>B. pygmaeum</u> was only found in the roots of the orchid. The <u>B. pygmaeum</u> formed a thick mat on the underside of the branches only. The plants had just finished flowering and were bearing large quantities of fruit. Also on the Pohutukawa tree were small tufts of juvenile plants of <u>D. cunninghamii</u> growing in the apparently dry sunbaked bark and a few plants of <u>Earina mucronata</u>. The appearance of the other trees in the area were similar with billowing clouds of <u>D. cunninghamii</u> everywhere.

Anyone else seen orchids on Pohutukawa trees? - Ed.

From JEAN JENKS Upper Moutere:

I read with interest that <u>Caladenia carnea</u> var. <u>minor</u> forma <u>calliniger</u> is in fact the species <u>C. iridescens</u>. One of the first caladenias I found in this area was this plant. The chocolate brown calli matched the description. Plants overall are slightly larger than <u>C. carnea</u> and many have two flowers on their stalk. They grow on dry clay banks under manuka to the north of Kaiteriteri and in a similar habitat on a ridge near Hori Bay to the N.E. of Nelson.

The past few months (Jan-April) have been very rewarding in the search for Prasophyllum. The common P. colensoi was again observed in many locations and differing habitats making me wonder if this could account for the wide colour variation. Soil types and the minerals they carry I know can determine the colours of flowers on some plants, so why not these?

<u>Prasophyllum nudum</u> was found in two different areas, with contrasting conditions. Both were at an altitude of about 700 metres or more. The first in scrubby manuka on the edge of pakihi, while the second sighting was in open grass growing in stony clay.

Discovering that <u>Prasophyllum pumilum</u> is well established in Golden Bay was a tremendous thrill and probably the highlight of the season. So far Ifve only seen it on pakihi areas, some several miles away from Warren Burke's original sighting near Collingwood. Seeing numerous seedlings excited me as I realised how well this plant is adapting and multiplying.

QThis brings the total to 58 species I've found in my local area, plus a couple of 'odds'.
