



Dear Member,

Well "the time has come" - in this case for fresh blood! Due to other commitments I have decided to hand this newsletter over to someone else, and Dr Ian St. George from Dunedin has kindly agreed to take over. I'm sure that under his guidance the Group will continue to do well. Ian is keen on the mapping of our orchids and has many ideas for this worked out already. It will be a big ongoing project involving you all - even the noting of one orchid will help.

I have organised the Group since its inception 5 years ago and feel it's time to hand over to someone with new ideas. I would like to thank you one and all for your interest and support, especially all those who have taken the time to write notes to me or articles for the newsletter, and I know you'll give the same support to Ian. Remember, the newsletter is yours, and the newsletter is the Society, without it the whole idea would collapse so keep it up and see if you can do even bigger things next year.

Ian will be doing the March newsletter so please send all your reports and your subscription renewals to him:

Dr Ian St George,
45 Cargill Street,
Dunedin,

Thank you all again, I have thoroughly enjoyed my 5 years and have learnt a lot myself from your contributions. Best of luck for the future of the Group, I'll still be here and will be reading future newsletters with avid interest.

Happy Orchiding,-
Dorothy Cooper.



Many thanks to Bruce Irwin, Stan Butcher, Kevin Ross, Brent Torrens and Phil Chandler for all their interesting useful information. Thanks to Morley West for the copy of his orchid record sheet, very useful Morley, I'll pass it on to Ian, and thanks to Val Smith for her note on orchiding in Britain.

Dean Pendrigh writes from Christchurch confirming P. mutica mentioned in the September newsletter, he has also found Pt. cycnocephala in the same area. His last paragraph says - also of interest this year, there are fewer Caladenia carnea specimens, only 5 plants seen, this is probably a result of the very wet year; we have already had 870mm of rain this year, the average is 650mm!

Stan Butcher writes that he noticed a photograph in Richard Sharell's "N.Z. Insects and "Their Story" (revised edition 1982) Plate 23 of a Red Admiral butterfly feeding on Earina autumnalis.

I went up the Puffer Track, Kaitoke, with Stan and the Lower Hutt ranch of Forest & Bird last weekend, and we found 25 native orchid species. Seeing that we don't leave the track on this 'annual' event, and are only out for 5 hours, Stan and I think that this is a pretty rich area. We have actually found 30 species over past years - not bad for a day's outing. The list of 'finds' is given on the next page. It is interesting to note that each year there seems to be a super abundance of a different Thelymitra species in flower. This year it was longifolia - a lovely flowering, last year formosa, the year before pulchella. A week or two difference in date and the type of season seems to make a big difference. I have listed the Gastrodias with a query because as they were immature we couldn't examine the columns; colourwise they looked like the species listed but I have discovered that that is not a reliable identification (see Newsletter 5). We also found one deformed specimen of T. hatchii. a sort of Siamese twin. Two ovaries

NATIVE ORCHIDS FOUND AT IWITAHU

Nov. 29/30 '86.

BRUCE IRWIN

The thick litter of needles on the floor of mature pine forest is an ideal medium for the growth of certain fungi upon which most orchids are to a greater or less extent dependant. Where sufficient light can enter, many native orchids find conditions superior to their natural habitat.

Further species found Dec. 86.
Caladenia carnea.
Chiloglottis gunnii.
Thelymitra sp. (too young to identify but possibly *i. formosa*).

Prasophyllum colensoi (not shown here) is rather similar to *Microtis* but the flowers have the labellum uppermost and are usually dull bronzy green. *P. colensoi* occurs among tussock and prefers open, moist situations.



Orthoceras strictum

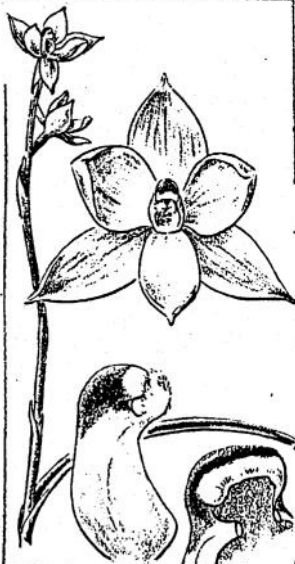
Two very similar species of *Microtis* occur here. Both have a single onion-like leaf & tiny yellow/green flowers. Identification requires the use of a strong lens.

Unlike many ground orchids, *Orthoceras* has several leaves (bright green). In Dec. plants will be immature as in the right hand sketch. Flowers are yellow/green to dull crimson - with yellow gland on labellum.



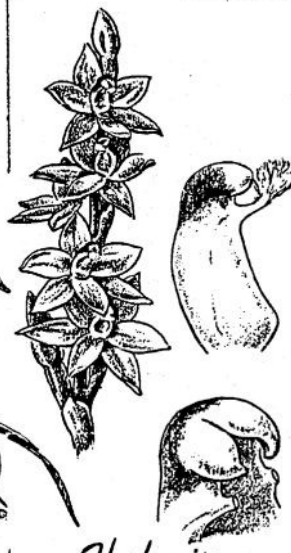
Calochilus robertsonii

Plants closely resemble those of *Thelymitra*. Flowers are shades of green with red stripes. The labellum is ornamented with lustrous red blue glands and hairs. Much more attractive than the ever present "*Psuedocalochilus maunderi*".



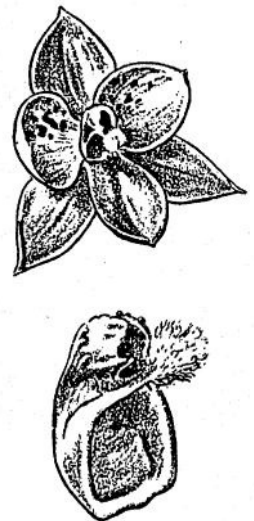
Thelymitra longifolia

The single strap-shaped leaf is thick, often ridged but floppy. Flowers are normally white but occasionally pink, not striped or spotted and open widely only in bright sunlight.



Thelymitra pauciflora

Leaf thicker, channelled and more upright. Flowers mauve, resembling *longifolia* but the midlobe of the column is deeply cleft. Flowers open only in very bright warm conditions.



Thelymitra decora

Leaf resembling *T. pauciflora*. Flower blue with darker spots. *T. ixioides* which also has spotted blue flowers may also be present. It's column is quite distinct.



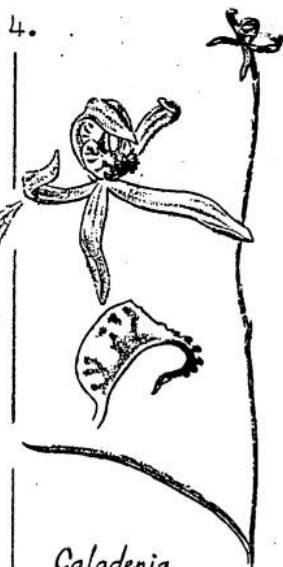
Chiloglottis cornuta

Two smooth leaves, usually lying flat on compost. Flower normally green, sometimes flushed bronze or purple. Labellum with prominent calli on upper surface.



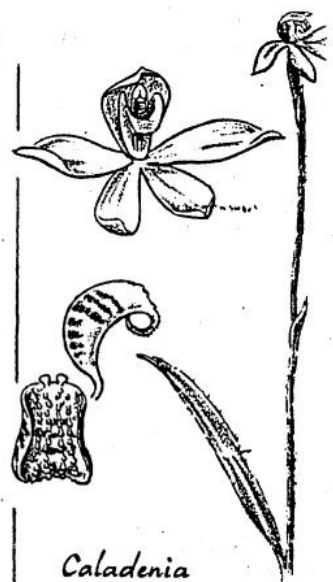
Aporostylis bifolia

Two hairy yellowish leaves, often blotched purple. Flower white. Labellum with yellow central ridges & some crimson spotting.



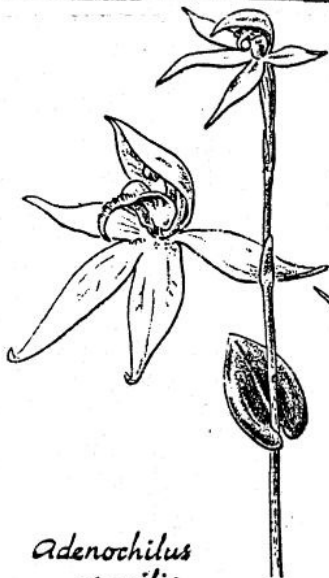
Caladenia iridescens

Single hairy leaf. Flower bronzy green with purplish patches on dorsal & labellum. Outer surfaces speckled with short dark purple hairs. Middle of labellum deep brownish purple.



Caladenia lyallii

Single rather hairy leaf much wider than in *C. iridescens*. Larger white flower with crimson bars on column and labellum.



Adenochilus gracilis

Single broad leaf held well above ground level. Flowers greenish white, with green dorsal sepal.



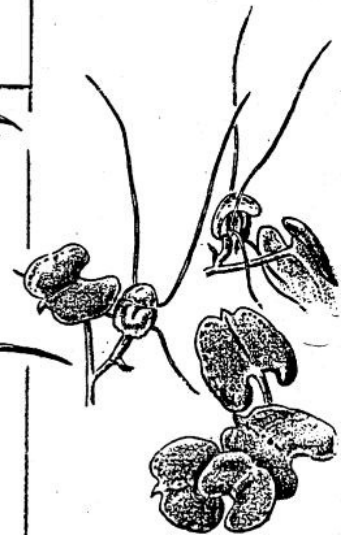
Pterostylis cardiostigma

Soft grass-like leaves. Flower white, flushed and striped with green. Stems, filaments of flowers, midribs of leaves & ovaries often flesh coloured.



Pterostylis sp.
not yet described

A very variable plant. Leaves spreading or upright. Flowers white, flushed & striped green. Tips of flower pink.



Corybas trilobus

Forming large dense colonies. Leaves distinctively shaped, green, margins often blotched purple. Flowers green to purple. Flowers at Iwitahi before December.

NOTES ON Pterostylis plumosaDan Hatch
Laingholm

Pterostylis plumosa Cady belongs to an isolated section of the genus with several species and forms in western Australia, only one of which extends to Eastern Australia and thence to NZ.

The plants reproduce only by seed and not by multiple tubers; are very dependent on mycorrhiza and cannot be cultivated with any success. Round Auckland they are generally found on gum-clay, but sometimes on red sandstone (Kare Kare) and on volcanic scoria (Rangitoto). These dissimilar substrates however are all sterile and appear to abound in mycorrhizal fungi.

One of the characteristics of this species is that the seed often germinates in clusters of up to 14 plants in an area seldom exceeding 200mm diameter. Solitary germination does of course occur, but the single plants tend not to be noticed until the rosette is well developed, or the plant is even in flower.

The seeds appear to germinate all at the same time but the young plants grow at varying rates, which seems odd in such a small area - although I have noticed a similar variation in the mycorrhizome clusters of Pt. brumalis.

Germination takes place after the autumn rains, and by mid-June the groups of seedlings are noticeable on the gum-clay beneath Leptospermum scoparium, or the horrible Hakeas - sericea and gibbosa. During the first season some of the young plants will develop as many as 6 alternate, petiolate leaves on an erect stem up to 15mm high, while others will not get beyond a single leaf. This erect early growth stage is reminiscent of the juveniles of some of the cauline-leaved Pterostylids and may perhaps give us a clue to the evolution of the NZ grass-leaved species from an ancestral rosetted form.

The second season sees the development of the characteristic petiolate- leaved flat rosette. This rosette form, providing as it does a maximum area of chlorophyll for photosynthesis, produces a rapid increase in tuber size (1982).

To take a specific case:-

A tuber 5mm diameter produced by 29 June, a juvenile-form rosette of 11 leaves with an overall spread of 37mm. The largest leaf was 20mm long (including 5mm of petiole) and 7mm broad. On 13 October (3½ months later) when the rosette dried off, the new tuber was 11mm diameter and more than 10½ times the bulk of the original!

11mm diameter incidentally is the rubicon for this species, the size at which the plant changes into the adult form and produces a flower

The uneven growth of the rosettes means that one plant in a group will sometimes 'go for flower', and begin to develop a flower stem direct from a flat rosette, without passing through the sessile folded-leaf stage which normally presages a flower. The plants are dependent on regular rainfall, and if as often happens, a dry windy spell of several weeks occurs in September, they will abort and dry off, even if they have got as far as forming a flower bud.

The seed has a penchant for germinating on banks and berms, and on the hummocks of dug-over gum-clay. The plants are subject to some natural hazards, drought and crumbling banks, and are often chewed (rabbits? opossums?); once by a weta which I caught in the act! Being both beautiful and conspicuous when in flower, they are also at the mercy of people and are dug up and trampled down. One seedling cluster I was carefully monitoring was buried under silt by a roadman intent on clearing a ditch.

There is a tendency (not invariable) for the plant to flower and die. I managed (years ago) to keep an Australian specimen in cultivation for 10 years, during the first 5 of which the plant flowered; the rosettes became smaller and the stems shorter, while the flower itself remained much the same (cf 1949). Eventually only a rosette was formed, and this in its turn became smaller until the plant finally failed to appear. I have had less luck with NZ plants in cultivation. They will

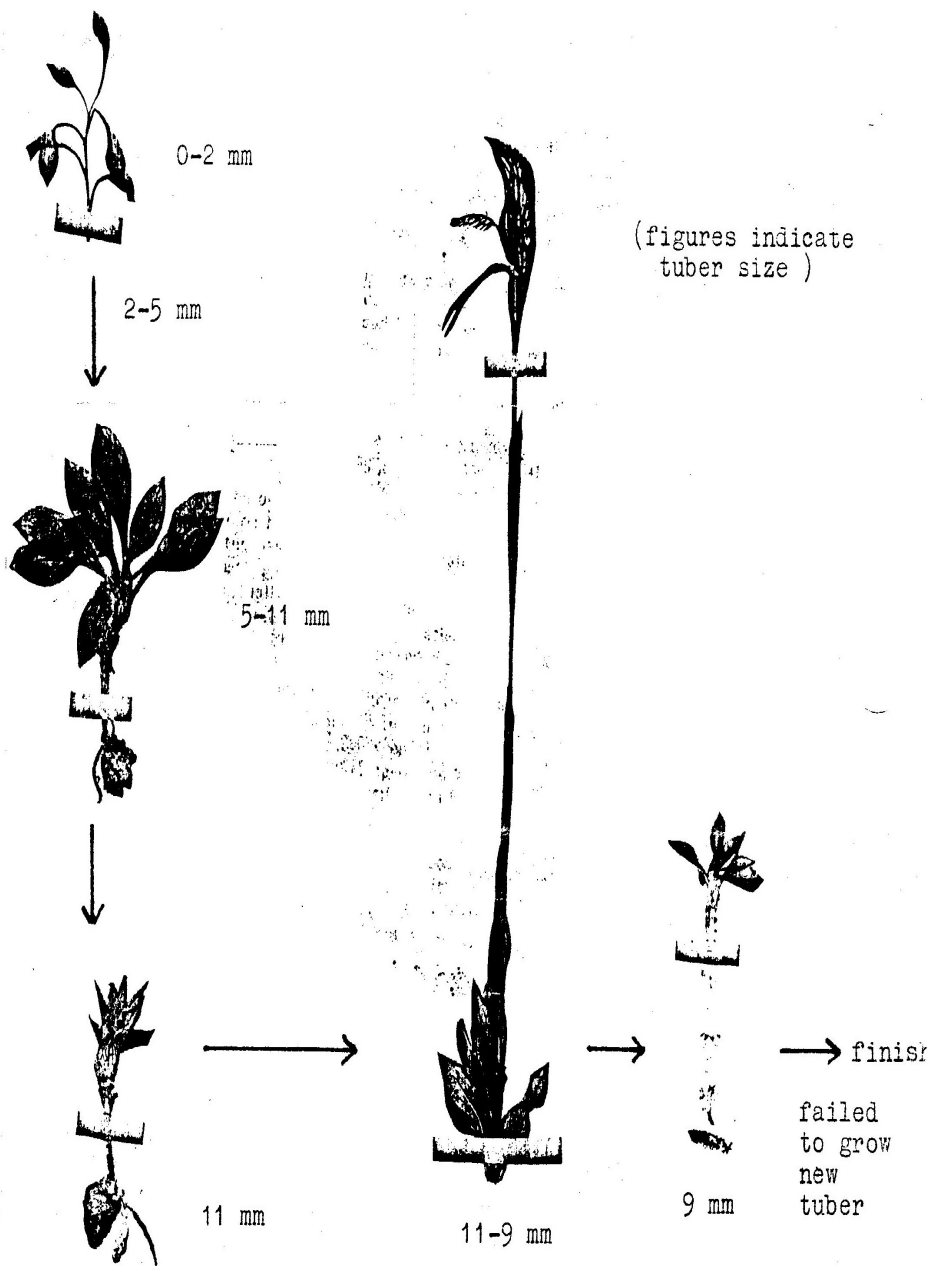
build up nicely to flowering size, followed by one or two seasons with small mature-form rosettes, then die.

In the wild, progressive deterioration after flowering also takes place, the rosettes of the following season being only half the size of those which produced the flower. None of my marked plants flowered 2 seasons running.

The pollination mechanism is insect-attractive but on some sites, notably the western and southern coastal aspects of the Waitakere Ranges, the plants are subjected to severe wind-buffeting which is more than enough to shake the pollinia loose and deposit some grains on the stigma. Be this as it may, all the flowering plants I observed set seed.

References:

HATCH E.D. Trans.R.S.N.Z. 77:p.238
N.Z.N.O.G. Newsletter 2:p.4
N.Z.N.O.G. Newsletter 10:p.4



Life History of Pterostylis plumosa Cady
1952-1956