# C.P.'s of the Southern Alps of New Zealand

by

Grant Birmingham
88 Sturrocks Rd.,
Christchurch 5,
NEW ZEALAND

&

Phil Cotter
7 Montgomery Tce.,
Christchurch 2,
NEW ZEALAND.

Editors of the N.Z.C.P.S. Journal.

## INTRODUCTION

The Southern Alps are the major mountain range in New Zealand. They run from north to south, dividing the South Island into two. The plants with which this article deals grow in the alpine, sub-alpine and montane regions of these Alps. Most of this area is highly inaccessable and government legislation protects its flora and fauna. Over the last few years we have become familiar with the C.P.'s of this region through undertaking a number of field excursions, ranging from short walks off the road to those which necessitated spending a few nights in the bush, and from observing them in cultivation. Until now very little has been published on these plants.

In New Zealand there are six species of *Drosera.* We shall be dealing with *D. arcturi* Hook., *D. spathulata* Labill.-N.Z. and *D. stenopetala* Hook. f. *D. binata* Labill., *D. auriculata,* Backh. and *D. pygmaea* DC. are also native to New Zealand but grow outside of the area of concern. We shall also be dealing with *Utricularia monanthos* Hook. f., one of the nine *Utricularia* native to New Zealand. The number of *Utricularia* is by no means definitive, as the last taxanomic study made was in 1925 and since then there has been some speculation as to the status of a number of these plants.

*D. arcturi*

The range of this species also extends to S.E. Australia. In New Zealand it is found in scattered, isolated pockets of wetlands, mainly in the sub-alpine region but also extending into alpine and montane areas, predominantly in the South Island. The two locations that we have found these plants growing in large numbers, were both sub-alpine tarns, refer to photo-Lewis Pass.

At the Lewis Pass site, *D. arcturi* was growing predominantly in *Sphagnum* and around the edges of the tarn was growing in peat in association with *D. spathulata*-N.Z. At Arthur's Pass it was growing in peat amongst a mat forming Sedge, *Donatia sp.,* as shown in *U. monanthos* photo, in addition to *U. monanthos, D. spathulata*-N.Z. and a solitary *D. stenopetala.* In both tarns seepage occurred ensuring a slow, but constant supply of fresh water.

*D. arcturi* is a semi-upright plant with brown, strap-shaped leaves up to 12cm in length. Under good conditions the tentacles are usually long and coarse terminating in a large droplet of 'dew.'

Usually there is a solitary, large white flower produced in November-February. Each flower produces a large seed capsule, 1cm long, usually containing in excess of twenty coarse seed.

At the onset of winter the plants die back to a winter bud which is formed just under the surface of the substrate. The leaves are sheathed at the base, and when they die back in winter they form a protective layer around the winter bud. During the winter the buds are normally covered in ice, snow or a combination of the two. In addition they are often exposed to freeze-thaw conditions. The buds come away again in early spring.

*D. spathulata*-N.Z.

This small, rosette *Drosera,* (refer to photo), is widespread in New Zealand, the other forms of it extend to Australia and Japan. We have found it growing

in a number of conditions ranging from water-logged peat to cracks in exposed rock. There appear to be a number of distinct populations within New Zealand, some of which exhibit distinct genetic variation. In a number of locations *D. spathulata*-N.Z. grows as an annual, being killed off at the onset of winter and appearing again in spring from seed.

*D. stenopetala.*

*D. stenopetala* is endemic to New Zealand and grows predominantly in the South Island. It is found only in a few isolated pockets mainly in the montane region, but also extending to the subalpine regions. It prefers areas of scrub, where it receives little or no direct sunlight, and has a preference for vertical faces where water either flows over it or percolates through it. This plant varies in size, considerably, according to habitat conditions.

*D. stenopetala* is a very attractive, semi-upright plant. It has a spathulate lamina at the end of a long, broad petiole, refer photo, growing to 8cm in length. This plant usually produces three or four summer leaves in the summer growth period. It produces a large, solitary white flower, similar to that of *D. arcturi,* usually in December or January.

Due to the plant growing in relatively sheltered conditions it does not die back for the winter but continues to produce leaves. In early autumn the plant starts to produce its short, thick winter leaves which are 1cm long terminating in a small, circular lamina, as broad as the petiole. The winter growth form is reminiscent of a Pygmy *Drosera.*

*U. monanthos*

We have only found *U. monanthos* growing at Arthur's Pass, in conditions as described in the section on *D. arcturi.* However it is known to grow in a number of other locations in New Zealand and Australia.

The flower of *U. monanthos* is violet-purple with a yellow eye, or rarely with a white eye*, and is particularly attractive when flowering en masse.

**CULTIVATION**

*D. spathulata*-N.Z. is easily grown from seed and plants grow equally well in peat or *Sphagnum.* It requires no special attention.

*D. stenopetala* and *U. monanthos* should be treated similarly. They both prefer a peat mix with a little sand. At all times a high water level should be maintained up to the surface of the substrate and not less than 3cm below it. The water should be changed, rather than added to, and must never be allowed to become stagnant. This is essential for the successful cultivation of these plants and is particularly important if you want your *U. monanthos* to flower. During the winter the temperature should not be allowed to drop below -4 C. during the night, and 0 C. during the day. However slightly warmer temperatures are desirable. During the summer, night temperatures should not drop below 0 C. and day temperatures should be around 20 C.

*U. monanthos* is a vigorous grower and hence easy to propagate. *D. stenopetala,* on the other hand, is extremely difficult to propagate. We have experimented with seed under various conditions, and the only success has been with seed sown amongst the parent plants.

*D. arcturi* should be cultivated, as above, with the exception that it prefers *Sphagnum* and requires winter temperatures below 0 C. We have had limited success with seed. We recommend heavy stratification.

*Allen, H.H., *Flora of New Zealand.* Vol. 1. Govt. Printer, Wellington, New Zealand. 1982.

## SPECIAL NOTICE

CPN heartily welcomes slides and photos for consideration. Contributors should label *each* slide or photo with caption information as well as name of photographer. If contributors wish their photos or slides returned, it would be very helpful to pencil in a "please return" on each item. Thanks.

*D. arcturi,* habitat, Lewis Pass.

photos by P.D. Cotter

*U. monanthos,* habitat, Arthur's Pass.