

into six-inch long tassels of white fibres. At my request Mr. Purdie prepared a short statement of his interest in the brooms in general, incorporating a request for help from our Society's members.

THE VEGETATION AND FLORA OF MT. MASON

B.P.J. Molloy

Mt. Mason, or Trig Station Q (Grid Ref. S60/896337), is a relatively low peak (850 m) in the Cavendish Hills on the south-western margin of the Culverden Basin. It is situated on a hill country property known by the same name ("Mt. Mason"), approximately 6 km from Masons Flat and 12 km from Hawarden. Access to "Mt. Mason" homestead is provided by the Virginia Road which follows the North Branch Waipara River. From here to Mt. Mason itself is a private vehicle track which brings the summit within easy walking distance of the homestead. Permission is needed to use this track.

"Mt. Mason" is run by S.J.S. (Stephen) Barker, a great-grandson of Dr. A.C. Barker (1819-73) who is well known today for his early sketches and photographs of Canterbury and its people. Stephen Barker is also responsible for the family property on the Chatham Islands. It is little wonder then that a prominent plant cultivated at "Mt. Mason" homestead is a Chatham Island endemic, Hebe barkeri, named by Cockayne after S.D. Barker, a son of Dr. A.C. Barker.

Mt. Mason lies in an interesting block of country, due it seems largely to its geographic position. This is transitional or "front country" of comparatively low altitude, bordering an inland basin of even lower relief and drier climate. At the other extreme are the higher, colder and wetter mountains (Puketeraki Range) to the west.

The rocks are mainly Triassic greywackes typical of the western mountains but with much intruded volcanic rock. Faulting is prevalent - one prominent fault runs through the area (including the homestead site) in a NE - SW direction. This fault is also responsible for the appearance of younger Tertiary rocks at the present surface. A good example is the prominent scarp of Weka Pass limestone below Mt. Mason.

The soils of the area reflect these differences in rock types and the transitional climate. Soils of the higher slopes tend to be shallow, stony and well drained, and in places show the influence of surface volcanics. In general these soils are more fertile than their counterparts further west. This is suggested by the occurrence of Hall's totara (Podocarpus hallii) and other species such as holy grass (Hierochloa redolens) and mountain flax (Phormium cookianum). Soils of the lower slopes tend to be deeper, finer, less well drained and less fertile, as indicated by the presence of manuka (Leptospermum scoparium) and browntop (Agrostis tenuis). The limestone scarp supports several species usually confined to this habitat, and the fertile talus slopes below the scarp carry dense mountain flax.

The vegetation at low levels is typical of much country further afield, with various admixtures of short-tussock grassland supporting many adventives, and scrub communities of which manuka and Coprosma are the most extensive. Mountain flax and holy grass dominate mid-slope positions, gradually giving way to montane scrub and grassland with snow-tussock affinities. The dominant vegetation of the main ridge leading to Mt. Mason consists of stands of Hall's totara. Though some are very old, these totaras appear to be in good condition, and regeneration is apparent on the margins. One plant of snow totara (Podocarpus nivalis) was seen and at least one hybrid between this species and Hall's totara is present. These totara stands are best developed on rock and talus slopes similar to those in Mid and South Canterbury. The surrounding scrub and grassland contains several species more or less confined to North Canterbury, and includes an excellent representation of Hebe and Olearia.

Other communities of interest occur nearby. The ridge stands of beech (Nothofagus solandri) look interesting (they were not examined thoroughly), and it would be useful to compare the beech and Hall's totara stands in this area.

I suspect that both elements are natural to the area, and that in its primitive state the landscape would have carried totara/broadleaf forests, with beech perhaps confined to the drier ridges. This vegetation was destroyed largely by fire before European settlement. Charcoal of Hoheria lyallii was recovered from a buried soil at one site (live H. lyallii occurs there still) and could have been derived from an early fire.

A checklist of plant species is given in Table 1. This list is by no means complete and additional species will be found with a closer inspection of the area.

TABLE 1

Check List of Plants

Mt. Mason and surrounds

* species of particular interest

Ferns:

- | | |
|---|-----------------------------------|
| * <u>Asplenium lyallii</u> - limestone spleenwort | common on limestone ridge |
| <u>A. flabellifolium</u> - necklace fern | common on rocks of main ridge |
| <u>A. terrestre</u> - ground spleenwort | occasional on rocks and limestone |
| <u>Blechnum penna-marina</u> - little hard fern | common in grassland throughout |
| <u>Polystichum richardii</u> - black shield fern | occasional on limestone ridge |
| <u>Pteridium aquilinum</u> - bracken | common in scrub and grassland |
| <u>Pyrrhosia serpens</u> - leather leaf | occasional on rocks of main ridge |

Trees and shrubs:

- | | |
|---|-------------------------------|
| <u>Aristotelia fruticosa</u> - mountain wineberry | common in scrub on main ridge |
|---|-------------------------------|

<i>Carmichaelia robusta</i> - N.Z. broom	frequent in scrub on main ridge
<i>Carpodetus serratus</i> - putaputaweta	occasional beech remnant
<i>Cassinia fulvida</i> - tauhinu	common in scrub on main ridge
<i>Cordyline australis</i> - cabbage tree	occasional at low levels
<i>Coriaria sarmentosa</i> - tutu	widespread throughout low levels
<i>Corokia cotoneaster</i> - corokia	common in scrub on main ridge
<i>Coprosma</i> cf. <i>brunnea</i> - coprosma	occasional on limestone ridge
<i>C. crassifolia</i> - coprosma	common on main ridge
<i>C. microcarpa</i> - coprosma	occasional on main ridge
<i>C. propinqua</i> - coprosma	common in scrub throughout
<i>C. rhamnoides</i> - coprosma	common in scrub throughout
<i>C. rugosa</i> - coprosma	colonies at low levels
<i>Cyathodes fraseri</i> - patotara	common throughout
<i>C. juniperina</i> - patotara	common in scrub at high levels
<i>Discaria toumatou</i> - matagouri	widespread throughout
<i>Gautheria antipoda</i> - forest snowberry	occasional in higher scrub
<i>G. depressa</i> - snowberry	common throughout
<i>Griselinia littoralis</i> - broadleaf	occasional on main ridge
* <i>Hebe glaucophylla</i> - hebe	common on Mt. Mason
* <i>H. raoulii</i> - hebe	common on rocks of main ridge
* <i>H. traversii</i> - hebe	common throughout
* <i>Helichrysum selago</i> var. <i>acutum</i> - everlasting	rocks on main ridge
<i>Hoheria lyallii</i> - mountain lacebark	occasional on main ridge
<i>Hymenandra alpina</i> - porcupine bush	common on main ridge
<i>Leptospermum ericoides</i> - kanuka	occasional in scrub throughout
<i>L. scoparium</i> - manuka	common in scrub at low levels
<i>Muehlenbeckia complexa</i> - pohuehue	common in scrub throughout
<i>Nothofagus solandri</i> - beech	pockets on adjoining ridges
<i>Olearia avicenniaefolia</i> - mountain akeake	occasional in scrub throughout
<i>O. arborescens</i> - olearia	rare in scrub on Mt. Mason
<i>O. nummularifolia</i> - olearia	occasional in scrub throughout
* <i>O. paniculata</i> - coastal akeake	occasional in scrub throughout
<i>Pimelea oreophila</i> - pimelea	occasional throughout
<i>P. traversii</i> - pimelea	occasional in scrub
* <i>Podocarpus hallii</i> - Hall's totara	common on higher ridges
<i>P. nivalis</i> - snow totara	rare on Mt. Mason
<i>P. hallii</i> x <i>nivalis</i> -	rare hybrid on Mt. Mason
<i>Pseudopanax crassifolius</i> - lancewood	occasional, beech remnants

- Sophora microphylla* - kowhai occasional on main ridge
* *Traversia baccharoides* - tree daisy occasional, limestone ridge

Climbing plants

- Rubus schmidelioides* - lawyer common in scrub throughout

Parasites

- Korthalsella lindsayi* - dwarf mistletoe on *Coprosma crassifolia* alongside track

Grasses and grasslike plants

- Agrostis tenuis* - browntop widespread adventive
Bulbinella angustifolia - Maori onion common at low levels
Carex breviculmis - dwarf carex common throughout
Chionochloa flavescens - broad leaved snowgrass common on main ridge
C. macra - slim snowgrass occasional on main ridge
Cortaderia richardii - toetoe occasional at low levels
Cynosorus cristatus - crested dogstail widespread adventive
Dichelachne crinita - plume grass common throughout
Festuca novae-zelandiae - hard tussock common throughout
Hierochoe redolens - holy grass common at low levels
Holcus lanatus - Yorkshire fog widespread adventive
Luzula rufa - woodrush common throughout
Notodanthonia clavata - danthonia common at low levels
N. gracilis - danthonia common on ridge
N. setifolia - danthonia common on Mt. Mason
Phormium cookianum - mountain flax common on limestone, mid altitudes
Poa caespitosa - silver tussock common at low levels
Poa colensoi - blue tussock common on main ridge

Other herbs

- Acaena caesiiglauca* - piripiri common throughout
Aciphylla aurea - spaniard occasional on main ridge
Anisotome aromatica - anisotome widespread throughout
Bellis perennis - field daisy occasional adventive at low levels
Brachycome sinclairii - brachycome common on Mt. Mason
Cerastium holosteoides - chickweed widespread adventive
Colobanthus strictus - colobanthus occasional on Mt. Mason
Crepis capillaris - hawkbeard widespread adventive
Epilobium chlorifolium - willowherb common throughout
Geranium sessiliflorum - geranium common at low levels

<i>Gingidia montana</i> - aniseed	occasional on limestone
<i>Helichrysum bellidioides</i> - everlasting	occasional throughout
<i>H. filicaule</i> - everlasting	common at low levels
<i>Hypochoeris radicata</i> - catsear	widespread adventive
<i>Linum catharticum</i> - purging flax	widespread adventive
<i>L. monogynum</i> - native linum	common on limestone
<i>Oreomyrrhis rigida</i> - oreomyrrhis	common at low levels
<i>Oxalis corniculata</i> - oxalis	common throughout
<i>Plantago lanceolata</i> - plantain	common adventive
<i>Ranunculus lappaceus</i> - buttercup	common at low levels
<i>Raoulia subsericea</i> - raoulia	common throughout
<i>Rumex acetosella</i> - sorrel	widespread adventive
<i>Scleranthus uniflorus</i> - scleranthus	occasional on the main ridge
<i>Senecio bellidioides</i> - native groundsel	common throughout
<i>Sonchus oleraceus</i> - sowthistle	occasional on limestone
<i>Stellaria gracilentia</i> - N.Z. chickweed	common throughout
<i>Viola cunninghamii</i> - native violet	common throughout
<i>Vittadinia australis</i> - vittadinia	occasional on main ridge
<i>Wahlenbergia albomarginata</i> - native bluebell	common throughout

Comments on Species of Particular Interest

Asplenium lyallii - limestone spleenwort - a species of considerable variability and confined to limestone throughout New Zealand. The Mt. Mason population is uniform and a useful link in the overall network of this species. (N.Z. J. Bot. 15: 1977).

Hebe glaucophylla - hebe - this species, more or less confined to Canterbury, occurs along the front ranges and inland basins and is well represented on Mt. Mason. It is usually more local in occurrence.

Hebe raoulii - hebe - an attractive small shrub with reddish-edged leaves and pinkish flowers. Usually confined to rocky habitats and again largely found in Canterbury along the front ranges. Well represented on Mt. Mason.

Hebe traversii - hebe, usually taller than the others and often found in forest; distributed from southern Marlborough to South Canterbury. Common on Mt. Mason.

Helichrysum selago var. *acutum* - everlasting - this particular variety is confined to North Canterbury, centred on Hanmer and surrounding ranges. Again it is well represented on Mt. Mason.

Olearia paniculata - coastal akeake - common in coastal districts of Canterbury; less common inland and usually riparian in these stations.

Podocarpus hallii - Hall's totara - Mountain forests and open woodlands of this species are well developed in Marlborough, on Banks Peninsula, in South Canterbury, and in Otago. It appears that similar forests were also present on the drier ranges of North Canterbury, but most were cleared by natural or early Polynesian fires. The Mt. Mason population probably is the largest stand left in this region, and includes at least one plant of snow totara, and hybrids between it and Hall's totara.

Traversia baccharoides - tree daisy - this white-flowered species is another shrub distributed from southern Marlborough to North Canterbury. On Mt. Mason it is confined to limestone.

SAND DUNE FUNGUS AT KAIRAKI BEACH, NORTH CANTERBURY

By Bryony Macmillan

During the Society's outing to Kairaki salt marsh and beach on 7th October, 1976, a group who returned along the foredune was intrigued to find a fungus which none of us had seen before.

Clusters of grey-brown flask-shaped structures were huddled together on the seaward side of a low dune, on which marram grass (*Ammophila arenaria*) grew. The individual flasks were several centimetres across and when we gently lifted them out of the sand very fragile strings of mycelia covered with sand grains were found to be attached.

Specimens were named by Miss Joan Dingley of Plant Diseases Division, Auckland, as *Peziza austrogeaster*. It is a cup-fungus, saprophytic on decaying plant fragments in the sand.

GASTRODIA CUNNINGHAMII - FURTHER FIND

By Edith Shaw

In Journal No. 8 "Orchids of Banks Peninsula" - M.J.A. Simpson mentions *Gastrodia cunninghamii* as being found in Podocarp forest Montgomery Bush.

On 5th February, 1977 while visiting Jollies Bush I found one plant of *Gastrodia cunninghamii* growing in a well-shaded spot about quarter the way along the track going up the hill.

Jollies Bush (1.1 hectares) is an area of original bush in which there has been planted a mixture of native trees and shrubs. Besides beech, totara and olearias, large specimens of *Brachyglottis* (Rangiora) and *Paratrophis* (milk-tree) may be found here. From the top of the hill is an excellent view of Pegasus Bay.
