Pink flowers are quite common with P. capsularis but this is the only pink P. heterophylla I have seen.

I would be interested in any other pink flowering plant of P. heterophylla.

Pink hybrids occur where P. heterophylla and pink forms of P. capsularis grow together.

FERNS OF THE CHRISTCHURCH PORT HILLS

John Thompson

During this season one further fern species was found growing on the Port Hills to add to the list set out in Journal 13.

One small patch of Hypolepis millefolium can be seen in the bush in the valley west of Kennedy's Bush. This brings the total fern species on the Port Hills to 51 species.

THE HUNTERS HILL, 1980

L.J. Metcalf

The Society's 1980 Summer camp was held at Camp Lindisfarne in the upper Pareora Gorge amid the lower slopes of the Hunters Hills, South Canterbury. The duration of the camp was to have been from the 4th to the 10th of January, but because of flooding just a day or two beforehand the start was delayed by one day.

The main field trips undertaken were to the Pareora River Scenic Reserve, Mt. Nimrod Scenic Reserve and the Matata Scenic Reserve. However, one or two members also investigated the limestone areas of the Pareora Scenic Reserve and the summit of Mt. Nimrod. On the last day of the camp members were entertained at Bluecliffs, by Miss Paulette Woodhouse and her mother, where they were shown the treasures of that fine old homestead and also inspected the Woodhouse herbarium. The Woodhouse herbarium contains specimens of the plants to be found on the Bluecliffs property.

The Hunters Hills lie athwart the downlands of South Canterbury and they are the most prominent outlying range of the Southern Alps in that region. From State Highway 1 or the Pareora to Cave Road they appear to be nothing more than gently rounded hills after the style of those of Banks Peninsula. However, they are surprisingly rugged. The interior valleys and gullies are mostly very steep and rugged, while the rivers emerge through deep rugged gorges

which would be very difficult to penetrate. Above the gorges many of the tributary streams are also rather gorge-like. By way of contrast the summit ridge tends to be very flat and featureless.

Much of the lower slopes of the Hunters Hills was formerly covered with the matai-totara-kahikatea forest which extended round the foothills of South Canterbury. Today, only a few remnants remain on the Hunters Hills. Fortunately the best samples are contained within the three main scenic reserves. A fourth scenic reserve (Tasman Smith), not visited by the party, is notable because it contains a small stand of silver beech (Nothofagus menziesii) which does not appear to have been recorded elsewhere on the Hunters Hill.

There does not appear to have been much botanical exploration in the Hunters Hills and even less has been published. It is possible that either J.F. or J.B. Armstrong visited the area. In the Armstrong Herbarium a number of specimens are labelled as being collected from Albury and knowing the rather generalised localities that they sometimes recorded it would not be surprising if Albury also included some part of the Hunters Hills. Workers known to have visited the area are H.H. Allan, A.E. Esler, A.P. Barker and G.C. Kelly. The herbarium collected by Mrs. A.E. Woodhouse numbers hundreds of specimens and represents the only significant collection of the plants of the area.

The species lists compiled by Kelly (Scenic Reserves of Canterbury) were most useful and were used by members as the basis for compiling more comprehensive check lists of plants found in the reserves that were visited. For the sake of brevity it is not proposed to list all of the plants recorded.

The following lists will only indicate those plants observed by Kelly and not noted by members of the Society and those which were observed by members of the Society and not by Kelly. All of these lists should be read in conjunction with Scenic Reserves of Canterbury.

Pareora River Scenic Reserve: This reserve extends up the river for a considerable distance and includes the dam which stores Timaru's water supply. The pipeline from the dam doubles as a footbridge in places and provides an easy, although somewhat thrilling, means of crossing the river. The walk up the river is very pleasant with clearings on the river flats with alternating stands of bush. Most of the area has been cut-over and probably burned-over as well so that few large trees remain. However, the remnants and the second growth provide plenty of interest.

Above the dam the river flows through a very deep gorge and the bush becomes confined to the slightly less precipitous hillsides above the gorge. It was in this area that members first became aware of the impact that the red-necked or scrub wallaby (Protemnodon rufogrisea) has had on the forest vegetation. Under the bush canopy virtually everything below 2 metres tall had been browsed by the wallabies. Apart from a few ferns which were obviously not palatable, or had been missed, the forest floor was absolutely bare. Although the wallabies may not be present in such large numbers as previously, it would take very few to keep the bush so permanently degraded.

After climbing through the bush above the dam one eventually comes onto a steep, rocky spur where various grassland and subalpine species make their appearance. Most interesting were several shady bluffs where plants such as Celmisia spectabilis var. magnifica, Helichrysum selago and Senecio lagopus were observed. The Senecio was quite different to plants of that species normally found in mountain regions and was of similar size and appearance to those found on Banks Peninsula and at Woodside Creek in Marlborough.

Also growing on these bluffs is a glaucous-leafed Hebe with amplexicaul leaves, and which may be the same plants which were observed by Esler (Flora of N.Z. 1, 1961, 920). This plant has been attributed to H. amplexicaulis. The flowers of H. amplexicaulis are stated as being sessile while the plants (which had almost finished flowering) from the Upper Pareora River were distinctly pedicellate beneath the capsules. As with a number of other plants it is perhaps a case of the flowers appearing to be sessile, but actually having very short pedicels which elongate when in fruit.

* Denotes species listed by Kelly but not observed by Society members.

Acaena sp.
Acaena inermis
Adiantum cunninghamii
Agropyrum scabrum
Arthropodium candidum
Asplenium richardii
Australina pusilla
Azolla rubra
Blechnum vulcanicum
* Brachycome sp.
Carex coriacea
Celmisia gracilenta
Celmisia graminifolia
Cheilanthes sieberi
* Coprosma rubra
Corybas macrantha
* Corybas triloba
Cotula sp.
Gastrodia sp.
Gaultheria antipoda
Gaultheria crassa
Gaultheria depressa
Gentiana sp. poss. G. grisebachii
Geranium microphyllum var. discolor
Geum leispermum
Hebe sp. cf. amplexicaulis
Helichrysum selago
Hymenanthera alpina
* Hymenanthera crassifolia
Hypolepis tenuifolia
Korthalsella lindsayi
Lemna minor
Lophomyrtus obcordata
Lycopodium billardieri
Lycopodium fastigiatum
Mentha cunninghamii
Microtis oligantha
Muehlenbeckia axillaris
Myriophyllum sp.
Nertera sp.
* Nertera setulosa
Notodanthonia sp.
Ophioglossum coriaceum
* Oreomyrrhis ramosa
Oreomyrrhis rigida
Parietaria debilis

Phormium cookianum
* Poa sp.
* Poa anceps
Pratia angulata
Pterostylis areolata
Pterostylis graminea
Raoulia tenuicaulis
Rumex flexuosus
* Schizeilema trifoliolatum
* Senecio sp.
* Thelymitra sp.
* Tillaea sieberiana
Vittadinia australis
Wahlenbergia sp.

It should be noted that Anisotome aromatica listed by Kelly is probably A. aromatica var. major which grows quite luxuriantly on rock bluffs.

Mount Nimrod Scenic Reserve sits between Nimrod Stream and the White Rock River and covers an area of 209 hectares. It is rated by Kelly as being potentially the most valuable of the scenic reserves on the Hunters Hills. Recently the Lands and Survey Department has been constructing one or two tracks which will improve access to some of the more remote parts of the reserve. Kelly's assessment is that potentially it is the best example of mixed broadleaf forest in an 800mm rainfall area in Canterbury. Scenically it is also very good. Like most similar areas in Canterbury the accessible parts of the bush were logged for timber, although some of the podocarps still remain. In the gorge of the Nimrod Stream there are two quite substantial waterfalls which add to the scenic attractions of the area.

* Denotes species listed by Kelly but not observed by Society members.

* Acaena caesiglauca
* Acaena pusilla
Arthropodium candidum
Asplenium richardii
* Blechnum minus
Blechnum vulcanicum
* Callitriche sp.
* Carex secta
* Carmichaelia sp.
* Colobanthus sp.
* Coprosma areolata
* Coprosma brunnea
* Coprosma rhamnoides
* Coprosma rugosa
* Cortaderia richardii
Corybas macrantha
Cotula sp.
* Dichondra brevifolia
* Elaeocarpus hookerianus
* Erechtites sp.
* Fuchsia colensoi
Gaultheria crassa
* Gaultheria rupestris
* Gentiana sp.
* Gnaphalium involucratum
* Helichrysum aggregatum
Histiopteris incisa
* Hydrocotyle americana
* Hymenophyllum bivavle
Hypolepis rugosula
* Juncus sp.
* Leptospermum scoparium
* Lycopodium varium
Lycopodium volubile
* Melicope simplex
* Mentha cunninghamii

* Muehlenbeckia axillaris
* Notodanthonia spp.
Olearia virgata
Ophioglossum coriaceum
Oreomyrrhis colensoi
* Oreomyrrhis ramosa
Oreomyrrhis rigida
* Paesia scaberula
* Parsonsia heterophylla
* Phormium cookianum
* Pimelea pseudolyalli
Plantago sp.
* Poa sp.
Pratia angulata
* Pseudopanex anomalus
Pterostylis banksii
* Ranunculus sp.
Raoulia australis
* Raoulia glabra
* Raoulia hookeri
Raoulia subsericea
* Schizeilema trifoliolatum
* Schoenus pauciflorus
* Senecio sp.
Senecio sciadophilus
Tmespteris tannensis
* Uncinia banksii
* Uncinia rubra
* Uncinia unicinata
Wahlenbergia albomarginata
* Wahlenbergia gracilis

Mount Nimrod. It is possible to drive to the top of Mount Nimrod although a four-wheel drive vehicle is necessary and in places the road is not for the timid. At 1,525 metres the summit is gently rolling with outcroppings of shattered rock. The vegetation is very low and compact and in appearance more like that found on the mountains of Otago rather than that of Canterbury.

Typical plants of the summit vegetation are Celmisia sessiliflora, C. laricifolia, C. lyallii, rather dwarfed plants of C. spectabilis var. magnifica and the occasional C. X pseudo-lyalii. Dracophyllum pronum is common around the rocks while D. prostratum grows amongst the low matted vegetation. Patches of Phyllachne colensoi were also scattered through the matted vegetation along with Raoulia grandiflora and R. parkii. A small plant which was tentatively identified as Parahebe trifida was found on the summit. If the identification is correct it places this species far to the north and east of its nearest habitat on the Old Man Range. On a rocky outcrop just below the summit rocks one or two plants of Aciphylla montana were seen. This sighting also places this species outside of its recorded range. Other plants noted were Gnaphalium traversii, Myrsine nummularia and Senecio bellidioides.

Down from the summit where the gullies become gorge-like and moist, magnificent banks of Celmisia coriacea occur and with many of the plants in flower they were a grand sight. Hymenophyllum multifidum grows on any moist shady bank amongst the scrub and snow grass, and Lobelia linnaeoides appears on the more open spurs. Time to study the plants on the upper slopes of Mount Nimrod was rather limited, but it was obvious that this area would repay further study.

Matata Scenic Reserve is situated in the Mata Valley immediately to the north of the Mount Nimrod Reserve. From the outside it is an attractive reserve with high, rocky bluffs guarding the very deep gorge. The approach to Matata is across a farm paddock and then through scattered trees before coming to the stream and entering the bush proper. Access is best up the true right-hand bank of the stream. The composition of the bush is similar to the other reserves and it has been degraded to a considerable degree because of grazing by stock and browsing by wallabies. One or two plants of the wheki ponga (Dicksonia fibrosa) were the only sighting of tree ferns anywhere in the area. Kelly recorded Cyathea smithii from Matata, but no plants of this species were observed. It is believed that the Easter orchid (Earina autumnalis) occurs in this reserve, but unfortunately its sighting could not be confirmed.

The rocky bluff above the gorge is steep and about 640m high, however, from the top there is a fine view of the reserve and out from the Hunter Hills over the Pareora Valley. On the rocks at the top of this bluff grow Senecio lagopus, Helichrysum selago, Thelymitra sp., Lycopodium billardieri and Hebe ? amplexicaulis.

Matata is potentially a very good reserve although attention needs to be paid to completing the fencing before any improvement in the regeneration of the forest floor vegetation can be expected. Access to it is not well defined, although at present that probably does not matter too much.

* Denotes species listed by Kelly but not observed by Society members.

* Acaena caesiiglauca
Anisotome filifolia
Asplenium richardii
Australina pusilla
Blechnum capense
Blechnum vulcanicum
* Coprosma rhamnoides
* Coprosma rigida
* Coprosma rubra
* Coriaria sarmentosa
Corybas triloba
* Cyathea smithii
Dicksonia fibrosa
? Earina autumnalis
* Epilobium rotundifolium
Exocarpus bidwillii
* Fuchsia colensoi
Gaultheria antipoda
* Gaultheria depressa
* Gentiana sp.
Haloragis erecta
Hebe cf. amplexicaulis
* Helichrysum bellidioides
Helichrysum aggregatum
Helichrysum selago
Hymenanthera alpina
Hypolepis rugosula
Juncus australis
Juncus gregiflorus
Lagenifera pumila
Libertia ixioides
* Luzula sp.
Lycopodium billardieri
Mentha cunninghamii
Microtis unifolius
* Notodanthonia sp.
Ophioglossum coriaceum
Oremyrrhis sp.

* Paratroplis microphylla
* Phormium cookianum
Plantago sp.
* Plantago novae-zelandiae
* Poa sp.
Pseudopanax anomalus
* Pseudopanax arboreus
* Raoulia glabra
Raoulia subsericea
Rumex flexuosus
* Schizeilema trifoliolatum
* Senecio sp.
Thelymitra sp.
* Todea hymenophylloides
Tupeia antarctica
* Uncinia rubra
Urtica ferox
Vittadinia australis
Wahlenbergia sp.

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VICTORIAN FERNS

John Thompson

Victoria is not so rich in fern species as is New Zealand, however some 85 species of ferns can be found there. Of these ferns some 55 species grow in New Zealand. On a visit to Victoria, therefore, one can expect to find quite a number of ferns with which one is familiar.

In our three day's stay at Wilsons Promontory we met up with 22 species of ferns and fern allies; most of these were seen on the Lilly Pilly Gully track.

Of these the following species can be found in New Zealand:-

Adiantum aethiopicum
Asplenium flabellifolium
Phymatosorus diversifolius
Pellaea falcata
Rumohra adiantiformes
Trichomanes diversifolium
Histiopteris incisa
Lindsaea linearis
Pteridium esculentum
Gleichenia microphylla
Blechnum lanceolatum
Hypolepis rugosula
Tmesipteris billardieri