Cornish Head (Waikouaiti), 4th December Field trip.

By Brian Patrick (Otago Museum)

On the 4th December 1999 fourteen members of the Botanical Society of Otago explored several native plant communities of considerable scientific and conservation interest at Cornish Head, Waikouaiti. We would like to thank Mr John Toomey on Matanaka Drive, the landowner, for access.

These communities grow on Tertiary age sedimentary rocks at three discrete steep sites that face southeast, on the southwest margin of Cornish Point (I43 298075). It is ironic that this natural ecosystem has remained hidden and unrecognised at the site of the earliest organised European settlement in Otago, Matanaka (1840). All the significant sites found are virtual fire and stock refugia due to the difficulty of access and probable moisture constraints. The communities of great interest extend from near sea level to about 30 metres above sea level on coastal cliffs, and extend about one kilometre along the coastline to Cornish Head. A little further inland, cliff faces extending to 165 metres above sea level also harbour native plant communities of significance. The outer (eastern) coastline has been examined also and is of much less interest in terms of significant native plants and insects. Great care needs to be taken in examining all these communities due to the steepness and instability of the substrate at the sites.

Moist, mainly southeast facing slopes are dominated by fragmented silver tussock, *Poa cita*, grassland containing abundant sedges, herbs and low shrubs. Some of these refugia are extensive while others are less than 20 metres wide.
This community is significant for a number of reasons, among them:

- The presence of the tall form of *Gingidia montana*, otherwise only known in eastern Otago from Mopanui (Peat & Patrick

1995). At both sites it is rare and localised with less than 30 plants at Mopanui and less than 50 here. It was in flower when discovered at this site, and very conspicuous.

- The biogeographical importance of the presence of this form of *Gingidia montana*. The northeast Otago diminutive blue-green form is found as far south as Mt Watkin, which is only 10 kilometres to the northwest of Cornish Head. Only two sites on the eastern Otago-Southland have populations of this taller form of the species with the small form present further north to Shag Point and inland to the Horse Range and Macraes area.
- A large population, in excess of 130 plants, of an undescribed species of *Pimelea*, usually referred to as *P. urvilleana*. Further north on the coast south of the Shag River mouth is another large population of this low shrub. These are the largest populations known in eastern Otago and the Shag River population supports the only known population of a new species of diurnal moth in the genus *Notoreas*. It is possible that this colourful moth will be found at Cornish Head too as possible feeding damage was found.
- A diverse coastal remnant. This is the only remnant of this particular community known on the eastern Otago coastline. It is therefore a small window on the past vegetation of the Otago coast.
- The size of the individual refugia and extent of the community appears to be sustainable in terms of recruitment and stable in terms of threats.
- Aesthetically it adds much further interest to an impressive coastal area.
- The silver tussock supports the widespread tussock butterfly species *Argyrophenga antipodum* at its type locality. It was named in 1845 from specimens collected by Earl.
- Coastal grassland supports a large population of the tiny, diurnal moth *Mnesarchaea paracosma*. The species belongs to an endemic New Zealand moth family and is localised in its distribution.

- ❖ The community appears to be very little damaged by introduced animals. Possums have been much reduced in numbers in recent years (John Toomey pers. comm.)

Impressive cliffs further inland support large areas of broadleaf forest with shrubland of *Helichrysum lanceolatum, Corokia cotoneaster, Melicope simplex* and *Coprosma propinqua.* The localised liane *Scandia geniculata* together with *Parsonsia heterophylla* are draped over these shrubs. Yellow mistletoe *Ileostylus micranthus* grows on the *Coprosma* in places. Another mistletoe, the dwarf *Korthalsella lindsayi* is also present.
Drier and more sparsely vegetated slopes to the east support more flax and *Hebe elliptica* with the exotic *Plantago coronopus* prominent. Other herbs of the turfs include *Suaeda novae-zelandiae, Samolus repens, Senecio carnosulus, Cotula dioica, Apium prostratum* and saltgrass *Puccinellia novae-zelandiae.*

Although this diverse community has survived 150 years of European settlement, we must not be complacent. Changes in land management could threaten these sites and greatly modify them in short time.

Inter-tussock species include:

Acaena novae-zelandiae,
Anaphalioides hookeri,
Blechnum chambersii,
Corybas macranthus,
Gingidia montana (a form of)
Hierochloe redolens,
Lagenifera pumila,
Linum monogynum,
Pseudognaphalium luteoalbum,
Samolus repens,
Senecio carnosulus,
and *Phymatosorus diversifolius,*
Adiantum cunninghamii,
Apium prostratum,
Carex flagellifera,
Disphyma australe,
Haloragis erecta,
Isolepis nodosa,
Libertia ixioides,
Phormium tenax,
Puccinellia novae-zelandiae,
Sarcocornia quinqueflora,
Tetragonia trigyna,

Shrub and tree species include:

Carmichaelia petriei, *Coprosma crassifolia,*
Coprosma propinqua, *Coprosma rubra,*
Cordyline australis, *Corokia cotoneaster,*
Hebe elliptica, *Helichrysum lanceolatum,*
Melicytus crassifolius, *Melicytus ramiflorus,*
Muehlenbeckia australis, *Myrsine australis,*
Myrsine divaricatus, *Pimelea urvilleana,*

And a low *Pittosporum colensoi*, *Griselina littorali*,*Olearia avicenniifolia* and *Myoporum laetum* were present both on the slopes and in adjacent pasture areas.

Reference:
Peat, N. & Patrick, B.H. 1985 Wild Dunedin. University of Otago Press. 144pp.

Notes from the Otago Herbarium (OTA)

The OTA herbarium is currently one of the more active New Zealand's University based Herbaria and last year processed 2703 accessions. This included 1676 mosses and liverworts (mostly old specimens that hadn't been numbered), 890 lichens, 130 angiosperms (mostly Australian species in New Zealand genera), 5 algae, and 2 gymnosperms.

At present the Herbarium curators are Jennifer Bannister and Janice Lord. *"Friends of the OTA"* has been established to allow interested botanists not associated with the Botany Department greater involvement with the herbarium on a voluntary basis. At present there are 12 members of *"Friends of the OTA"* and Professor G.T.S. Baylis is the patron.

Current active research projects using the Herbarium include work on the New Zealand lichen flora by David Galloway, Jennifer Bannister and Alison Knight; the New Zealand bryophyte flora by Ray Tangney; the taxonomy of *Pachymenia* (Rhodophyta), Lisa Russell; and evolution in *Coprosma,* Adrienne Markey.