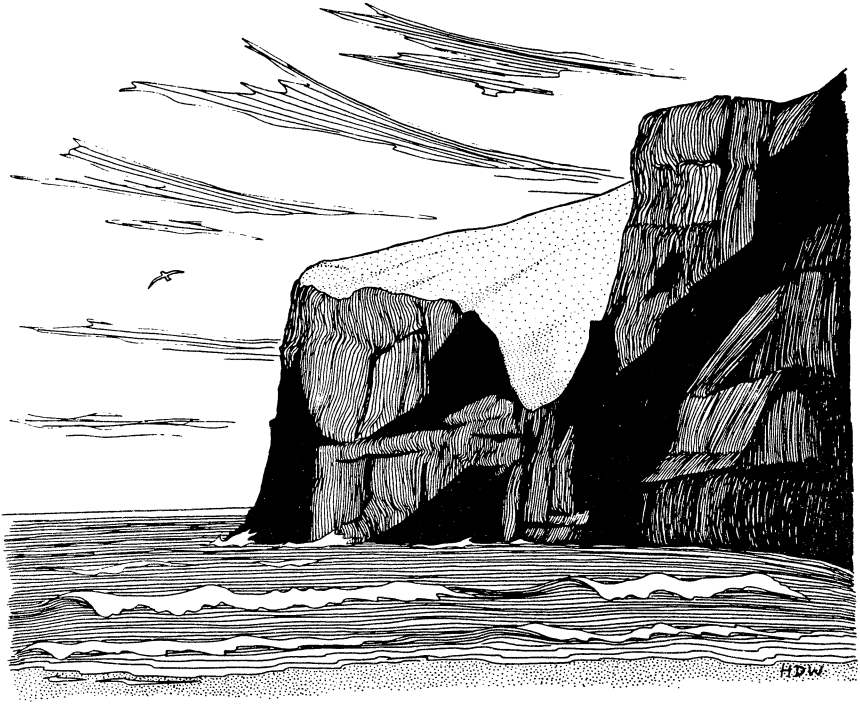
HDW

Banks Peninsula cliffs - sheer delight !

Hugh Wilson

When the Maoris arrived about 1000 years ago they found the hilly, sea-indented landscape of the Peninsula forested from side to side, surrounded by sea in three directions, and bounded by lake and swamp to the west. During the next few hundred years they clear -ed a lot of forest - perhaps one third of the original total - resulting in the expansion of native tussocks from steep coastal and rocky sites and probably also from the plains. Kanuka, bracken, and manuka would also have occupied much ground as they reclaimed land for the eventual return of forest trees. Last century, however, Europeans arrived to settle. Extensive as the remaining forests were, within a few decades they were gone, cleared with axe and fire to be replaced by northern hemisphere grasses sown in the ashes.

Native tussocks may have expanded further in some places, but in others they were pre-empted by cocksfoot, browntop, and sweet vernal. In later years both native tussocks and exotic grassland were pushed back again as farmers encouraged the establishment of ryegrass and clover swards. Now only remnant or second-growth forest remains in gullies and on bluffs. Farmers wage battles against kanuka, bracken, gorse and broom, even against Fuchsia, Coprosma spp., ribbonwood, and kowhai, which continue to expand, against the odds, onto the hard-won pasture.

Thus the present vegetation of Banks Peninsula is a complicated, induced mosaic of pasture, tussockland, bracken, scrub, second-growth forest, podocarp/hardwood forest, beech stands, and rock outcrop. Only tiny remnants of the 'original' vegetation persist, and only parts of those remnants are formally reserved, but those that are reserved, are of immense scientific and aesthetic value.

Not all of this remnant original vegetation is forest. While non-forest plant communities were very restricted during the millenia that forest ruled supreme, the very nature of some of those forest-free habitats - namely that they were too steep, rocky, or wet to allow competition from trees - has permitted at least some of them to survive. Among the most striking of these habitats are the coastal cliffs which rise in some places more than 200m sheer from the sea. They are of special interest

for several reasons. Banks Peninsula's forest species are shared with other South Island forests, but the steep, rocky sites harbour a number of local endemics, namely an unnamed blue fescue tussock, a magificent celmisia (C. mackaui), two shrubs Hebe lavaudiana and H. strictissima, and a distinctive harebell (Wahlenbergia) which may prove to be an unnamed local endemic related to W. gracilis. The handsome yellow rock daisy (Brachyglottis lagopus including B. saxifragoides) may also be endemic, although its relationship with other South Island plants needs clarification.

Some of the eastern cliffs of Banks Peninsula are well vegetated, and because they are inaccessible to grazing animals and fire (animals do pass by from time to time but so quickly on their way to the bottom that they don't pause to nibble!), they appear to represent some of the least modified of all the remnant vegetation. This is not true of all the cliffs. Some, especially those near Christchurch, are dominated now by exotic, often flamboyantly exotic, species.

As part of a detailed botanical survey of Banks Peninsula it was essential that I look closely at these varied cliff communities. How though? My limited climbing ability and a healthy nervousness allowed me access only to the easier sites. Fortunate-ly the Canterbury Face Rescue team came to my rescue. They have cooperated wonderfully, including my botanical needs as part of their exercises, allowing me to peruse the vegetation of vertical and more-than-vertical places that would have been inaccessible without their help.

Recently, on a cool early winters day, they lowered me down two immense drops between Damons Bay and Flea Bay. (They kindly raised me up again too!). It was hard to decide whether the adventure or the botany was more enthralling. My thanks and admiration go to the police and face rescuers involved. They perform these extroadinary feats with great cheerfulness and skill using ingenious systems of anchors, brakes, pulleys, and effort. While other New Zealand teams are still using the cable and winch that I trained with long ago, the Canterbury team under Murray Cullen favours doubled kernmantle rope - a lot of it too - to enable descents of 200m or more. At Flea Bay they seemed as

pleased as I was that everything worked so efficiently, achieving two big raisings and lowerings in a day. They were also refreshingly interested in my finds; one of the team indeed is a second year botany student, and another exclaimed she knew another botanist, Bill Sykes!

So what have I found? Much of the least-modified vegetation is vertical or extremely steep maritime tussockland of the Banks Peninsula blue fescue tussock (Festuca), with silver tussock (Poa), and some broader-leaved Poa anceps. Rarely encountered so far is another small blue tussock, Poa astonii, which was previously unknown so far north. Celmisia mackaui is common among the tussocks; so are big dark green clumps of Asplenium obtusatum. Where seepages occur, green wall-hangings of Schoenus pauciflorus are extensive. Blechnum banksii has a restricted distribution on Banks Peninsula but is common on the south-eastern cliffs. So is the 'Akaroa harebell' I mentioned earlier, nodding its big white or pale blue bell-shaped flowers out of rock crannies well beyond the reach of the most acrobatic hares.

Many of the common species are familiar in less spectacular places succulent Disphyma australe is perhaps the most abundant plant of Banks Peninsula cliffs generally. On dry cliffs it is often the only conspicuous bit of vegetation; but it is common on these damper eastern cliffs as well. Other widespread species include Senecio glaucophyllus subsp. basinudus, Apium prostratum, Samolus repens, Spergularia media, Einadia allanii (very fleshy in these habitats as with several other members of the Chenopodiaceae when they grow by the sea), Pseudognaphalium luteoalbum, Linum monogynum, Scirpus nodosus, Sonchus oleraceus, Deyeuxia billardieri, Lachnagrostis filiformis, Cotula dioica, Luzula banksiana var orina, Hierochloe redolens, Adiantum cunninghamii, Dichelachne crinita, Crassula sieberiana, and Polystichum richardii. An interesting grass is the broad-leaved, bright light blue form of Elymus rectisetus; clearly native, this looks like a completely different species from the abundant pasture form which is green and slender, and apparently an Australian import. (The complex used to be known as Agropyron scabrum) A fleshy coastal form of Asplenium terrestre, known as subsp. maritimum, is common on some cliffs. A. lyallii occurs here and there also. Curiously a low, coastal

form of Coprosma propinqua clings to near-vertical sites and, somewhat to my surprise, low patches of deciduous Fuchsia x colensoi, and sometimes stunted F. excorticata, hang on to very steep places. The native Sonchus kirkii is more local than the probably introduced S. oleraceus, but it is turning out to be much more common than I thought initially.

Several exotic pasture species have sifted down from the cliff edges onto even the wildest drops, especially Dactylis glomerata (cocksfoot), Hypochaeris radicata (catsear), clovers, and vetches, but there are still extensive areas where the vegetation is overwhelmingly indigenous. In contrast, cliffs now dominated by exotic species are interesting in a different way; they support a flora which largely originated in Mediterranean climates, with winter rain and summer drought. Colourful members of the Crassulaceae such as Cotyledon orbicularis, the tree mallow Lavatera arborea, and the boxthorn Lycium ferocissimum, are joined by wallflowers, stock, and the attractive white-flowered Lobularia maritima. Even Rosa rubiginosa, tired and unaggressve.

The plants closest to the waves in the Flea Bay area are Samolus repens (our only native member of the Primuladeae); it meets the green algae, Enteromorpha, in the splash zone, above surging beds of Durvillaea antarctic. A little higher up is the ubiquitous Disphyma australe accompanied by Blechnum banksii, red-fruited Einadia triandra, Asplenium obtusatum, and Sarcocornia quinqueflora, growing here on steep rock ledges just as I had noted it on islands off Stewart Id, rather than on its more characteristic flat saltmarsh habitats. Lichens are common (e.g. Xanthoparmelia, Parmelia, Caloplaca, and Verrucaria) but I saw few bryophytes.

I have been looking hard for two species which so far have eluded me. Arthropodium cirratum (renga lily) was recorded last century by Armstrong on Banks Peninsula, near Lake Forsyth. Despite the drop it still remains hidden, and its existence on the Peninsula is still in doubt. Similarily Lepidium oleraceum (Cook's scurvy grass) was last seen on a cliff at Paua Bay in 1920. I remain optimistic about that one. Next summer's plans include a cliff exercise at Paua Bay.