BANKS PENINSULA BOTANICAL SURVEY: SOME RECENT FINDS.

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The fourth summer of fieldwork on my detailed botanical survey of Banks Peninsula was satisfyingly productive. I pedalled and tramped into many new corners of the Peninsula and Kaitorete Spit, and the Face Rescue team again lowered me down some exciting, and very vegetated, cliff faces. On one hot day in the middle of summer a friend and I swam across to Pa Island to find a fascinating vegetation apparently untouched by grazing mammals. To date 1133 plots of the systematic sampling grid are completed, leaving 207 still to record. The most extensive gaps are on the north side of the Peninsula - around Port Levy, Pigeon Bay, Little Akaloa, Okains Bay, and Robinsons Bay - plus the central expanse of Kaitorete Spit, and some smaller areas along the south coast. I plan on one more summer's fieldwork. Even after four summers, it is interesting that hardly a field day passes without at least one substantially exciting find. Here are a few notes on some of the season's chief thrills:

Acaena buchananii is a distinctive, small bidibid; the spines on the burrs have slender hairs at their tips instead of barbs. A species of open stony ground and grassland east of the Main Divide in Otago, there is a record from coastal Canterbury north of Christchurch. Bryony Macmillan mentioned to me that this record might have represented a human introduction. I was surprised this season to find that the species is not uncommon on the western parts of Kaitorete where I assume it is indigenous. Also occurring there, are occasional hybrids of *A. buchananii* with the abundant, naturalised, Australian sheep's burr, *A. agnipila* var *aequispina,* and the slightly more common, hybrid *A. agnipila* x *A. novae-zelandiae* ; the latter species is common on the spit.

Cladia retipora is the famous coral lichen. I was not expecting to find this species anywhere in my study area, so it was a delight to encounter one extensive patch, covering many square metres, among stunted, open bracken and silver tussock in the western part of Kaitorete.

Muehlenbeckia astonii is the only native *Muehlenbeckia* that is a truly divaricating small-leaved shrub; *M. complexa* forms shrub-like mounds and is therefore also included in the Society's small-leaved shrub project. Long known from Kaitorete, M. astonii reaches its known southern limit here, but as far as I know it was never recorded from the Peninsula proper. I was plotting along the south eastern side of Lake Forsyth this autumn with Mark Davis of the Department of Conservation. With rain threatening we decided to climb up to a cave in the bluffs north of Oruaka Pa site to have lunch in the dry. Here we encountered about a dozen healthy bushes of *M. astonii.* The Birdlings Flat-

Lake Forsyth area is a special place for the genus Muehlenbeckia; it is the only place I know where all five New Zealand species grow within a kilometre of each other. I was going to say within a stone's throw of each other, but decided that I can't throw stones as far as that.

Schoenus maschalinsis is a small, low, spreading, fresh green, turfy sedge. It is widespread in the wetter parts of New Zealand, as well as in Tasmania, Australia , New Guinea, and the Philippines. But as far as I know the only Canterbury records have been in the extreme west of the province, near the Main Divide. I was not expecting it on Kaitorete. But there is a curious wetland right in the middle of the shingly plain of the Kaitorete spit, following an elongated depression.*S. maschalinus* grows along its margins among rushes and other fascinating pool-edge plants. On drier ground nearby are patches of*Carmichaelia corrugata*, a dwarf native broom.

Uncinia banksii. Uncinia is not an easy genus as far as identifying species is concerned. *U. banksii* is very distinct, however, as both the female and male florets of the spike are widely spaced. Earlier in my survey I considered that the fine-leaved *Uncinia* in Okuti Valley Scenic Reserve had to be *U. banksii* , but as it appeared to be a new record I wanted fruiting spikes to make sure. One very wet day I forayed out from my tent to look for John Lovis's Okuti Valley *Tmesipteris,* and found confirmatory spikes on the *U. banksii* tussocks. As I have not found it elsewhere on the Peninsula yet, I have to consider the possibility that it was introduced into the reserve, perhaps through ex-nursery plantings. But the species would not have been totally unexpected.

Hymenophyllum dilatatum , one of our most magnificent filmy ferns, makes a good story on Banks Peninsula. (See Canterbury Botanical Society, Journal 16. 1982. p.20). Briefly it was reported by Potts at 'Ohinitahi, Lyttelton Harbour' in, 1882, but not seen again until John Lovis and Martin Daellenbach rediscovered it above Ohinitahi in 1982,'a spectacular vindification (sic)* of Pott's record for Lyttelton Harbour, after an interval of exactly one hundred years, but also the first fully authenticated record for the entire Banks Peninsula volcanic district'. This summer, deep in the damp mysterious heart of Carews Park Scenic Reserve on the south side of the Peninsula, a further patch of this splendid filmy fern deigned to reveal itself - several hundred fronds draping tree fern trunks and sprawling luxuriantly along the top of a waterfall.

Anarthropteris lanceolata. This is another fern that was recorded in the past from the Peninsula but not seen for many years until quite recently when David Given located a small colony at Paua Bay. The Paua Bay colony is still there, and the species also occurs in a gully above Red Bay not far away, where I

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* Vindification. This word appears to be a new record too - a hybrid between vindication and verification. It has a nice ring about it!

came across a sizeable patch this summer. So far as I know this is another species among the several which reach their southern limit on Banks Peninsula.

Pseudopanax edgerleyi. I can find no record of any botanist recording this species on Banks Peninsula until farmers in the Le Bons Bay area asked Arthur Ericson and me whether trees on their property were really raukawa. Indeed they were. As Arthur points out, they may not be truly indigenous. One tree is an elderly adult, but it may have come in with saw millers last century. Until this summer I had only seen it in the Le Bons area where there appears to be three individuals at two sites. This summer, however, Pauline Cara and I encountered a swarm of saplings growing epiphytically on tree fern trunks in a patch of bush above Akaroa (Grehan Valley) which the farmers had asked me to assess for a possible Q. E. II covenant. In the time available we could not locate an adult, but from the number of saplings and their scatter, I suspect a further search may reveal one in the vicinity. While this still does not prove that *P. edgerleyi* is native to Banks Peninsula, it is giving us more information on which to base an opinion.

Among the native species of the Peninsula, we now have more information about the distribution of such comparative rarities as *Libocedrus bidwillii, Oryzopis lessoniana, Tmesipteris spp, Hmenophyllum spp, Teucridium parvifolium, Olearia fragrantissima, Cyperus ustulatus, Desmschoenus spiralis,* and *Celmisia mackaui.* Among naturalised species, interesting finds have included, *Geranium pusillum, G. rubescens, Gypsophila australis, Sporobolus africanus, Stenotaphrum secundatum, Stachys sylvatica, Lavandula stoechas, Potentilla anglica, Amaranthus retroflexus, Echinochloa crus-gallii,* and*Setaria verticillata.* Among the bryophytes, the local abundance of *Grimmia laevigata* was something of a surprise.

One wonders what the final summer's explorations will reveal!