

### Orchids

*Caladenia* sp.  
*Microtis unifolia*

*Thelymitra longifolia*  
*T. ?pauciflora*

### Grasses

*Isachne globosa*  
*Microlaena stipoides*

*Opismenus imbecillis*  
*Stipa stipoides*

### Legend

† recorded by others; not seen by ABS

Note: we did not explore "Big Bush". It would be a safe bet that the species list would be somewhat longer if we had.

## A bryophyte list for Motukorea (Browns Island), Inner Hauraki Gulf

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The visit of the Botanical Society on 18 August 1996 to Motukorea (Browns Island) provided an opportunity to prepare a bryophyte list for the island. Much heavy rain in the night preceding our visit meant these plants were in beautiful condition. Somewhat to our surprise, rather than the assemblage of weedy pasture species we had cynically expected, a rich diversity of taxa were found. Particularly for the mosses, the diversity of volcanic rock provided substrates of varying textures and water holding capacity, with especially good representation of the family Pottiaceae. A recent generic monograph for that family (Zander 1993) is subtitled 'Mosses of Harsh Environments', which puts the lie to the common concept of mosses being confined to continually moist habitats. Many species are indeed well adapted to the intermittent water available on exposed volcanic rock in the Auckland environment. In fact the lava blocks of the derelict wharf at which we landed proved such an impressive moss garden, that one of us failed to catch up with the main party until mid-afternoon. Boulders lying in the pasture, tuff on the northern coast, and the scoria of the cone, particularly in shaded entrances to rabbit burrows, all supported a good variety of mosses. As expected, liverworts were found to be less diverse and generally less common than mosses in this relatively dry and harsh environment. Few epiphytes, either mosses or liverworts, were seen, due in part to the paucity of host trees, as well as to the relatively dry conditions prevailing on the island. The most common liverwort was *Lunularia cruciata*, well known as a weed of plant pots. Other thallose liverworts, *Reboulia*, *Targionia* and *Plagiochasma* were each represented by their only New Zealand species. The latter two are rather uncommon in the Auckland area. The greatest diversity of liverworts was seen on the steep cliff area on the tuff ring on the eastern side of the island. Among leafy liverworts, *Chiloscyphus* spp. were the most common. In addition *Frullania solanderiana* was recorded, both as dark red plants on rocks in exposed sites, often near the coast, and as dark green plants on shaded bark in the coastal cliff forest remnant. The specimens of *Fossombronia* found were all immature, lacking the spores necessary for identification to species level. While the rich bryophyte communities on the sea cliffs should be self-maintaining, those in the open grassland are under some threat by overgrowth from pasture species. In this brief survey, 33 species of moss and 8 species of liverwort were recorded. In the list that follows moss names follow Fife (1995) unless authorities are given. Voucher specimens have been lodged in AK (mosses) and AKU (liverworts). Voucher numbers are authors' collection numbers, JE Beever (mosses) and JE Braggins (liverworts).

### Mosses

*Bryoerythrophyllum jamesonii* 86-10b  
*Bryum argenteum* 86-02d  
*Bryum billardiarei* 86-06, 86-34e  
*Bryum campylothecium* 86-28  
*Bryum dichotomum* 86-36b  
*Bryum erythrocarpoides* 86-30  
*Campylopus* sp. 86-21

*Didymodon australasiae* 86-16a  
*Didymodon torquatus* 86-16c  
*Fissidens curvatus* 86-14  
*Fissidens leptocladus* 86-25b  
*Fissidens megalotis* Schimp. ex C. Muell. 86-12b  
*Funaria hygrometrica* 86-32b  
*Grimmia pulvinata* 86-35

*Hypnum cupressiforme* 86-05a  
*Leptostomum macrocarpum* 86-26  
*Macromitrium gracile* 86-29a  
*Philonotis tenuis* 86-18  
*Ptychomitrium australe* 86-31a  
*Racopilum* sp. 86-20  
*Rhynchostegium tenuifolium* 86-23  
*Syntrichia pagorum* 86-33  
*Syntrichia papillosa* 86-03  
*Syntrichia princeps* 86-02a

*Thuidium furfurosum* 86-04  
*Tortella rubripes* 86-34c  
*Tortula muralis* 86-01c  
*Triquetrella papillata* 86-01a  
*Weissia controversa* 86-11a  
*Weissia patula* 86-10c  
*Zygodon menziesii* 86-29b  
*Zygodon ?minutus* 86-25a

Note: *Fissidens megalotis* is an earlier name for *Fissidens vittatus* Hook.f. & Wils. The synonymy of the Australasian *F. vittatus* with the South African *F. megalotis* was published by Bruggeman-Nannenga & Pursell (1995).

### Liverworts

*Chiloscyphus lentus* 96/101  
*Chiloscyphus semiteres* 96/103  
*Fossombronia* sp. 96/115  
*Frullania solanderiana* 96/104, 96/108

*Lunularia cruciata* 96/105  
*Plagiochasma rupestre* 96/109  
*Reboulia hemisphaerica* 96/106  
*Targionia hypophylla* 96/110

### References

- Bruggeman-Nannenga, M.A and Pursell, R.A. 1995: Notes on *Fissidens*. V. *Lindbergia* 20: 49-55.  
Fife, A.J. 1995: Checklist of the mosses of New Zealand. *The Bryologist* 98: 313-337.  
Zander, R.H. 1993: Genera of the Pottiaceae: Mosses of harsh environments. *Bulletin of the Buffalo Society of Natural Sciences* 32: 1-378.

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### Field Trip to Sand Island, Okahukura Peninsula, Kaipara Harbour 15 March 1997

Maureen Young

Due to wet weather a 1995 field trip to the island was poorly attended, but on this second attempt both the weather and the numbers attending improved.

After walking past pines and pampas, and being intrigued by a yellow flowered mallow, *Sida rhombifolia* (on the previous trip in spring the rosy flowers of *Romulea rosea* had occupied the same niche), we stopped to admire the vegetation which is typically found on sand flats bordering the sea. An unpleasant intruder among the native species is the introduced sharp rush *Juncus acutus*. As only very high tides cover the sand between the mainland and the island, we got across dry footed, and the party split up and drifted in various directions, some to check on the waders in the shallows, others to whatever part of the island attracted their attention. On this occasion snorkels were not needed to botanise the dune slacks, and among the flowering *Samolus repens* and *Selliera radicans* were also found *Triglochin striata* and *Myriophyllum votschii*. On the dunes were pingao and spinifex, and although the invading pampas has not yet eliminated the native toetoe, *Cortaderia splendens*, there is the danger that in time it will. Another adventive which is thriving in the sandy conditions is *Lilium formosanum*, currently bearing large green capsules.

Back at the mainland those who persevered with a very unpleasant push through gorse and pampas were not rewarded by seeing the promised *Coprosma parviflora* and *Mazus novaezeelandiae*, much to the chagrin of the leader, but as time was running out for some, a return to the cars was deemed necessary.