The vegetation and vascular flora of "Ihumatao Islet" a small artificial islet near Ihumatao, Manukau Harbour

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Introduction

"Ihumatao Islet" (NZMS 260 R11 657655, 1.5 m a.s.l) is a small islet (0.5 ha) formed through the dumping of basalt rock - probably from the adjacent Ihumatao Basalt Quarry (Kermode, 1992). The exact reason for the creation of the islet we could not ascertain, although a colleague of ours, John Holloway (*pers. comm.*, 1995), suggested it may have been emplaced for future use by the nearby Auckland International Airport - a radar station perhaps?

The following account briefly describes the flora and vegetation types present.

The Vegetation

Flora
The islet was visited at the height of summer (February) and was therefore in a very dry condition. Hence many plants were in a dried-off state and in some cases identification of these remains was not attempted. We suggest that a survey timed for spring would almost certainly add to the flora we present here. On our visit we recorded a vascular flora of 35 taxa (Appendix 1); 29 (83%) of which are considered adventive to New Zealand (see Cheeseman, 1925; Webb *et al.*, 1988). These species were distributed within five distinct vegetation types (see below).

Vegetation Types

Mangrove Shrubland
Confined to the eastern side of the islet, this vegetation type is composed entirely of 1.5 - 2 m tall mangroves. No canopy co-associates are present, while the ground cover consists of occasional tufts of glasswort (*Sarcocornia quinqueflora*).

Shell bank
Really a geomorphic rather than a botanical feature, the shell bank was at the time of our visit sparsely covered with the dried-off tufts of *Parapholis strigosa* and King Island Melilot (*Melilotus indicus*). A dull yellow-brown monotony broken only by the occasional vigorous grey-green circular patches of coastal orache (*Atriplex prostrata*).

Basalt Rubble
As with the above, this "vegetation type" is largely devoid of vegetation, forming a distinctive black, rugged margin of rock encircling the otherwise flat and vegetated central part of the islet. The bare surface of the rocks is only occasionally broken by patches of glasswort, *Stipa stipoides*, *Parapholis incurva*, the golden yellow lichens *Xanthoria ligulata* and *X. parietina*, grey-green *Xanthopamelia* spp., and white crusts of an unidentified lichen common on the basalt lava flows in the vicinity.

Mixed Grassland
Aside from the taller tussocks of purple pampas (*Cortaderia jubata*) - which we have treated as a separate vegetation type - the vegetated surface of the island is covered by a grass sward dominated by two species: cocksfoot (*Dactylis glomerata*) and paspalum (*Paspalum dilatatum*). The dried-off remains of seasonal co-associates included numerous specimens of oxtongue (*Helminotheca echioides*), soft brome (*Bromus hordaceous*), cleavers (*Galium aparine*) and Argentine cress (*Lepidium bonariense*). Also prominent were small purple pampas seedlings whose presence was easily overlooked due to their relatively inconspicuous habit when growing amongst flowering paspalum. Several woody species were also noted, including seedling barberry (*Berberris glaucophylla*), one taupata (*Coprosma repens*) and a single patch of moth plant (*Araujia sericea*).

Within this vegetation type a single plant of the regionally uncommon *Geranium retrorsum* was also located [1].

Purple Pampas Grassland
Almost entirely encircling the grassland described above is a series of monospecific bands of purple pampas, 1-2 metres wide and c. 5-10 m long, within which no other species of vascular plants were noted. Our impression is that purple pampas is a recent arrival to the islet, which appears to be in the process of expansion. An observation supported by the current patchy distribution of adult pampas and prominence of pampas seedlings within the adjacent areas of mixed grassland (see above).

Discussion

The vegetation of Ihumatao Islet is dominated by an adventive flora of largely annual or short-lived perennial species. This we suggest, is a natural response to the exposed aspect of the islet and low water holding capacity of the shallow clay fill covering the islet.

From our observations of the vegetation types present, we predict that unless control measures are taken to halt the spread of purple pampas, the future vegetation of the islet will soon become one dominated by this species. A result which is likely to lead to the extirpation of those few indigenous species which have managed to colonise and coexist within the mixed grassland association which is presently the dominant vegetation type of the islet e.g., taupata and *Geranium retrorsum*.

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References

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Appendix 1. Vascular flora of Ihumatao Islet, Ihumatao, Manukau Harbour

(Unc) = Uncommon within survey area (Basis <10 specimens seen)

Dicotyledonous Shrubs (3)		Frequency
Avicennia marina subsp. *australasica*	mangrove	common
**Berberris glaucophylla*	barberry	occasional
Coprosma repens	taupata	1 plant
Dicotyledonous Lianes (1)		
**Araujia sericea*	moth plant	occasional
Grasses (13)		
**Bromus hordaceous*	soft brome	abundant
**B. wildenowii*	prarie grass	occasional

[1] For an update on the Auckland distribution of this regionally uncommon species see (de Lange and McFadden, 1995).

**Cortaderia jubata*	purple pampas	abundant
**Dactylis glomerata*	cooks foot	abundant
**Holcus lanatus*	Yorkshire fog	rare
**Lolium perenne*	perennial rye grass	occasional
Microlaena stipoides	meadow rice-grass	occasional
**Paspalum dilatatum*	paspalum	abundant
**Parapholis incurva*	sickle grass	common
**P. strigosa*		common
**Rytidosperma pencillatum*	bristle grass	occasional
**R. racemosum*	bristle grass	common
Stipa stipoides		rare

Sedges (1)

**Carex divulsa*		occasional

Monocotyledonous Herbs (other than grasses and sedges) (2)

**Asparagus asparagoides*	smilax	occasional
Triglochin striata		rare

Dicotyledonous Composite Herbs (5)

**Cirsium vulgaris*	scotch thistle	1 specimen
**Crepis capillaris*		occasional
**Helminotheca echoides*	oxtongue	abundant
**Leontodon taraxacoides*		occasional
**Sonchus oleraceus*	sow thistle	occasional

Dicotyledonous Herbs (other than composites) (10)

**Atriplex prostrata*	coastal orache	common
**Galium aparine*	cleavers	occasional
Geranium retrorsum		1 specimen
**Lepidium bonariense*	Argentine cress	occasional
**Medicago lupulina*		occasional
**Plantago lanceolata*		common
Sarcocornia quinqueflora	glasswort	occasional
**Torilis japonica*		common
**Trifolium repens*	white clover	occasional

Auckland Botanical Society Easter 1995 Field Trip - Tutukaka

Enid Asquith

Most of us travelled early on Good Friday morning, assembling around the breakfast table at the Forester/McKenzie household for a quick coffee and brief stop to pitch camp in the garden before setting off with the dinghy in the van, for Church Bay - just beyond the bottom of the driveway.

Paul manfully rowed everyone out to tiny Phillip Island with one good oar and a makeshift one that made him wish he'd borrowed the pair nailed decoratively to the wall of a beach side bach! Rock hopping round the island, we found *Cheilanthes distans* and *C. sieberi* side by side with some beautiful small cushions of *Scleranthus biflorus* and the find of the morning *Pellaea* cf. *calidirupium* and an exceptionally fleshy *Peperomia urvilleana*.