

## MORE ON GUNNERA HAMILTONII

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Gunnera L. is a small genus of about 30 species of South and Central America, Hawaii, Australia, and New Zealand. It is often included as a subfamily of the Haloragaceae but seems better regarded as comprising a separate family, the Gunneraceae. G. tinctoria is a gigantic plant cultivated in New Zealand and sparingly naturalised as a garden escape, its leaves can measure 2m in diameter. Our native Gunnera species are much smaller plants, forming ground-hugging mats or patches with leaves at most a few centimetres across. Volume 1 of the Flora of New Zealand (Allan 1961) describes ten native species, but some of these are certainly based on hybrids or variations within a species, half this number seems a more accurate representation of species diversity here.

One very distinctive species, G. hamiltonii, is one of our rarest plants. Until very recently only two populations had ever been found; one, at the Oreti River mouth near Invercargill, was extinguished by weeds and habitat disturbance in the late 1960s; the other, at Mason Bay on Stewart Island, still covers an area about 100m long by a few metres wide. The plant seems to require semi-stable sand. At Mason Bay it occupies the narrow transition between mobile dunes and scrub. It flowers freely in the wild and in cultivation, but all of this population is male. However Colin Webb tells me there is a herbarium specimen of female material from Mason Bay collected by Eileen Willa in February 1960, and females from the now extinct Oreti River population are in cultivation in several places.

In 1985, Tim Te Aika, the Mason Bay runholder and a keenly observant naturalist, showed me a second population he had discovered while mustering several years before. This forms a patch about 22m by 9m along the north side of an old sand ridge some 3km inland, partially covered in tall red tussock and many species of lower stature which threaten to overwhelm the Gunnera. Almost no bare sand remains. The patch was flowering heavily at the time of our visit in late September 1985, all male. A smaller patch some 30m away had no flowers; this is being propagated at

Lincoln just in case it is female, but so far has not flowered. The Te Aikas have also established another patch in the dunes north of Duck Creek, Mason Bay, by transplanting three or four rosettes. In September 1985 this patch measured about  $3\text{m}^2$  and was growing vigorously, despite a touch of frost damage on part of the mat. (Gunnera monoica nearby showed similar frost-crisping of some leaves). Of course this patch is male too as it was propagated from the male population a few hundred metres away.

In 1986 came another heartening discovery. Lon Johnson, working for the Department of Lands and Survey on Stewart Island, was searching for an old campsite near the well-known cave at Doughboy Bay in the company of two Lincoln College students, David Morgan and Anne Relling. He came across an extensive patch of Gunnera hamiltonii along the top of the dunes between the marram-covered foredune and the bush edge. It forms a large triangle 90m long by 15m wide at the south end, tapering to 1m at the north. Lon Johnson listed the associated plants as Cassinia, Phormium tenax, and Coprosma acerosa, overtopping the Gunnera except along the front edge where the Gunnera is dominant and apparently expanding.

Rosettes from this population are now in cultivation at Botany Division, Lincoln, and we should know before too long whether any of the plants are female. Even a patch this big could be all one sex, resulting from the vegetative spread of a single plant.

