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Gunnera hamiltonii in Stewart Island, New Zealand

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INTRODUCTION

Gunnera hamiltonii Kirk was known from only two localities at the time of publication of "Flora of New Zealand", Volume I (Allan 1961). It was first noted by Hamilton (1885) at the Oreti River, Southland and shortly after collected by Traill at Mason Bay, Stewart Island. Kirk (1895) described the species, but noted that he was unable to find it in a hasty search in the Oreti River area. Cockayne (1928) commented that it is one of the rarest species in the New Zealand region.

More recently Fisher (1972) reported that the Oreti River population is almost extinct. However, he described a large population at Mason Bay.



Fig. 1 Locality of Gunnera hamiltonii at Mason Bay, Stewart Island.



Fig. 2 Rosettes of Gunnera hamiltonii growing in sand at Mason Bay, Stewart Island.



Fig. 3 Habitat of Gunnera hamiltonii at Mason Bay, Stewart Island: plants are in the area arrowed.

OBSERVATIONS

While in Mason Bay, Stewart Island, in January 1976, we searched most of the sand dune area near Big Sandhill and Duck Creek, but found only one population of *Gunnera hamiltonii* near Big Sandhill (Fig. 1).

The location of the population fits the description given by Fisher (1972): "... a long narrow valley between the bush and open sand dunes, which ran inland up to Big Sandhill". However, Fisher's description of the population as "... a solid mat, ... 250 yd long by 1 \pm chains wide, ..." certainly does not describe the population we located which covered 100 by 0-2.5 m only. If this is the same population then it has been much reduced in size; if it is not Fisher's population then finding it lends support to the possibility that there are several populations in the Mason Bay dune area.

Plants of G. hamiltonii grow as solitary rosettes of c. 10 cm diameter or form mats up to 1 m across (Fig. 2). The population occurred in the transition-zone between unstable sand dunes, and scrub and bush (Fig. 3). The plants only grow in the less vegetated parts of this zone. No dying back of the population was observed, and no damage caused by livestock was noted in the dune area.

A careful search revealed no flowering or fruiting plants. Allan (1961) does not give flowering or fruiting times for G. hamiltonii. No herbarium specimens from the work of Batham (1939) were found in the herbarium of the Department of Botany, University of Otago, Dunedin by P. J. Garnock-Jones (pers. comm.). However, one specimen in the herbarium of Botany Division, DSIR, Lincoln (E. bank Oreti R., G. Kelly, CHR 177233), collected in March 1967, has immature fruit. Also a female plant from Oreti River growing in the Christchurch Botanic Gardens flowers in about October, with the inflorescence remaining for a long period (L. J. Metcalf, pers. comm.).

A small herbarium specimen was collected (CHR 276171) and one rosette, brought back for propagation, is now well established in the Botany Division glasshouses, Lincoln. A more extensive search of the Mason Bay and Oreti River sand dune areas, to determine the present number and size of populations, would be useful if this rare and endangered species is to be preserved in the wild.

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