THE BUTTON DAISY *LEPTINELLA FILIFORMIS*

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This small, ground-hugging plant was first named by Hooker in 1864, based on specimens collected from "Canterbury Plains, amongst grass" by Haast two years earlier. It was called *Cotula filiformis* from its white button-like flowers that top slender thread-like stems. The stems are only 2 cm tall, and the flowerheads 2 mm in diameter. A plant of the dry, open grasslands of the inland basins of the eastern South Island, it declined rapidly as agriculture developed with European settlement. In 1919 Cockayne is reported as writing: "*Cotula filiformis* until a year ago had been seen by no living New Zealand botanist, though it was known that Haast collected it on the Canterbury Plain. Thanks, however, to its rediscovery by Mr C. E. Christensen, it has since proved to be fairly common on the Hanmer Plain".

Subsequently, adverse competition with introduced, sward-forming grasses is thought to have been a major cause responsible for its decline, although it may never have been very common. In the early part of the twentieth century browsing by rabbits may have helped to slow down its extinction. In some areas, where the plant covering has been almost eaten out by the rabbits, the *Leptinella* was one of the few plants that was able to maintain its hold. When the rabbit population was substantially reduced, the taller grasses could thrive again, and the *Leptinella* was smothered.

Shortly before the old Lodge Hotel at Hanmer Springs was about to be redeveloped in 1998, Brian Molloy discovered a rather weedy plant growing on the drive. It was later identified as *Leptinella filiformis.* Specimens were recovered before the bulldozers moved in, and plants propagated at Lincoln and the Department of Conservation's nursery at Motukarara. On 10 August 2001, the plant was reintroduced in a lawn of the old Lodge Hotel (now the Heritage Hotel) in a ceremony in which Brian Molloy described the plant's history of discovery and recovery. He suggested that it might be given the common name of *Hanmer button daisy* to commemorate where the plant was brought back from the point of extinction. Residents of Hanmer Springs were also given plants to propagate in their gardens.

Given the right habitat, the spreading rate of the plant is remarkable. I planted my pot-grown specimen on a rather heavy, sunny, north-facing slope. Ten weeks later, at the end of October it had doubled in size. In January 2002, the mat had grown from 5 cm to 40 cm in diameter. At the time of writing (October 2002), it is now 80 cm, about a 250-fold increase in area in just over a year. Admittedly, the specimen has had little competition from tall plants, but seems willing to spread around small garden weeds and other alpine species. The button daisy is in vigorous flower over spring, gradually becoming less floriferous as the season develops. In winter, the plant seems almost dead, with the small, finely-cut leaves browning off.

On the other hand, plants inserted into holes in the lawn of the Heritage Hotel do not appear to have developed, and some seem to have died. Probably a less compacted, even poor soil, is preferred. However, it is reported that other plants introduced into a

reserve at Medbury, North Canterbury, are also healthy. It is proposed to introduce the *Leptinella* into other suitable conservation areas in Hurunui.

ACKNOWLEDGMENT

Information about the history of the discovery and loss of *Leptinella filiformis* has been taken from a pamphlet issued by the Department of Conservation (July 2001).

SURVIVAL OF A SCARCE PLANT, *LACHNAGROSTIS BILLARDIEREI*, ON OTAMAHUA/QUAIL ISLAND

COLIN BURROWS

A large grass, *Lachnagrostis billardierei* (coastal wind grass), that was once widespread on South Island coasts, but is now reduced to small, scattered populations, through habitat loss and disturbance, is very rare on Otamahua. Its habitat is on the outer margins on some cliff ledges with overhangs. It grows on mounds of mainly silty material consisting of redeposited loess and weathered particles from volcanic conglomerate. The mounds ("mini dunes") probably mainly form as the component material is carried down the cliff-faces by seeping water, which then drips from the overhang. The grass can survive a degree of burial by extending its shoots upwards as the "mini-dune" accumulates.

Although the ledges are relatively safe from disturbance now that rabbits are gone from the island, the *Lachnagrostis* remains vulnerable. Only six individual clumps are present and no young plants have been seen; accidents could deplete or eliminate them. Some attempts should be made to propagate this species vegetatively and from seeds in order to establish it on other suitable sites.