

## Final Note

In the Quadrat 12 area, the gorse phase had been following a predictable course towards a forest association in about 50 years until the intrusion of *Berberis darwinii*. With its abundant fruits attractive to birds, its shade tolerance, and suckering habit, this barberry is a serious menace to Otari reserve and to gardens in nearby suburbs; it should be cut out before the next fruiting.

## Mouse-tail (*Myosurus novae-zelandiae*), a declining species?

Colin C. Ogle, Pukerua Bay

*Myosurus novae-zelandiae*, the native mouse-tail, is a species which has apparently become extinct in the Wellington region. Although the species was probably always rare in the North Island, in the remote chance that this inconspicuous plant is surviving in previously known or hitherto unrecorded sites, photographs of plants from the South Island are printed here to assist recognition of the species.

Mouse-tail is a tiny, herbaceous member of the buttercup family (Ranunculaceae). It is reported to be an annual (Allan 1961) or "is probably an annual or short-lived plant" (Given 1981). I have cultivated this species since 1981, and it has behaved exclusively as an annual, germinating in winter, flowering October-November, and becoming shrivelled by January. The photographed plants were grown in 1981 from seed taken from specimens collected near Patearoa, upper Taieri River, Otago, on 26 October 1979. All plants seen there were in fruit, and the species was collected without my suspecting its identity, or even that it was a native, because of the weedy nature of its habitat. It was in very closely grazed, impoverished pasture which comprised scattered native and exotic grasses and dicotyledonous herbs. Brown-top, *Poa maniototo*, *P. lindsayi*, *Raoulia* and *Acaena* spp., *Myosotis discolor*, shepherd's purse, *Veronica verna*, *Erophila verna* and *Stellaria gracilentia* were some associated species, but there were many bare areas of schistose gravelly soil. The terrain was gently rolling with scattered schist outcrops. Mouse-tail plants were locally quite common, but required a hands-and-knees search to spot them. It should be noted that the habitat was not the salt pan type described by Dr David Given (p. 97, 1981) for specimens from the Maniototo Plains.

My original specimens were identified by Tony Druce, and I subsequently divided them into three lots, for the herbaria of Botany Division, Christchurch (CHR 362463), Victoria University of Wel-



Mouse-tail (*Myosurus novae-zelandiae*) in flower. A cultivated plant grown from seed collected near Patearoa, Otago; photographed October 1981. Flowers mostly have 5 sepals, 0 petals, 5 stamens, and many free carpels on a short receptacle which elongates in fruiting stage — see the following figure. C. C. Ogle.

lington (WELTU 13085), and my own reference. Dr Phil Garnock-Jones at Christchurch told me that he had germinated seed from some of these in February 1981, and I repeated his success later that year with seed from specimens I had retained.

That mouse-tail might be a nationally threatened species has been suggested by Given (1981). He noted that recent collections were all from the Maniototo Plains in Otago.

There are no North Island specimens of mouse-tail in the herbaria at Botany Division, the Auckland Museum, or Victoria University of Wellington. Miss Bryony Macmillan informs me that the most recent collections at Botany Division are as follows<sup>1</sup>:

Killinchy, Canterbury Plains (September 1979), Maniototo Plains (September and November 1978), and my Patearoa specimens (1979).

She points out that it would be wrong to infer that it is now lost from Marlborough and North Canterbury where it was once known, as it is so easily overlooked.

<sup>1</sup> Dr P Garnock-Jones reports in Botany Division Newsletter No. 98 (1984) that he collected *M. novae-zelandiae* in October 1984 at Earnsclough Station and Flat Top Hill, in Central Otago.



Mouse-tail (*Myosurus novae-zelandiae*) in fruit. A group of plants including that in the previous figure, photographed November 1981. Each flower-stalk bears the products of a single flower, viz. about 20-50 achenes crowded on an elongated receptacle about 10 mm long. The small size of the plants can be judged also by the aphids on the plants. C. C. Ogle.

What, then, is the basis for North Island records of mouse-tail?

The National Museum herbarium has an undated specimen from William Colenso, numbered by him as '2525'. It was subsequently labelled by Bruce Hamlin, who correlated Colenso's specimen number with notes in a letter to W. J. Hooker dated June 1850 (photocopy WELT) as "shores of H. Bay, W. Cape Kidnapper". However, the same specimen had previously been labelled by Cheeseman as having come from "Cape Palliser". Whilst some doubt must therefore surround the origin of this specimen, there is little reason to doubt the authenticity of Colenso's Hawkes Bay locality. There is support for this view in the first-known reference to *Myosurus* in New Zealand by Hooker (1852) in "Flora Novae-Zelandiae" (1852-55). Under the name *M. aristatus*, a species of North and South America, the New Zealand location is given as "east and south-east coasts of the Northern Island; on the pebbly beach near Cape Palliser, Colenso".

In his 1864-67 Handbook, Hooker abbreviated the New Zealand location to "pebbly beach near Cape Palliser". Neither of Hooker's publications mentions South Island locations. Beaches near Cape Palliser still have other "open-site" plants such as *Muehlenbeckia phedroides*, *Myosotis* sp. (*M. pygmaea* var. *minutiflora*) and *Cotula perpusilla*, and would be worth re-examining for mouse-tail.

John Buchanan (1874) listed *Myosurus* for "Ocean Beach, Island Bay", but this is an area which is now so modified by man's activities that it is inconceivable that mouse-tail plants would survive there. Subsequent authors such as Kirk (1899), Aston (1911) and Cheeseman (1906, 1925) have, for the North Island, all cited the Palliser Bay record of Colenso (but not one for Hawkes Bay) and Buchanan's Wellington site.

Although maintaining the name *M. aristatus* for New Zealand plants, Cheeseman (1925) suggested that they deserved separate specific status. The following year this was given by W. R. B. Oliver (1926) who re-described our mouse-tail under the new name *Myosurus novae-zelandiae*. This course has been adopted by subsequent authors, including Allan (1961).

The species' apparent national decline in range, as judged by herbarium specimens, certainly points towards a need for conservation measures. Pasture improvement, such as follows from over-sowing, top-dressing, cultivation, or irrigation, is continuing at such a pace that time might be running out for mouse-tail in the wild, and it is hardly a species to excite horticulturalists and home gardeners. On the other hand, because I collected mouse-tail plants so fortuitously I cannot believe that this was one of their last sites. I recommend that interested persons should search actively for the species in spring, over country with short vegetation and an incomplete ground cover.

#### ACKNOWLEDGEMENTS

My thanks to Miss B. H. Macmillan, Mr A. P. Druce, and Drs P. Brownsey, P. Garnock-Jones, B. Sneddon and A. Wright for their assistance with background information for this article, and to Dr M. Crawley for editorial comments.

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## A Rare Experience: rediscovering *Myosotis petiolata* var. *pottsiana*

Dawn Bowen, Rotorua

There are three named varieties of *Myosotis petiolata* (Allan 1961), although some consider that these varieties each merit full species status. *Myosotis petiolata* var. *petiolata* is a rather slender plant with small, wide-open flowers and has been recorded from a few localities in Auckland, Bay of Plenty, Hawkes Bay and Nelson. Variety *pansa*, a larger and more robust plant, is illustrated in "Gardening with New Zealand plants and shrubs" (Fisher *et al.* 1970). It occurs north of the Manukau Heads on the sea coast and in river gorges (Allan 1961). It has been found since in other districts near the coast, as far south as White Cliffs, North Taranaki.

*Myosotis petiolata* var. *pottsiana* was discovered by Marc Heginbotham in company with Norman Potts about 1952, by the Te Waiti tributary of the Otara River near Opotiki. It is named after Mr Potts who sent specimens to Botany Division, DSIR, Lincoln. Specimens were also brought into cultivation by Mr Heginbotham. The plant is openly branched, larger in all its parts than var. *petiolata*. The floral features of narrow corolla tube and scales far above the calyx tips distinguish it from varieties *petiolata* and *pansa*. *Myosotis petiolata* var. *pottsiana* no longer occurs in the type locality (Heginbotham, pers. comm.) and it seems likely that the cultivated plants no longer survive. Dr David Given lists it as extinct in a checklist of plants at risk in New Zealand (Given 1981).

During the winter of 1982, I and three others, went to look at the Takaputahi production reserve in the Raukumara State Forest Park. On