

DWARF SWAMP MUSK (*Mazus novaezeelandiae*)

— Excitement in a paddock at Waihou Bay

Elizabeth Miller

Mazus is a small genus of low-growing, creeping herbs with pale, two-lipped flowers held above the leaves. This genus was previously part of the large Scrophulariaceae family, but in the newer APGIII classification it is now placed in the family Phrymaceae (<http://www.theplantlist.org/>).

Most of the genus originates from China, India, Malaysia and Australia, but there are four New Zealand species, three endemic (*M. arenarius*, *M. radicans* and *M. novaezeelandiae*) and one, *M. pumilio*, present through south-eastern Australia, that has also been recorded once in New Zealand from Northland (Heenan & Forester 1997), but according to the NZPCN website <http://www.nzpcn.org.nz/>, is now sold by many garden centres as *M. novaezeelandiae*. In addition, an Australian species, *M. reptans*, with pale lilac-blue flowers is sometimes grown in gardens and may possibly occasionally naturalise. For further information visit the NZPCN website <http://www.nzpcn.org.nz/>

The dwarf swamp musk of New Zealand coastal wetlands, *M. novaezeelandiae*, described by Barker (1991), is referred to in older records as *M. pumilio*, as in the Flora of NZ Volume 1 (Allan 1961). In 1998, Heenan created two subspecies of *M. novaezeelandiae* (Heenan 1998): subspecies *novaezeelandiae*, with a shiny upper leaf surface that has a glabrous (hairless) leaf margin without a brown band around the edge; and subspecies *impolitus*, which has a leaf with a dull upper surface and a prominent brown marginal band. Subspecies *impolitus* is again divided, into those with a glabrous leaf margin, and f. *hirta* which has a hairy margin (hairy dwarf swamp musk).

No *Mazus* are recorded in the Bay of Plenty checklist (Beadel et al. 2009), but the East Cape area of the North Island, just outside the Bay of Plenty as defined in the checklist,

is a stronghold of dwarf swamp musk, with both forms of the subspecies *impolitus* known from there. Subspecies *impolitus* f. *impolitus* (Threatened - Nationally Vulnerable) occurs under open coastal forest at one site close to East Cape. Subspecies *impolitus* f. *hirta* (Threatened - Nationally Critical) is present at a handful of coastal locations quite close to East Cape, and reported from another site near Kaitaia in Northland.

So the discovery last November by the Rotorua Botanical Society of a healthy population of the hairy dwarf swamp musk, some 30 km from the other known small populations, was very exciting. Nick Miller noticed the white flowers in a wet seepage area in grazed pasture near the edge of open podocarp-broadleaf forest on farmland at Waihau Bay. Unlike other known sites that are close to the coast, this population is on an old coastal terrace about 70 m a.s.l. The group clustered around, photographing the tiny flowers and looking for any more nearby, but this area, about 4 m x 7 m, was the only patch seen.



Mazus novaezeelandiae subspecies *impolitus* f. *hirta*. - habitat and habit (Photo: N.C. Miller)

Graeme Jane returned to his vehicle (fortunately only a couple of hundred metres away) for digital literature to verify our initial identification, once we had checked the hairy margins and purplish-brown edge on the leaves. A specimen will be lodged with the National Forestry Herbarium and other relevant major herbaria. .



Leaf tip (upper) with marginal hairs and purplish-brown edge band Photo: E.M. Miller

These dwarf swamp musks have been reduced to small, isolated populations by habitat loss and are threatened by wetland drainage and competition from taller vegetation. Fencing off from grazing is not a solution, as kikuyu grass or other exotic or native species would quickly overtop and smother them. They are very susceptible to disturbance and habitat modification such as heavy stock trampling. The presence of this previously unknown patch in a seepage with partial shade under the edge of tall trees, lightly grazed but not pugged with mounds and hollows, is a good indicator of the

species requirements. It raises the possibility that there might be more such colonies in similar stable sites.

References

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