

Annual mercury (*Mercurialis annua* L.) in Auckland

Mike Wilcox

Annual mercury (*Mercurialis annua* L.), Euphorbiaceae, is a well-known plant in Britain, where it is regarded as an archeophyte or ancient introduction from its natural home in central, western and southern Europe. In Europe, annual mercury is a ruderal herb, that is, a plant favouring waste, open, disturbed sites. It is wind-pollinated and predominantly dioecious, though populations in Spain are frequently monoecious (Obbard et al. 2006). Male plants are generally smaller than the females (Hesse & Pannell 2011). Another feature of its reproduction is that it flowers all year round (Lisci et al. 1994).



Fig. 1. *Mercurialis annua*, Pigeon Mt., Pakuranga, 23 May 2011. All photos by the author.



Fig. 2. *Mercurialis annua*, Pigeon Mt., female (left), male (right), 4 April 2014. Ruler 30cm long.

It is a naturalised plant in New Zealand, with Auckland its only major locality (Webb et al. 1988). Esler (1988: p.582) stated that "*Mercurialis annua* seems set to become an important plant of disturbed soil but the disappearance of colonies where conditions seem favourable may indicate inability to succeed". He does not mention it later, in his book about Auckland's wild plants (Esler 2004), and neither do Popay et al. (2010) in their latest book on New Zealand weeds, so presumably it is not generally regarded as an important alien plant.

The two places I have seen annual mercury in abundance are on Mt Wellington, and Pigeon Mountain in Pakuranga (Fig. 1). Here it grows in dense colonies on rocky rubble, all year round, even though it is an annual. On Pigeon Mountain, the male plants are clearly taller than the females (as reported from Europe), a rather unusual feature of dioecious plants (Fig. 2). The male plants (Fig. 3) have prominent terminal heads of flowers (well-adapted for wind dispersal of the pollen – Lisci et al. 1994), while the female flowers (Fig. 4) are hidden in the leaf axils.

The records from seabird roosts on Hauraki Gulf rocks (Horuhoru and Tarakihi) indicate that the species has a liking for nutrient-enriched sites – but how it did get to these remote places?

Auckland specimens in the Museum Herbarium

Auckland, Birkenhead, *P. Hynes*, 7 Aug 1954, AK 50990

Auckland, Bucklands Beach, *P. Hynes*, 18 Sep 1954, AK 50991

Auckland, 71 King George Ave, Epsom, *P. Hynes*, 21 Sep 1954, AK 50989

Mt Wellington, lava fields, *A.E. Wright 538*, 25 Nov 1973, AK 134577

Mt Wellington, lava fields, *A.E. Wright 350*, 13 Aug 1975, AK 138010

Waitakere Ranges, Pukematekeo, *J. Mackinder*, 3 Mar 1985, AK 176408

Pigeon Mountain, *M.W. Patterson*, 3 Jul 1994, AK 226649

Shag Rock (Tarakihi), *P.J. de Lange 2904 & I. McFadden*, 19 Oct 1994, AK 222815

Albany, Bush Rd, *E.K. Cameron 9752*, 8 Aug 1999, AK 240013

Gannet Rock (Horuhoru), *G. Wilson*, Oct 1999, AK 281710

Mt Wellington, *E.K. Cameron 14544*, 5 Aug 2007, AK 300329



Fig. 3. *Mercurialis annua*, Pigeon Mt., male flowers, 4 April 2014.



Fig. 4. *Mercurialis annua*, Pigeon Mt., female flowers, 4 April 2014.

References

- Esler, A.E. 1988: The naturalisation of plants in urban Auckland, New Zealand. 5: success of alien species. *New Zealand Journal of Botany* 26: 565–584.
- Esler, A. 2004: *Wild plants in Auckland*. Auckland University Press.
- Hesse, E.; Pannell, J.R. 2011: Sexual dimorphism in a dioecious population of the wind-pollinated herb *Mercurialis annua*: the interactive effects of resource availability and competition. *Annals of Botany* 107(6): 1039–1045.
- Lisci, M.; Tanda, C.; Pacini, E. 1994: Pollination ecophysiology of *Mercurialis annua* L. (Euphorbiaceae), an anemophilous species flowering all year round *Annals of Botany* 74 (2): 125–135.
- Obbard, D.; Harris, S.; Pannell, J. 2006: Sexual systems and population genetic structure in an annual plant: Testing the metapopulation model. *American Naturalist* 167 (3): 354–366.
- Popay, I.; Champion, P.; James, T. 2010. *An illustrated guide to common weeds of New Zealand*. Third edition. New Zealand Plant Protection Society.
- Webb, C.J.; Sykes, W.R.; Garnock-Jones, P.J. 1988. *Flora of New Zealand. Volume IV*. Botany Division, DSIR, Christchurch.

***Eragrostis multicaulis* (Poaceae) in the Waitakere Ranges**

Rhys Gardner and Peter de Lange

The new grass we found on the roadside just west of the Kakamatua Inlet bridge (Gardner 2011) has now been identified (ROG) as *Eragrostis multicaulis* Steud. It resembles the better-known *E. pilosa* but is smaller in all its parts and lacks long hairs in the inflorescence. It is never glandular (that is, it is not a "stink grass") and its grains appear to be somewhat less compressed than those of *E. pilosa*. The native range of *E. multicaulis* is unclear, but it is mainly found in the tropics, including Malesia (Veldkamp 2002). As a naturalised plant it is known from various parts of the world but not, apparently, from Australia (Palmer et al. 2005).

This brings to 12 the number of eragrostids (including *E. pilosa*) that have been found wild in New Zealand (Edgar & Connor 2010). Our specimens

of *E. multicaulis* are deposited with AK (Auckland War Memorial Museum), CHR (Allan Herbarium, Landcare New Zealand) and WELT (Te Papa Tongarewa, Wellington).

We picture it here again (Figs. 1 & 2), using more strongly growing material (larger plants can reach c. 20 cm tall). Note the several culms per plant ("*multicaulis*"), short spikelets, and disparity between the lower and upper glumes. The three anthers of each floret are 0.2 mm long. Veldkamp (2002) has noted that these are perhaps always retained in the floret, that is, the species appears to be cleistogamous.

Because of its crimson spikelets this annual grass is most conspicuous when flowering, from mid-