

***Euphorbia bubalina* – a new casual record for New Zealand**

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On 21 August 2020 two friends, Frances Duff and Joshua Salter, found a fruiting *Euphorbia* species that was new to them, on the eastern side of Wattle Bay/Taunahi, part of the Wattle Bay Reserve, northern Manukau Harbour, Auckland. Despite having fertile material, the author was unable to key it out using a variety of different floras and horticultural books. Searches on Google Images were also unfruitful. The genus *Euphorbia* contains about 1900 species (Mabberley 2017) so it was always going to be a struggle to fully name it. However, as a last resort EKC forwarded images of it to the International Euphorbia Society, resulting in a reply from Volker Buddensiek, who asked a few questions about it and then suggested that he thought it was: *Euphorbia bubalina* Boiss., native to South Africa. Comparison with internet images of that species were a good match.

Habitat and population

About ten plants, 5–53 cm tall (Fig. 1) were scattered over a 4 x 5 m area of a steep grassy, clay slope (Fig. 2), NW-facing, along with c.10 seedlings, most of which appeared to be not far past the cotyledon stage (Fig. 3). They were surprisingly cryptic to spot – Frances earned the chocolate fish! The erect, usually unbranched fleshy stems (Fig. 1), were circular in cross-section, up to 23 mm thick, much narrower at ground level, and patterned by the clasping leaf bases (Fig. 4). Leaves were restricted to the upper part of the stem (Fig. 5), oblong, and measured 5.0–13.5 cm long x 1–3 cm across, with a short, sharp point at the tip (apiculate), long-tapering into a winged petiole (attenuate). The young fruit were seen in August 2020, with the branched peduncles, the sessile green ovary with the terminal style branching into 6 stigmas (Figs. 6, 7); the spent anthers can just be seen poking out over the top of the papery bracteole (Fig. 7).

How did it get there?

Although there is nothing obvious planted in the area, except perhaps for a patch of fairy crassula (*Crassula multicava*) some 10 m distant, there is a small concrete structure near the bottom of the slope (Fig. 2) and flat land (levelled?) in front indicating perhaps a previous site of a bach or boatshed?

Possibly the *Euphorbia bubalina* was originally planted at the site, but it is now clearly naturalising locally (Fig. 3). It matches the definition of Cultivation Escape, i.e., plants that have established themselves and are regenerating only in the immediate vicinity of the cultivated parent (see Ogle et al. 2021: p.46). The cultivated parent is probably long-gone.

Herbarium collections

AK 381298 A&B, *J. Salter & F. Duff*, 21 Aug 2020, Auckland, northern Manukau Harbour, Wattle Bay (Fig. 8)

AK 381308, *J. Salter & F. Duff*, 21 Aug 2020, Auckland, northern Manukau Harbour, Wattle Bay

AK 381349, *E.K. Cameron 17542*, 13 Nov 2020, Auckland, northern Manukau Harbour, Wattle Bay

Australasian records

Euphorbia bubalina was unrecorded by Wilcox & Kowhai (2015) in their vegetation and flora survey of the Wattle Bay Reserve. This appears to be a new Casual record for New Zealand, as it is not included in the recent checklist by Ogle (2021), and it was discovered after the cut-off date for inclusion in the recent checklist of additional records of Naturalised and Casual vascular plants in New Zealand (Ogle et al. 2021). Checking the Australasian Virtual Herbarium (AVH.chah.org.au) there were only two herbarium records of this species, both from Melbourne in the Royal Botanic Gardens, Victoria: one cultivated in the Arid Garden, Jul 1999 (MEL 2060999); and the other self-established in several spots, the original cultivated plant gone, Liriodendron Bed, Nov 2014 (MEL 2384719). This latter example at Melbourne appears to be a similar size and formed in a similar manner to the population at Wattle Bay.

Acknowledgements

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Figs. 1 – 7: 1. Adult *Euphorbia bubalina*, leaves crowded at the top of the main stem (ms) and on the occasional low branch (br) near its base. Wattle Bay/Taunahi, northern Manukau Harbour. Photo: J. Salter, 21 Aug 2020. 2. The steep and open habitat of the *Euphorbia bubalina* location at Wattle Bay by the coast; EKC is standing on the concrete structure. Photo: EKC's camera, 13 Nov 2020. 3. Typical of most of the *E. bubalina* seedlings: fleshy and still retaining their apparent cotyledons. Photo: EKC, 13 Nov 2020. 4. The fleshy cylindrical stem patterned by the wide leaf-bases. Note peduncle scars (ps) above the leaf scars (ls). Photo: EKC, 13 Nov 2020. 5. The leafy upper stem of *Euphorbia bubalina*. Among the leaves are peduncles with maturing cyathia (cy). Photo: EKC, 13 Nov 2020. 6. The branched infructescence, each branch bearing a cyathium (cy) with an ovary (ov) at a different stage of maturity. Photo: J. Salter, 21 Aug 2020. 7. A single green ovary (ov) with style and 6 stigmas, surrounded by the papery bracteole (b) with the spent anthers (a) just protruding, subtended by two almost flat green bracts (cyathophylls)(cl). Two new inflorescences (ni) are developing either side. Photo: J. Salter, 21 Aug 2020.



Fig. 8. The herbarium sheet AK 381298A shows the stem in two halves split longitudinally (frozen and then dried); note the old fruiting peduncles along the stem.

References

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