

– The only AK specimens from the Auckland region are those collected in 1985 by Alan Esler and Jack Mackinder at Cannibal Creek on the Waitakere coast, "in thin soil over rock on exposed knob" (AK 216758; see also AK 177814).

– The fertile parts of *B. sterilis* are comparatively glabrous, notably, near the lemma apex and on the stalk of the inflorescence, which is "glabrous to scabrid in *B. sterilis*, distinctly hairy in *B. diandrus*" (Cope & Gray 2009: 452). Also, despite being narrower in both relative and absolute terms, the mature lemma of *B. sterilis* is, especially on its flanks, more prominently nerved than that of *B. diandrus*.

4. *Bromus tectorum* L. downy brome (Fig. 1D)
Native to temperate parts of Eurasia, widely naturalized in other temperate regions. The specific epithet means "of the roofs" and was given by

Linnaeus to the plant's growing on soil-covered roofs in southern Europe. The older authors also mention walls as a favoured habitat.

– According to Connor & Edgar (2000), although downy brome was recorded for Auckland by Thomas Kirk the only known collection from here appears to be one collected in 1996 ... AK 233145. (A 1959 collection from Miranda on the Firth of Thames is considered to have probably come from Tekapo; E. Edgar in sched. AK 120136).

– Cope and Gray (2009: 454) say that "at maturity, the species is instantly recognized by the small glistening spikelets often all held horizontally to one side ... in the more floriferous spikelets the rachilla above the last fertile floret is often twisted so that the awns of the sterile florets lie in several different planes". The "glistening" would come from reflection off the broad hyaline margins and apices of the glumes and lemmas.

References

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Barleria repens Nees (Acanthaceae) on the southern Queensland coast

Ewen K. Cameron

While on holiday in southern Queensland in April 2013 we went for a swim on the coast at Agnes Water, between Gladstone and Bundaberg (lat. 24.206677° S) and noticed a low flowering shrub with pinky-orange flowers at the back of the beach (Fig. 1). It appeared to be suckering through the sand dunes on the margin of a public access walkway to the beach.



Fig. 1. *Barleria repens* (Acanthaceae), Agnes Water. Corolla c.50 mm long, with 5 ± equal lobes. Paired outer sepals (os) c.25 mm long – larger, flatter than the leaves. Photo: EKC, 22 Apr 2013.

The curved tubular flowers were c.50 mm long; the calyx deeply four-lobed, arranged as two outer lobes and two much smaller inner lobes; leaves opposite with impressed veins and the leaf margins rolled back (rather reminiscent of small *Coprosma repens* leaves). I photographed a piece (Fig. 1) and later tried to work it out from a useful local guide book (*Wild Plants of Greater Brisbane*, A Queensland Museum Guide, 2003) and later using the SE Queensland Flora (Stanley & Ross 1986). It appeared to be in the Acanthaceae but I failed to resolve it. Sending an image later to a couple of Australian colleagues also failed but Rhys Gardner resolved it quite quickly: "*Barleria repens*, seems right."

Checking on Australian Plant Names Index (<http://www.anbg.gov.au/apni/>) it had *Barleria repens* as: "Qld (doubtfully naturalised)". However, Australia's Virtual Herbarium (AVH) (http://avh.ala.org.au/occurrences/search?taxa=barleria+repens#tab_mapView) had several records all on the Queensland coast from opposite the Whitsunday Islands south to the Gold Coast.

Table 1. A selection of herbarium records of *Barleria repens* naturalised in Australia, from AVH (accessed 30 Aug 2013), ordered north to south.

- Coastal low hill in uncleared bushland adjacent to national park. Herb up to 45 cm, flowers pink. Appears to be invasive, moving along a drainage line. Lat. 20.29083° S (BRI AQ0792881; *Scott, L.*; 16 Jul 2008)
- Slope in garden; sand - deep old beach dune sand. Herb to 0.5 m high without support, to 1.5 m high with support, ground cover. Spreading aggressively from neighbouring property. Lat. 21.06788° S (BRI AQ0753379; *Burchill, S.*; 8 Jan 2007)
- Garden, c.0.3 m tall. Tends to come up everywhere, has spread about 50 m in 2 years. Common in this spot. Lat. 23.12342° S (BRI AQ0613910; *Lawless-Pyne, P.*; 5 Mar 2005)
- Sand dune. Spreading herbaceous shrub, pink flowers. Lat. 25.3067° S (BRI AQ0788299; *Johnson, K.*; 24 Apr 2008)
- Dunal; sand/loam. Shrub 0.5 m high x 1 m wide; orange flowers; explosive seed mechanism. Suspected horticultural escapee. 200 sq.m. clump. Chemical trial current. Lat. 26.65778° S (BRI AQ0791929; *Stewart, E.*; 4 Jun 2008)
- Littoral rainforest on sand. Erect herb, fruit. Common at locality as a naturalised weed. Lat. 26.87214° S (BRI AQ0746005; *Smyrell, G.*; 12 Jan 2009)
- Spreading by seed into native bushland from garden. Lat. 28.175° S (BRI AQ0749796; *Benson, M.*; 29 Feb 2008)

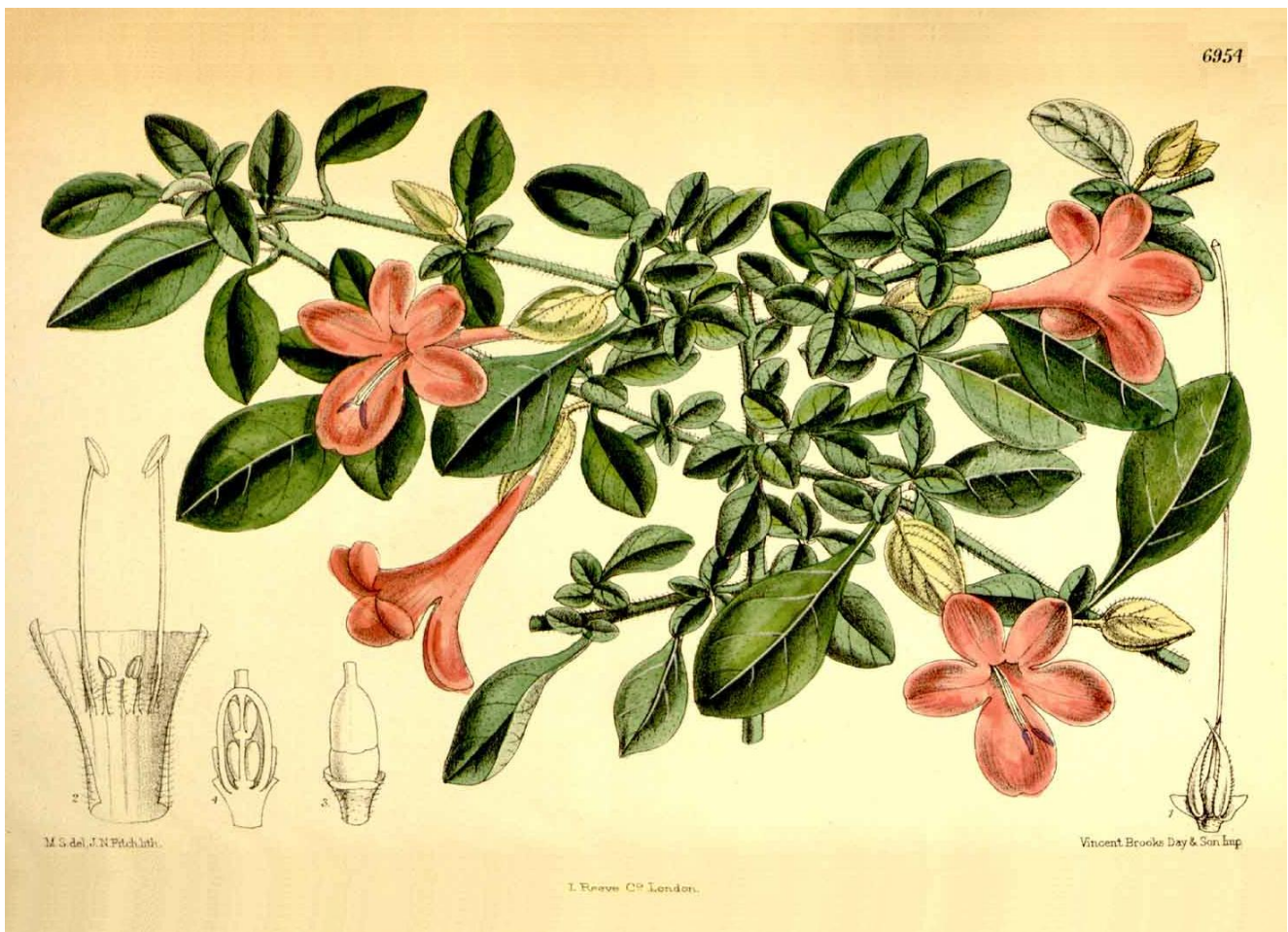


Fig. 2. *Barleria repens* plate (tab. 6954): 1, inner sepals and ovary; 2, base of corolla laid open and stamens; 3, ovary and disk; 4, vertical section of the same (all enlarged). From Hooker (1887), drawn by Matilda Smith and engraved by John N. Fitch.

Checking the details of some of these records (what a great online resource!) indicated that naturalisation in Queensland is recent (see Table 1).

Barleria repens Nees (1847) is a perennial herb, slightly woody when old, with creeping, climbing stems; native to tropical east Africa along the coast from Zanzibar to South Africa; there are c.300 species in the genus, native to the tropics and subtropics largely in Africa and Asia, and most species are frost-sensitive (Cullen et al. 2000). There

is a wonderful coloured illustration of it in Curtis's Botanical Magazine (Hooker 1887) (Fig. 2). Although some species of the genus are present in New Zealand I found no evidence that *Barleria repens* is cultivated here. It's possibly too tropical to ever be a troublesome weed in New Zealand.

Acknowledgement

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References

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Rangitoto Wilding Pines Update

Steve Benham

Reading past accounts of Rangitoto written by eminent botanists of their time, such as Dr. L.H. Millener who spent more than 30 years studying and enthusing his students about the botany of this unique island, there appears to have been an on-going history of grave concerns regarding threats from introduced fauna and flora to the island.

The all too well known risk of fire to the island's unique ecosystems is as valid today as it was then in 1956 when Laurie Millener on behalf of the Auckland Botanical Society (ABS) wrote to the Minister of Lands, E.B. Corbett, stating that introduced animals, plants and acts of vandalism all contributed to the potential demise of Rangitoto's plant life (Anon., 1957; Godley & Thomson, 2000; Godley, 2009).

Fifty-seven years later we are now celebrating the monumental achievement of finally declaring both Rangitoto and the contiguous island of Motutapu mammalian pest-free. Together they amount to 3,883 ha of mammalian pest-free land within easy reach of New Zealand's largest metropolis.

Rangitoto eradications have a long history going back to the 1880s beginning with goats, then possums and rock wallabies in the 1990s and finally in July 2009 with feral cats, hedgehogs, mice, rabbits, rats and stoats. Being vigilant with intensive surveillance and monitoring from now until eternity will hopefully help to maintain the mammalian pest-free status of these islands, allowing for further natural new arrivals, and native animals and plants

functioning without introduced mammalian browsing and predation.

Since the pest-free declaration, saddlebacks and whiteheads have been released successfully on Rangitoto, and little brown kiwi, takahe, saddleback and whiteheads on Motutapu. Natural arrivals now resident on Motutapu include bellbird and kakariki. Pateke, commonly known as brown teal, have occasionally been recorded on Motutapu. There are plans to translocate pateke to Motutapu once wetland restoration is more advanced.

Reptiles on Rangitoto are represented by the native copper skink (*Cyclodina aenea*) and Suter's skink (*Oligosoma striatum*), the latter now occurring in larger numbers since the mammalian pest eradication. The introduced rainbow skink (*Lampropholis delicata*) is abundant. On Motutapu, Moko skink (*Oligosoma moco*), copper skink (*Cyclodina aenea*), Suter's skink (*Oligosoma striatum*) and the common gecko (*Hoplodactylus maculatus*) all occur in larger numbers than the introduced rainbow skink.

Among the introduced plants, Laurie Millener recognised pines as a 'real danger'. In 1948-49 he galvanised members of the ABS and an engineer from the Devonport Borough Council into action and between them they destroyed over 1000 trees, ranging from seedlings to mature trees up to 1 m in diameter and >16 m in height. Millener reported that thousands of pines still remained to be controlled.