



Pomaderris pilifera subsp. *talpicutica*

moleskin dogwood

TASMANIAN THREATENED SPECIES LISTING STATEMENT

Image by Mark Wapstra

Scientific name: *Pomaderris pilifera* subsp. *talpicutica* A.M.Gray & M.Wapstra, *Muelleria* 25: 129 (2007)

Common name: moleskin dogwood

Group: vascular plant, dicotyledon, family **Rhamnaceae**

Status: *Threatened Species Protection Act 1995*: **vulnerable**
Environment Protection and Biodiversity Conservation Act 1999: **Vulnerable**

Distribution: Biogeographic origin: **endemic to Tasmania**
 Tasmanian NRM Regions: **North, South**
 Tasmanian IBRA Bioregions (V6): **South East, Flinders, Ben Lomond**

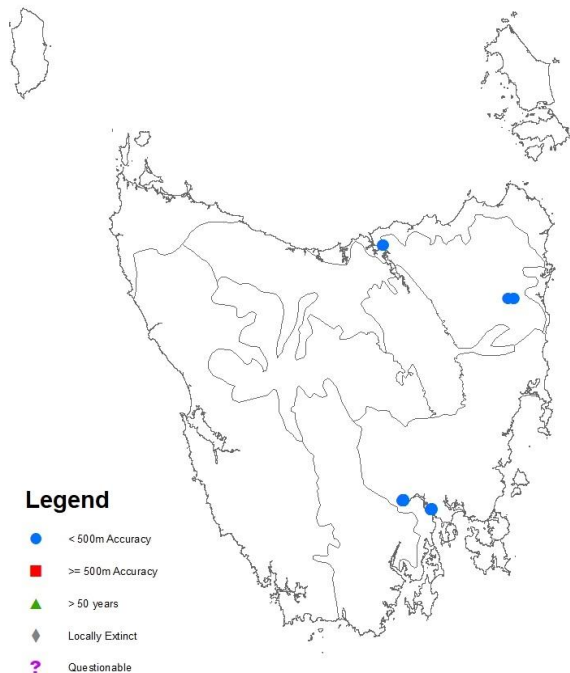


Figure 1. Distribution of *Pomaderris pilifera* subsp. *talpicutica*, showing IBRA bioregions (V6)



Plate 1. *Pomaderris pilifera* subsp. *talpicutica* (image by Richard Schahinger)

SUMMARY: *Pomaderris pilifera* subsp. *talpicutica* is a small shrub in the Rhamnaceae family. It is endemic to Tasmania, with two confirmed subpopulations in the State's south and three small, tentatively ascribed subpopulations in the north. The species grows in dry sclerophyll communities, typically in sunny, impoverished sites. While there are more than 10,000 individuals in the largest subpopulation, there are fewer than 500 individuals in the other subpopulations in total. The species occupies 2 to 3 hectares in total. The species' localised character puts it at risk from repeated fire, climate change and chance events. Monitoring of known sites is required to inform management, and further survey is also required.

IDENTIFICATION AND ECOLOGY

Pomaderris pilifera subsp. *talpicutica* is a small diffuse shrub to 2.5 m high with numerous stems arising from a single rootstock. Regeneration is most likely to be from soil-stored seed or resprouting. The taxon can persist with fire given the description of its habitat as fire-damaged (Gray & Wapstra 2007). Recruitment does not appear to be dependent upon fire. It flowers from September to November but can be identified year-round due to its distinctive leaves.

There are currently 29 taxa in the Rhamnaceae family native to Tasmania, with *Pomaderris pilifera* subsp. *talpicutica* being one of 14 *Pomaderris* taxa (de Salas & Baker 2019), seven of which are listed on Schedules of the Tasmanian *Threatened Species Protection Act 1995*.

Description

The leaves of *Pomaderris pilifera* subsp. *talpicutica* are alternate, petiolate, broadly oblong to rarely oblong-ovate, 10 to 30 mm long and 8 to 15 mm wide, with the widest part usually at the middle. The margins are shortly recurved, the bases rounded and apices emarginate to retuse, usually with a small mucro at the base of the notch. The upper surfaces are dull grey and velvety, with dense, short, sessile, stellate hairs and indistinct venation.

The lower surfaces are pale, dull white, velvety with short, densely matted hairs, and prominent veins bearing a few well dispersed long, simple white or rusty hairs, particularly nearer the base and onto the petiole with some scattered, larger stellate hairs interspersed between simple hairs. The inflorescences are dense, rounded cymose panicles with golden-yellow flowers subtended at first by broad, brown caducous bracts. The flowers are small with 1.5 to 3 mm long, broadly triangular sepals and 1.5 to 2 mm long petals.

[description based on Gray & Wapstra (2007), Schahinger pers. obs.]

Confusing species

Pomaderris pilifera subsp. *talpicutica* is most closely related to *Pomaderris pilifera* subsp. *pilifera*. The leaves of the latter are glabrous on the upper surface except near the midrib, have distinctive lateral venation and acute-acuminate apices, and the indumentum of the hypanthium, calyces and summit of the ovary have a comparatively dense cover of long simple hairs (Gray & Wapstra 2007).

DISTRIBUTION AND HABITAT

Pomaderris pilifera subsp. *talpicutica* is endemic to Tasmania, with confirmed sites in the State's south at East Risdon and Boyer. Three sites in the State's north have been tentatively ascribed to the taxon, one close to the East Tamar Highway (with 10 plants), and two sites east of Mathinna (each with a solitary plant).

The East Risdon and Boyer sites occur on Permian mudstones within a kilometre of the River Derwent. The taxon grows on skeletal soils in open heathy/shrubby woodlands dominated by *Eucalyptus amygdalina* or *Eucalyptus risdonii* (the latter at East Risdon only). Associated species include *Acacia genistifolia*, *Astroloma humifusum* and *Dianella revoluta*. Plants have been recorded in the altitude range 10 to 180 metres above sea level.

The sites in the State's north each occur on Jurassic dolerite, the dominant eucalypts include *Eucalyptus amygdalina* and *Eucalyptus obliqua*, with the elevation of the two sites near Mathinna (Barnes Road and The Pimple) being 240 m and 460 m above sea level respectively.

Table 1. Population summary for *Pomaderris pilifera* subsp. *talpicutica* in Tasmania

Location	Subpopulation	Tenure	NRM region	1:25 000 mapsheet	Year last (first) seen	Area of occupancy (ha)	Number of mature plants
1	1a. East Risdon: coastal*	East Risdon State Reserve	South	Hobart	2019 2015 2011 (1992)	0.04 <0.05	176(158 [^]) 278 300±20
	1b. East Risdon: middle*	East Risdon State Reserve	South	Hobart	2019 2015 (2012)	0.07	117(110 [^]) 175
	1c. East Risdon: inland*	East Risdon State Reserve	South	Hobart	2015 (2012)	0.002	5
2	2. Boyer	private land	South	New Norfolk	2019 (2017)	2 to 3	10,000+
3	3. East Tamar Highway	Conservation Area (unnamed)	North	Bell Bay	2015 (2007)	0.006 0.0025	10 10
					2016 2006 (1999)	0 0.0001	0 1 1
4	4. The Pimple (east of Mathinna)	Future Potential Production Forest (Crown land)	North	Dublin Town	2016 2006 (1999)	0 0.0001	0 1 1
	5. Barnes Road (Evercreech)	private land/Crown road reserve	North	Dublin Town	2016	0.0001	1

* East Risdon site 1b is about 600 m inland from site 1a, with site 1c a further 100 m inland; [^]flowering plants



Plate 2. *Pomaderris pilifera* subsp. *talpicutica* at Boyer (image by Richard Schahinger)

POPULATION PARAMETERS

Number of locations: 4 (2 tentative)

Number of subpopulations: 5 (3 tentative, 1 of which is now thought to be locally extinct)

Extent of occurrence: 9,800 km²

Linear range: 190 km

Area of occupancy: < 2 to 3 ha

Area of occupancy (as per IUCN criteria): 20 km²

No. of mature individuals: >10,500

The three northern subpopulations have only tentatively been ascribed to *Pomaderris pilifera* subsp. *talpicutica*. Variable occurrences are often identified to an infraspecies by consideration of variation across the whole occurrence, even though some of the more extreme variants at a site may better fit the description of other infraspecies. As such, the attribution of the single plants at The Pimple and Barnes Road sites to *Pomaderris pilifera* subsp. *talpicutica* is somewhat uncertain with no other plant (Barnes Road) and only one other plant (The Pimple) of *Pomaderris pilifera* to reference. The *Pomaderris pilifera* at the East Tamar Highway site is somewhat intermediate between the descriptions of the two subspecies but is considered to better fit *Pomaderris pilifera* subsp. *talpicutica*.

Including the tentatively ascribed northern subpopulations, the taxon has a linear range of about 190 km, extent of occurrence of 9,800 km², and area of occupancy estimated to be between 2 to 3 hectares (Table 1).

While there are greater than 10,000 individuals in total, most of these occur at the Boyer site, with fewer than 500 individuals occurring in all other subpopulations.

Recruitment is only evident at the southern subpopulations (Boyer and East Risdon), subjecting the species to a risk of continuing decline due to the small size of the northern subpopulations. A decline has already been evidenced at The Pimple where dedicated searches for *Pomaderris pilifera* in 2016 did not rediscover any plants (Mark Wapstra & Kerri Spicer pers. com.).

The discovery of the substantial subpopulation at Boyer in the State's south in November 2017 suggests that there is a reasonable likelihood of further subpopulations being found in the broader area.

RESERVATION STATUS

Reserved in East Risdon State Reserve and an unnamed Conservation Area along the East Tamar Highway.

CONSERVATION STATUS

Pomaderris pilifera subsp. *talpicutica* is currently listed as vulnerable on the Tasmanian *Threatened Species Protection Act 1995*. The subspecies was initially listed as endangered in 2009 but was downlisted to vulnerable in 2020 following the discovery of a substantial subpopulation at Boyer.

The species meets the following criteria for vulnerable:

- B. area of occupancy less than 50 ha, and
 1. severely fragmented or known to exist at no more than ten locations.
 2. continuing decline, inferred, observed or projected, in
 - a. extent of occurrence;
 - d. number of locations or subpopulations.
- D2. total population very small or area of occupancy restricted, and total population with an area of occupancy less than 5 ha, and typically in five or fewer locations that provide an uncertain future due to the effects of human activities or stochastic events, and thus capable of becoming endangered within a very short time period.

THREATS, LIMITING FACTORS & MANAGEMENT ISSUES

Frequent fire: The East Risdon site is described as occurring in fire damaged and impoverished vegetation (Gray & Wapstra 2007), though there have been no recorded fires in the area supporting the species for at least 25 years. While the species clearly persists through firing, it is likely that frequent firing, particularly during times of drought, will lead to a decline if recruitment is compromised and does not keep pace with mortality.

Climate change: The taxon is likely to be sensitive to the anticipated impacts of climate change with more frequent and severe drought and wildfire predicted. Severe drought has resulted in a substantial decline in numbers at the East Risdon site, as evidenced by monitoring in 2019 (Table 1), and follow up recruitment may not arrest the decline if hampered due to the anticipated increase in the frequency and severity of drought.

Forestry operations: The Pimple site is on a small hilltop remnant just within the eastern boundary of a large tract of land that has been otherwise cleared and converted to plantation (Gray & Wapstra 2007). Only two plants of *Pomaderris pilifera*, separated by about 50 m, remained in 2006, one attributed to *Pomaderris pilifera* subsp. *talpicutica* (though the plant was browsed and possibly diseased), and the other to *Pomaderris pilifera* subsp. *pilifera*. Dedicated survey for the species was conducted in the remnant in 2016, though no plants were found, and the species is now thought to be locally extinct at the site. The Barnes Road site is on the edge of a forestry road, though no other plants of *Pomaderris pilifera* have been found in the vicinity.

Small population size: The species is at risk of local extinctions from stochastic events given the small size and low number of all but one of the subpopulations (Boyer), the risk is exacerbated by lack of recruitment in the northern subpopulations.



Plate 3. Monitoring *Pomaderris pilifera* subsp. *talpicutica* at East Risdon State Reserve in September 2015 (image by Richard Schahinger)

MANAGEMENT STRATEGY

What has been done?

- The wider botanical community has been requested to look out for *Pomaderris pilifera* subsp. *talpicutica*, particularly in the vicinity of the parent species.
- Seed has been collected from the East Risdon and Boyer subpopulations for long term conservation storage at the Tasmanian Seed Conservation Centre (Royal Tasmanian Botanical Gardens, Hobart).
- A census of the East Risdon subpopulation was undertaken in September 2011 by Threatened Species Section DPIPWE, with assistance from volunteers from the Wildcare group Threatened Plants Tasmania, and repeated in September 2015 (Schahinger 2015) and October 2019.
- The tenure of the East Tamar subpopulation has been upgraded to Conservation Area, and the site has been further buffered from disturbance by the placement of conservation covenants under the *Tasmanian Nature Conservation Act 2002* on private properties to the immediate north and south.
- The Pimple site was thoroughly surveyed for plants of *Pomaderris pilifera* in 2016, though no plants were found (Mark Wapstra & Kerri Spicer 2016).

Management objectives

- prevent the loss of known subpopulations;
- locate new subpopulations.

What is needed?

Agencies, groups or individuals may assist with some or all of the following recovery actions. Coordinated efforts may achieve the best and most efficient results.

- provide information and extension support to relevant Natural Resource Management committees, local councils, government agencies and the local community on the locality, significance and management of known sites;
- identify and survey potential habitat;
- avoid frequent burning of habitat in the vicinity of known sites;
- should development proposals be proposed within 5 km of known sites, survey for the taxon in potential habitat that may be impacted;
- monitor known sites at least once every 3 to 5 years to determine population trends and whether management intervention is required.

REFERENCES

- de Salas, M.F & Baker, M.L. (2019). *A Census of the Vascular Plants of Tasmania, including Macquarie Island*. Tasmanian Herbarium, Tasmanian Museum and Art Gallery, Hobart <https://flora.tmag.tas.gov.au/resources/census/>
- Gray, A.M. & Wapstra, M. (2007). A new subspecies of *Pomaderris pilifera* (Rhamnaceae: Pomaderraeae) from eastern Tasmania. *Muelleria* 25:129–133.
- Schahinger, R. (2015). *Pomaderris pilifera* subsp. *talpicutica*. Census of East Risdon sites, 26 September 2015. Internal file note, Threatened Species Section, Department of Primary Industries, Water and Environment, Hobart.

Prepared in 2009 under the provisions of the Tasmanian *Threatened Species Protection Act 1995*. Revised in 2016, 2018, 2019 and 2020. Reapproved by the Secretary in 2021.

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Permit: It is an offence to collect, disturb, damage or destroy this species unless under permit.