

## *Pomaderris eriocephala* Woolly-head Pomaderris

### Taxonomy

*Pomaderris eriocephala* N.A. Wakef.

The taxon is very similar to, and sometimes mis determined as, *P. subcapitata*. Some non-vouchered records may relate to that taxon, but it is of similar rarity and habitat so this is probably not a big problem, i.e. mis-identification might occur either way.

### Current conservation status

Categorised as Rare in the 2014 Advisory list of rare or threatened flora (DEPI 2014).

### Proposed conservation status

Vulnerable in Victoria

Criterion A2c; C2a(i)

### Species Information

#### Description and Life History

The taxon is a spreading shrub, 1–3 m high; branchlets rusty, moderately to densely villous. Leaves ovate to obovate, 8–45 mm long, 7–30 mm wide, obtuse or emarginate, margins entire or subcrenate but veins usually exerted as a tuft of hairs, upper surface hispid with mid-dense to dense simple hairs, secondary veins strongly impressed, lower surface whitish beneath with soft stellate hairs and longer simple rusty hairs over veins; stipules 5–10 mm long, somewhat persistent. Flowers in dense globoid clusters, each c. 1 cm wide; bracts persistent. Flowers cream, externally whitish- to rusty-villous; pedicels 0–1 cm long; hypanthium 1–1.5 mm long; sepals 1.6–2.3 mm long, deciduous; petals absent (rarely present, then narrow-obovate, c. 2 mm long); disc absent; ovary inferior, summit villous, style variably branched. Operculum membranous, c. half mericarp length. Flowers September–October (VicFlora 2017).

Regeneration of the taxon is probably only by seed, although there may be some resprouting following minor mechanical damage. Ants are the most likely disperser of seed which has a small elaiosome. Dispersal ranges are then probably mostly short (metres).

#### Generation Length

The generation length of *Pomaderris eriocephala* is estimated to be 10 to 25 years. This is based on a longevity of plausibly 20 to 40 years, a pre-settlement fire interval plausibly in the 60 year range, and the likelihood that episodic fire-induced mass recruitment greatly exceeds the proportion of recruitment responding continuously to small scale soil disturbances.

#### Distribution

The taxon occurs in eastern Victoria, mainly east of Licola, to SE New South Wales. It is found mostly south of the Dividing Range, but there are a few outliers north of Divide, such as at Yackandandah and Omeo.

# Pomaderris eriocephala

## Woolly-head Pomaderris

### Habitat

The taxon occurs mostly in drier lowland to foothill open-forests, often in the vicinity of watercourses, but not within the riparian zone or affected by proximity of water. Soils are typically shallow and rocky, and it rarely ascends to higher altitudes (recorded once to c. 800 m).

### Threats

Browsing by Sambar Deer (*Rusa unicolor*). Is a major threat. Climatic drying and warming, coupled with increasing frequency and landscape scale of natural and anthropogenic fire, increases the risk of recruitment failure and adult mortality. This may result in seedbank depletion and exhaustion. The increasing risk of repeat fire events at intervals approaching or below the tolerable fire interval for the taxon increases this risk. The increasing frequency, duration and intensity of extreme drought events also increases the risk of adult mortality and, particularly, recruitment failure during the early, vulnerable stages of post-fire recruitment, when Sambar are likely to target the recruits.

### IUCN Criteria

Criterion A. Population size reduction. Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4			
	Critically Endangered	Endangered	Vulnerable
A1	≥ 90%	≥ 70%	≥ 50%
A2, A3, A4	≥ 80%	≥ 50%	≥ 30%

  

<p>A1 Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.</p> <p>A2 Population reduction observed, estimated, inferred or suspected in the past where the causes of the reduction may not have ceased OR may not be understood OR may not be reversible.</p> <p>A3 Population reduction, projected or suspected to be met in the future (up to a maximum of 100 years) [(a) cannot be used for A3]</p> <p>A4 An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.</p>	<p>based on any of the following:</p>	<p>(a) direct observation [except A3]</p> <p>(b) an index of abundance appropriate to the taxon</p> <p>(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat</p> <p>(d) actual or potential levels of exploitation</p> <p>(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### Evidence:

#### Eligible under Criterion A2 as Vulnerable

The population reduction over the past 30 to 45 years is inferred to be 25 to 35%, based on (c) above.

The estimate accounts for perhaps 30% of plants possibly destroyed through primarily roadworks.

# Pomaderris eriocephala

## Woolly-head Pomaderris

Criterion B. Geographic range in the form of either B1 (extent of occurrence) and/or B2 (area of occupancy)			
	Critically Endangered Very restricted	Endangered Restricted	Vulnerable Limited
B1. Extent of occurrence (EOO)	< 100 km <sup>2</sup>	< 5,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>
B2. Area of occupancy (AOO)	< 10 km <sup>2</sup>	< 500 km <sup>2</sup>	< 2,000 km <sup>2</sup>
AND at least 2 of the following 3 conditions:			
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

### Evidence:

#### Ineligible under Criterion B

The Extent of Occurrence across the taxon's range is estimated to be 12,650 km<sup>2</sup> and the Area of Occupancy is estimated to be 144 km<sup>2</sup>, but other thresholds under this criterion have not been met.

Criterion C. Small Population size and decline				
	Critically Endangered	Endangered	Vulnerable	
Number of mature individuals	< 250	< 2,500	< 10,000	
AND at least one of <u>C1</u> or <u>C2</u>				
<u>C1</u>	An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future):	25% in 3 years or 1 generation (whichever is longer)	20% in 5 years or 2 generations (whichever is longer)	10% in 10 years or 3 generations (whichever is longer)
<u>C2</u>	An observed, estimated, projected or inferred continuing decline AND least 1 of the following 3 conditions:			
(a)	(i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000
	(ii) % of mature individuals in one subpopulation =	90 – 100%	95 – 100%	100%
(b)	Extreme fluctuations in the number of mature individuals			

### Evidence:

#### Eligible under Criterion C2 as Vulnerable

# Pomaderris eriocephala

## Woolly-head Pomaderris

It is estimated that there are 2,000 to 4,000 mature individuals. This is based on the existence of herbarium records and an assumption that these conservatively represent half of the populations in Victoria. Populations commonly comprise of numerous plants (30+ pers. obs.), so the estimate is based on 100 x 20-40 plants.

The number of mature individuals is inferred to continue to decline, as a result of the identified threats, notably increased fire, drought and targeted browsing by Sambar. There are less than 1,000 mature individuals in each subpopulation.

Criterion D - Very small or restricted population <sup>Ⓜ</sup>			
	Critically Endangered <sup>Ⓜ</sup>	Endangered <sup>Ⓜ</sup>	Vulnerable <sup>Ⓜ</sup>
Number of mature individuals (observed or estimated) <sup>Ⓜ</sup>	<50 <sup>Ⓜ</sup>	<250 <sup>Ⓜ</sup>	<1,000 <sup>Ⓜ</sup>
D2 - Only applies to the VU category <sup>¶</sup> Restricted area of occupancy or number of locations with a plausible future threat that could drive the species to critically endangered or Extinct in a very short time. <sup>Ⓜ</sup>	- <sup>Ⓜ</sup>	- <sup>Ⓜ</sup>	D2 - Typically: <sup>¶</sup> AoO < 20 km <sup>2</sup> or number of locations ≤ 5 <sup>Ⓜ</sup>

### Evidence:

#### Ineligible under Criterion D

It is estimated that there are 2,000 to 4,000 mature individuals which exceeds the thresholds for criterion D.

**Criterion E (Quantitative Analysis) was not addressed as the taxon does not have a detailed Population Viability Analysis.**

### References

DEPI (2014). *Advisory list of rare or threatened plants in Victoria - 2014*. Department of Environment and Primary Industries, Melbourne. Retrieved from: [https://www.environment.vic.gov.au/\\_\\_data/assets/pdf\\_file/0021/50448/Advisory-List-of-Rare-or-Threatened-Plants-in-Victoria-2014.pdf](https://www.environment.vic.gov.au/__data/assets/pdf_file/0021/50448/Advisory-List-of-Rare-or-Threatened-Plants-in-Victoria-2014.pdf)

VicFlora (2017). Flora of Victoria, Royal Botanic Gardens Victoria: *Pomaderris eriocephala*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/d2a4f57e-217a-43ad-b0db-4b8a31f2bcdb>