

Pomaderris subcapitata Convex Pomaderris

Taxonomy

Pomaderris subcapitata N.A. Wakef.

Current conservation status

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

Proposed conservation status

Endangered in Victoria

Criterion B2ab(iii,v)

Species Information

Description and Life History

The taxon is a shrub, 2-4 m high; branchlets with fine stellate and long, rusty thread-like hairs. Leaves obovate to broad-ovate, 8-45 mm long, 7-25 mm wide, obtuse or emarginate, subvelutinous above with secondary veins impressed, lower surface greyish, densely stellate-pubescent, with long, fine rusty simple hairs over veins; stipules 3-7 mm long, deciduous. Inflorescence of dense, subglobular clusters, c. 2-5 cm wide; bracts persistent. Flowers cream or yellow, externally villous with whitish or coppery simple hairs over grey stellate hairs; pedicels 1-2 mm long; hypanthium 1-1.5 mm long; sepals 2-2.5 mm long, deciduous; petals c. spatulate, 1.5-2.5 mm long, or absent; disc absent; ovary inferior, summit simple-pubescent, style branched in middle third. Operculum membranous, c. one-third mericarp length. Flowers September-November (VicFlora 2014).

Generation Length

The generation length of *Pomaderris subcapitata* is estimated to be 10 to 25 years. This is based on a longevity of plausibly 40 years, a pre-settlement fire interval plausibly in the 40 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 is patchily distributed in Victoria through central Gippsland and north-east Victoria in the Yackandandah, Mitta Mitta, Walwa, and Burrowye areas. It also occurs in New South Wales and the Australian Capital Territory.

Habitat

The taxon occurs in open-forest, woodland and heathland, usually in rocky sites, often near watercourses (e.g. Bright, Walwa, Anglers Rest, Mt Elizabeth) (VicFlora 2014).

Associated taxa include *Eucalyptus polyanthemos*, *E. macrorhyncha*, *E. nortonii*, *E. macrorhyncha*, *E. dives*, *E. globoidea*, *Acacia dealbata*, *A. mearnsii*, *A. pycnantha*, *A. rubida*, *Bursaria spinosa*, *Cassinia longifolia*, *Dodonaea viscosa*, *Correa reflexa*, other *Pomaderris* spp., and *Prostanthera rotundifolia*.

Pomaderris subcapitata

Convex Pomaderris

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 style="text-align: center;"><i>based on any of the following:</i></p> <ul style="list-style-type: none"> (a) direct observation [except A3] (b) an index of abundance appropriate to the taxon (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat (d) actual or potential levels of exploitation (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites 			

Evidence:

Ineligible under Criterion A

The population reduction for this taxon is below the threshold for eligibility under criterion A.

Pomaderris subcapitata

Convex 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 ²	< 5,000 km ²	< 20,000 km ²
B2. Area of occupancy (AOO)	< 10 km ²	< 500 km ²	< 2,000 km ²
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:

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 144 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the Victorian Biodiversity Atlas.

The taxon is estimated to be severely fragmented as there is no genetic connection between many of the subpopulations, such that recolonisation from another subpopulation following loss of the taxon is considered unlikely.

It has a continuing decline in (iii) and (v) above due to the identified threats, notably increased fires, drought and targeting browsing by Sambar.

Pomaderris subcapitata

Convex Pomaderris

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 C1 or C2				
C1	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)
C2	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:

Ineligible under Criterion C

It is suspected that there are 2,000 to 20,000 mature individuals, but the qualifier is too weak to meet this criterion.

Criterion D. Very small or restricted populations				
		Critically Endangered	Endangered	Vulnerable
Number of mature individuals (observed or estimated)		< 50	< 250	< 1,000
D2. Only applies to the VU category 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.		-	-	D2. Typically: AoO < 20 km ² or number of locations ≤ 5

Evidence:

Ineligible under Criterion D

It is suspected that there are 2,000 to 20,000 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



Pomaderris subcapitata
Convex Pomaderris

VicFlora (2014). Flora of Victoria, Royal Botanic Gardens Victoria: *Pomaderris subcapitata*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/0c9f868b-6a0b-4608-872a-ff38c8ca1e02>