



## *Prostanthera walteri* Monkey Mint-bush

### Taxonomy

*Prostanthera walteri* F. Muell.

Previous assessments included *P. monticola* in this taxon (localised in Victoria to Mt Buffalo). Some older mapped records from Mt Buffalo are still labelled as *P. walteri*.

### Current conservation status

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

### Proposed conservation status

Endangered in Victoria

Criteria B1ab(iii)+2ab(iii)

The bushfires of 2019/2020 are believed to have impacted more than 50% of the taxon's modelled habitat. The overall impacts of the fire are yet to be determined, and its recovery depends on the effective control of the impacts of feral herbivores and prevention of major soil and vegetation disturbance as a result of fire recovery activities.

### Species Information

#### Description and Life History

The taxon is a sprawling shrub, 1-2 m high; branches often forming a tough wiry entanglement, c. terete, densely pilose to appressed-tomentose, glandular. Leaves ovate to slightly rhombic, (10-)18-26(-38)mm long, 5-15(-17)mm wide, 1.4-2.5 times as long as wide, indumentum like that of stems, sometimes apparently glabrous above, grooved above, base obtuse, subacute to cuneate, margin entire, recurved, apex obtuse; petiole 2-5(-8)mm long. Flowers appearing axillary; bracteoles 4-6.5mm long; calyx 10-12mm long, striate, tube 4-5mm long, lobes 3-6(-7)mm long; corolla (15-)18-26mm long, blue-green, rarely green-yellow, prominently purple-veined, tube 12-16mm long; anther appendage absent. The taxon flowers in summer (VicFlora 2019).

#### Generation Length

The generation length of *Prostanthera walteri* is estimated to be 20 to 30 years. This is based on the taxon's lifeform of a small shrub, and its habitat.

#### Distribution

In Victoria the taxon is scattered on usually granitic mountains, on and east of Mts Baldhead and Elizabeth. It also occurs in New South Wales (VicFlora 2019).

#### Habitat

The taxon usually occurs on granitic mountains in tall open-forests between c. 850 and 1,400 m altitude (VicFlora 2019).

#### Threats

The taxon is potentially threatened by imposed anthropogenic fire regimes and climatic warming and drying which, synergistically, increase the risk of recruitment failure in response to repeat fire events and extreme drought stress.

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Small and isolated stands may also be threatened by targeted browsing by deer, during the early stages of post-fire recruitment.

The bushfires of 2019/2020 are believed to have impacted around 50% of the taxon's modelled habitat. The overall impacts of the fire are yet to be determined.

## 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> <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 60 to 90 years is estimated to be 30 to 40%, based on (b) above.

This taxon is suspected to be naturally restricted, based on habitat. The bushfires of 2019/2020 are believed to have impacted more than 50% of the taxon's modelled habitat. Although the degree of damage is yet to be determined, such a loss of habitat may have resulted in a similar decline in population.

The causes of reduction may not have ceased, be understood or be reversible.

### Eligible under Criterion A3 as Vulnerable

The population reduction over the next 60 to 90 years is projected to be 20 to 30%, based on (b) and (c) above.

Future reduction is based on the identified threats such as climatic drying, changed fire frequency, and disturbance by feral animals.

### Eligible under Criterion A4 as Vulnerable

The population reduction over any 60 to 90 year period, including both past and future, is suspected to be 20 to 40%, based on (b) and (c) above. The causes of reduction may not have ceased, be understood or be reversible.

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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:

#### Eligible under Criterion B1 as Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 3,646 km<sup>2</sup>, based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA).

The taxon is estimated to be severely fragmented naturally at the landscape scale with no specialised mechanism for dispersal and, therefore, negligible capacity for recolonisation should individual subpopulations become locally extinct.

It is estimated to have 3 locations, and has a continuing decline in (iii) above as a result of inappropriate fire regimes, the likely increase in the frequency and intensity of bushfires in a warming and drying climate, and damage caused by feral deer.

#### Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 124 km<sup>2</sup>, based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

As above, the taxon is estimated to be severely fragmented, to have 3 locations, and has a continuing decline in (iii) above.

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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 2,400 to 4,800 mature individuals, but this 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 <sup>2</sup> or number of locations ≤ 5

### Evidence:

#### Eligible under criterion D2 as Vulnerable

The taxon is estimated to be very restricted.

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)



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VicFlora (2019). Flora of Victoria, Royal Botanic Gardens Victoria: *Prostanthera walteri*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/a1310d7f-fd68-44c1-ac34-5b2587ceeb1d>