Threatened Species Assessment

Ptilotus erubescens
Hairy Tails

Taxonomy

Ptilotus erubescens Schltdl.

Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* (SAC 1993).

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

Proposed conservation status

Critically Endangered in Victoria

Criteria A2bce+4bce

Species Information

Description and Life History

The taxon is deeply taprooted herb, with 1-several ascending to erect, usually unbranched stems to c. 30 cm high. Stems pubescent, at least in upper part. Basal leaves usually numerous, linear to narrowly oblanceolate, to 10 cm long, 3 mm wide; stem leaves shorter and relatively broader. Spike globoid to ovoid, to 4 cm long, 3 cm diam. (see note below), white, greyish, or tinged pink; bract and bracteoles ovate, 6-12 mm long, acute, straw-coloured; perianth 12-16 mm long, curved upwards at or after anthesis; tepals free almost to base, outer surface densely silky-hairy except for apical 1-3 mm, pink just below apex, inner surface glabrous except for loose woolly tuft at base; fertile stamens 4; ovary sessile, woolly at apex, style eccentric. Flowers November-February (VicFlora 2018).

A population of aberrant plants with etiolated, narrowly cylindric spikes to c. 12 cm long was located near Boort in 1993. They were growing with normal *P. erubescens* and in all respects except the elongated spikes were identical with the typical plants (Walsh 1996).

Generation Length

The generation length of *Ptilotus erubescens* is inferred to be 10 to 50 years (midpoint 20 years). This is based on a reference to a similar taxon, and observations that generation length is at least 10 years and potentially greater than the upper estimate of 50 years. It is likely long lived, given the growth form of the plant being a deeply taprooted perennial (Walsh 1996).

Distribution

The taxon is occasional in northern and western Victoria, and is found in several bioregions, including Central Victorian Uplands, Dundas Tablelands, Glenelg Plain, Goldfields, Greater Grampians, Lowan Mallee, Murray Fans, Murray Mallee, Northern Inland Slopes, Victorian Riverina, Victorian Volcanic Plain, and Wimmera. It is also found in South Australian and New South Wales (VicFlora 2018; Walsh 1996).

Habitat

The taxon is occasional on relatively fertile soils supporting grassland and woodland communities in northern and western Victoria, but not in mallee areas (VicFlora 2018).

Threats

A past threat to this taxon has involved the conversion of habitat to improved pastures for cereal crop production. This threat has largely ceased as the majority of the remaining populations exist on public land and private protected areas.

The ongoing threats to the taxon include continuation of grazing by domestic stock, and absence of fire. Grazing by domestic stock reduces the overall fitness of the population and is likely to result in the long term decline of the taxon, as well as a decline in the condition of its habitat. Absence of fire from key locations is likely to reduce the ability of the taxon to recruit.

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%

A1 Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.

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.

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*]

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.

based on any of the following:

(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:

Eligible under Criterion A2 as Critically Endangered

The population reduction over the past 30 to 150 years is inferred to be 70 to 90%, based on (b), (c) and (e) above.

Past decline is based on the loss of habitat across the taxon's range, as a result of wide spread clearing of grassy habitat across Victoria which is estimated to be in excess of 90% of these systems.

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

Eligible under Criterion A2 as Critically Endangered

The population reduction over the next 30 to 100 years is inferred to be 20 to 50%, based on (c) and (e) above.

Future decline is due to the continuation of threats, specifically the use of grazing by domestic stock as the primary management tool in protected areas on public and private land.

Eligible under Criterion A4 as Critically Endangered

The population reduction over any 30 to 150 year period, including both past and future (up to 100 years in the future), is inferred to be 70 to 90%, based on (b), (c) and (e) above. The causes of reduction may not have ceased, be understood or be reversible.

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 km²	< 5,000 km²	< 20,000 km²
B2. Area of occupancy (AOO)	< 10 km²	< 500 km²	< 2,000 km²
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 (EoO) across the taxon's range, based on accepted, post-1970 records in the Victorian Biodiversity Atlas (VBA), is estimated to be 99,220 km² which exceeds the threshold for criterion B.

The Area of Occupancy (AoO) across the taxon's range, based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA, is estimated to be 818 km², 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 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 inferred that there are 10,000 to 100,000 mature individuals, which exceeds the thresholds for criterion C.

Criterion D. Very small or restricted population			
	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 km2 or number of locations ≤·5

Evidence:

Ineligible under Criterion D

It is inferred that there are 10,000 to 100,000 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

SAC (1993). Flora and Fauna Guarantee Scientific Advisory Committee: Final Recommendation on a Nomination for Listing. Nomination No. 269 *Ptilotus erubescens*

VicFlora (2018). Flora of Victoria, Royal Botanic Gardens Victora: *Ptilotus erubescens*. Retrieved from: https://vicflora.rbg.vic.gov.au/flora/taxon/353693ee-4c81-43e6-a552-b06ec80e1956

Walsh, N.G. (1996). Amaranthaceae. In: Walsh, N.G.; Entwisle, T.J. (eds), *Flora of Victoria Vol. 3, Dicotyledons Winteraceae to Myrtaceae*. Inkata Press, Melbourne.