Threatened Species Assessment

Ptilotus obovatus
Silver Tails

Taxonomy

Ptilotus obovatus (Gaudich.) F. Muell.

Current conservation status

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

Proposed conservation status

Critically Endangered in Victoria

Criteria A2abce+3bce+4abce

Species Information

Description and Life History

The taxon is a weakly shrubby perennial to c. 1 m high and wide. Stems and leaves appearing grey or whitish from a dense stellate indumentum. Leaves obovate, 1-4 cm long, 4-15 mm wide, scattered along branches, the lower ones petiolate. Spikes hemispherical to shortly cylindric, 1-2.5 cm long, 1.5-2 cm diam., dense, white or pink; bract ovate, 2-3 mm long, obtuse or broadly acute, brown, pubescent; bracteoles broadly lanceolate, acute, c. 1 mm longer than bract; perianth 7-10 mm long; tepals free almost to base, outer surface densely covered with long silky hairs, inner surface glabrous; fertile stamens 3 or 4; ovary subsessile, pubescent about the apex, style eccentric. The taxon flowers mainly from June to November (VicFlora 2017).

Generation Length

The generation length of *Ptilotus obovatus* is estimated to be 30 to 60 years. According to VicFlora (2017), the taxon is a weakly shrubby perennial to c. 1 m high and wide and therefore it is likely to have a reasonably long life span and recruit by seed episodically depending on season. The broad generation length reflects uncertainty in the estimate.

Distribution

The taxon is known in Victoria by 2 or 3 collections (all pre-1900) labelled ‘Wimmera’, ‘Mallee district’ and ‘Murray River’, a 1995 collection from Robinvale, and 3 recent collections from Bambill South, and Yarrara Flora and Fauna Reserve (VicFlora 2017).

Habitat

The taxon occurs in mallee woodlands; and the vast majority of plants occur in the Bambill region in Belah Woodland on red loamy soil in fragmented landscape.

Threats

The taxon occurs in highly fragmented landscapes cleared for wheat farming, livestock and irrigation (and sometimes townships). The remnant sites are very small, isolated and sometimes degraded. The taxon is at risk of catastrophic loss by inadvertent destruction and degradation of habitat by frequent fire, weed invasion, clearing, soil disturbance, stock grazing. Climate change may exacerbate many of these threats. Sites close to Robinvale township are also threatened from development.

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 90 to 180 years is estimated to be 80 to 90%, based on (a), (b), (c) and (e) above.

the taxon is considered to have dramatically disappeared due to past over-clearing.

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

Eligible under Criterion A3 as Critically Endangered

The population reduction over the next 90 to 100 years is suspected to be 50 to 100%, based on (b), (c) and (e) above.

The taxon is expected to decline further because its numbers at some sites are extremely low (i.e. single plants) and the degradation of the sites will hinder regeneration. Its dispersal is hindered by fragmented habitat. The future population range reflects uncertainty about the rate and extent of decline, but the taxon could easily become extinct in Victoria if no action is taken or the worst case scenarios are assumed.

Eligible under Criterion A4 as Critically Endangered

The population reduction over any 90 to 180 year period, including both past and future (up to 100 years in the future) s is suspected to be 50 to 100%, based on(a), (b), (c) and (e) above.

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:

Eligible under Criterion B as Endangered

The Extent of Occurrence (EoO) is estimated to be 290 km², based on accepted, post-1970 records in the Victorian Biodiversity Atlas (VBA).

The Area of Occupancy (AoO) is estimated to be 16 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

Any two of (a), (b) or (c) above are also satisfied.

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:

Eligible under Criterion C2 as Endangered

The taxon is estimated to have 66 to 131 mature individuals. This is based on counts compiled largely from various voucher collections in the Bambill region, where the majority of plants occur.

It has an estimated continuing decline, and the number of mature individuals in each subpopulation is fewer than 250.

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:

Eligible under Criterion D as Endangered

The taxon is estimated to have 66 to 131 mature individuals.

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.

VicFlora (2017). Flora of Victoria, Royal Botanic Gardens Victoria: *Ptilotus obovatus*. Retrieved from: https://vicflora.rbg.vic.gov.au/flora/taxon/38fb2d65-e078-44a5-9398-c50691d8259d