



Acacia triptera Spur-wing Wattle

Taxonomy

Acacia triptera Benth.

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 D2

Species Information

Description and Life History

The taxon is a spreading intricate shrub or tree, to 4 m high. Phyllodes broadly decurrent, mostly lanceolate, 1.5-4 cm long, 5-10 mm wide, flat, curved, pungent-pointed; veins numerous, fine or sometimes rather obscure, mostly parallel, occasionally adjacent veins coalescing; gland small, less than 6 mm above axil. Spikes 1-3 per axil, bright yellow; rachis glabrous, often glaucous; peduncles 3-6 mm long. Flowers 4-merous, densely packed; sepals united, glabrous. Pods narrow-linear, mostly coiled, 2.5-8 cm long, 2-4 mm wide, somewhat contracted between the seeds; seeds c. 4 mm long, funicle short, aril fleshy. The taxon flowers from August to November (VicFlora 2021).

Generation Length

The generation length of *Acacia triptera* is estimated to be 30 to 50 years. This is based on a plausible longevity of 30-50 years or more and field observations suggesting the taxon recruits continuously or opportunistically in response to seasonal conditions or localised site disturbance events. Recruitment appears to be relatively independent of fire although fire may promote an additional recruitment pulse. There is no evidence to suggest the taxon is capable of resprouting. The taxon is therefore interpreted to be a fire-sensitive obligate seed regenerator (OSR) recruiting from a long-persistent soil-stored seedbank.

Distribution

The taxon is rare in Victoria with an isolated occurrence in the Warby Ranges near Wangaratta. The taxon also occurs in Queensland and New South Wales (VicFlora 2021). Although the greatest concentration of Victorian records is in the Warby Ranges in the Warby-Ovens National Park west of Wangaratta in North East Victoria, a second concentration of records is in the Chiltern and Beechworth districts where most records are in the Chiltern-Mt Pilot National Park although it is suspected that these are all recent translocations.

Habitat

The taxon occurs among rocks on ridge tops (VicFlora 2021) where it is frequently associated with *Eucalyptus blakelyi* (Blakely's Red-gum), *E. goniocalyx* (Bundy or Long-leaf Box), *E. macrorhyncha* (Red Stringybark) or *E. polyanthemus* (Red Box) with *Xanthorrhoea glauca* subsp. *angustifolia* (Grey Grass-tree) a frequent understorey associate..

Threats

Targeted monitoring of the taxon between 1978 and 2001 in the Warby Ranges suggested there were few specific threats to the taxon and that the taxon maintained its population by reliable recruitment from soil-stored seedbanks following natural bushfire or planned burns, as well as continuous or opportunistic recruitment in favourable seasons in the absence of intense fire. More recent monitoring of translocated stands in the Chiltern and Beechworth districts between 2004 and the present suggest that young recruits are often browsed by native or exotic herbivores. With the increasing frequency and intensity of both bushfires and planned burns and the increasing intensity and duration of extreme drought, the taxon is at increasing risk of adult mortality, recruitment failure and reduced fruit and seed production, leading to seedbank depletion, exhaustion and local extinction. However, the risk to the taxon posed by fire is mitigated by the open, dry and typically rocky habitat with little opportunity for extensive biomass accumulation of an order likely to promote an increase in frequency, intensity or landscape scale of either prescribed fire or bushfire. Proximity to Wangaratta ensures that management of the Warby Ranges will most likely never allow biomass accumulation to reach levels that increase the fire risk to *A. triptera*, with greater reliance on continuous recruitment with some contribution from hotter prescribed burns. However, legume seed coats naturally degrade with time and variably across seed populations with an increasing likelihood of fire-cued germination even at lower fire intensity. As a consequence of these considerations it is likely that the key emerging threat to Victorian occurrences is the synergistic impact of extreme drought stress and intense targeted herbivore pressure from native macropods and exotic rabbits, goats and Sambar deer (*Rusa unicorn*).

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:

Ineligible under Criterion A

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There is insufficient evidence to determine whether there has been or will be a reduction in population sufficient to meet any threshold for Criterion A.

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:

Ineligible under Criterion B

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 649 km² and the Area of Occupancy (AoO) is estimated to be 108 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 <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				

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Evidence:

Ineligible under Criterion C as Data Deficient

There is estimated to be 1,000 to 6,000 mature individuals, based on population estimates at monitoring sites, but other thresholds under this criterion have not been met.

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 km ² or number of locations ≤ 5

Evidence:

Eligible under Criterion D2 as Vulnerable

The taxon is estimated to be very restricted. It has a restricted distribution because it occurs in a single location, such that this restriction makes the taxon capable of becoming Critically Endangered or Extinct within a timeframe one or two generations, in response to the identified threats, notably the synergistic impact of extreme drought stress and intense targeted herbivore pressure.

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.

VicFlora (2021). Flora of Victoria, Royal Botanic Gardens Victoria: *Acacia triptera* Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/cbf2443e-bd86-4f31-a46a-2a810df9ce75>