Threatened Species Assessment

Acacia colletioides
Wait-a-while

Taxonomy

Acacia colletioides Benth.

As formerly understood, this binomial included populations that are now attributed to the segregate *Acacia nyssophylla*. Records older than the 1980s did not distinguish between these two and thus the older *A. colletioides* includes records of *A. nyssophylla.* Familiarity with the taxonomic work that separated these two subspecies (which are difficult to distinguish anyway) took quite some time to filter through to the field workers. As a result, even some post-1980s records of *A. colletioides* are suspect.

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 A2ce+4ce

Species Information

Description and Life History

The taxon is a very long-lived shrub that usually occurs in open vegetation types and in openings within those vegetation communities, therefore it is rarely subject to fires. Dead specimens and regenerants are very rarely seen and seem to not be greatly affected by droughts. Regeneration is rare and presumably constrained by benign seasons (i.e. higher than usual rainfall, extending into the summers).

Generation Length

The generation length of *A. colletioides* is suspected to be 70 to 200 (midpoint 100) years. These are very long-lived individuals for an *Acacia* species. It is rarely subject to fires and it is apparently unresponsive to droughts.

Distribution

In Victoria, this taxon is restricted to the northern Mallee region, from the central Sunset Country north. The occurrences are scattered and it is rare that more than a handful of plants are found at each location. The taxon is much more widespread in southern arid Australia.

Habitat

The habitat is open patches within semi-arid woodland or mallee of finer-grained soils (i.e. not on dunes, nor on siliceous sandplains). These soils are relatively fertile, but with a more or less poor capability to absorb light rainfall events. The taxon is rarely, if ever, found in dense vegetation in close association with other trees and shrubs, but is most commonly seen in open patches within woodland or shrubland (which may be relatively dense around the plants, but not in contact with them).

Threats

The habitat has been extensively cleared in Victoria. Although the taxon is seemingly unattractive as forage (i.e. it is very spiny), it is nevertheless more or less freely browsed by goats and rabbits, and by kangaroos in drought years. The recent germinants are quite palatable and young plants are very rarely seen. Due to its specific habitat preferences (of localised open vegetation), it is rarely burnt. However, it could be argued that its substantial absence from dense mallee is due to the palatability of the seedlings soon after fires.

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 Endangered

The population reduction over the past 210 to 600 years is suspected to be 60 to 85% (midpoint 70%), based on (c) and (e) above.

This decline is based on the absence of early surveys and considering this taxon's preference for more fertile soils and woodlands.

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

Eligible under Criterion A4 as Endangered

The population reduction over any 210 to 600 year period, including both past and future (up to 100 years in the future), is suspected to be 60 to 75%, based on (c) and (e) above.

This taxon is considered to be in very slow recovery, and very slowly increasing in remnant habitat, although that is only a small proportion of the previous habitat.

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 is estimated to be 15,248 km² and the Area of Occupancy (AoO) is estimated to be 440 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 suspected that there are 150 to 400 (midpoint 250) mature individuals, but this qualifier is too weak.

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 suspected that there are 150 to 400 (midpoint 250) mature individuals.

Criterion E (Quantitative Analysis) was not addressed as the taxon does not have a detailed Population Viability Analysis.

References

ALA (2019) Atlas of Living Australia online. Retrieved from: https://bie.ala.org.au/species/http://id.biodiversity.org.au/node/apni/2891142

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