



Acacia phlebophylla Buffalo Sallow-wattle

Taxonomy

Acacia phlebophylla F. Muell. ex H.B. Will.

Acacia phlebophylla is known to hybridise with *A. alpina* at the upper limit of its range, and with *A. kettlewelliae* where it approaches the typically taller forest habitat of that species (VicFlora 2018).

Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* (SAC 2000).

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

Proposed conservation status

Critically Endangered in Victoria

Criterion B1ab(iii,iv,v)

Species Information

Description and Life History

The taxon is an erect or spreading shrub to 3 (rarely to 6) m high. Phyllodes are oblanceolate, obovate or elliptic, 4-14 cm long, 15-60 mm wide, commonly asymmetric, obtuse, thick-textured; margins uneven and mostly resinous; main veins mostly 3, secondary veins prominent, strongly reticulate; gland small or obscure, 3-9 mm above axil. Spikes 1-2 per axil, to 6 cm long, yellow; rachis glabrous; peduncle c. 5 mm long. Flowers 4-merous, scattered; sepals united, glabrous. Pods subcylindrical, 2.5-11.5 cm long, 8-12 mm wide, gently curved; seeds elliptic, 5-7.5 mm long, funicle usually folded 3 times, aril turbinate. The taxon flowers from June to December (VicFlora 2018).

Generation Length

The generation length of *Acacia phlebophylla* is estimated to be 45 to 90 years. This is based on a plausible pre-settlement fire interval of 45-90 years or more and the inference that the taxon is a fire-sensitive obligate seed regenerator (OSR) which recruits episodically post-fire with only minor trickle recruitment in response to localised site disturbance events. The taxon's longevity is plausibly 30-50 years with seedbanks long persistent in the absence of observable recruitment.

Distribution

The taxon is locally common at a few sites on the Mt Buffalo massif, mostly between around 500 and 1200 m altitude (VicFlora 2018).

Habitat

The taxon occurs in open woodlands and heathlands, often amongst granite boulders, rarely in taller forest (VicFlora 2018). Associated species include *Acacia dallachiana*, *Eucalyptus mannifera*, *E.radiata*, *E.macrorhyncha*, *E.pauciflora*, *Leptospermum grandifolium*, *Grevillea alpivaga* and *Acacia obliquinervia*.

Threats

Key threats include the Gall Rust (*Uromycladium*) and drought-induced mortality and recruitment failure, with an increasing risk of repeat fire at intervals approaching the tolerable fire interval (TFI) for the taxon in response to imposed anthropogenic fire regimes and climatic drying and warming. The taxon is also threatened by targeted stripping of bark by people who regard the taxon as one of the purest sources of DMT for psychedelic purposes.

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>
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Evidence:

Ineligible under Criterion A

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.

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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 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:

Eligible under Criterion B1 as Critically Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 76 km², 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. Geographically isolated occurrences are interpreted as distinct subpopulations since they occur at separations likely to exceed the dispersal range of the taxon, which has no specialised mechanism for long-distance dispersal. The only plausible dispersal mechanism is myrmecochory (dispersal by ants), which operates at the metre scale only.

It is estimated to have 1 location. It has a continuing decline in (iii), (iv) and (v) above, based on the current and projected impacts of the identified threats.

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 ² or number of locations ≤ 5 [Ⓜ]

Evidence:

Eligible under criterion D as Vulnerable

It is estimated that there are 250 to 500 individuals, and 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.



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References

DEPI (2014). *Advisory list of rare or threatened plants in Victoria - 2014*. Department of Environment and Primary Industries, Melbourne.

SAC (2000). Flora and Fauna Guarantee Scientific Advisory Committee: Final Recommendation on a Nomination for Listing. Nomination No. 465 *Acacia phlebophylla*.

VicFlora (2018). Flora of Victoria, Royal Botanic Gardens Victoria: *Acacia phlebophylla*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/4d644936-df45-47f7-b4c6-de321ef38714>