

Acacia ancistrophylla var. *lissophylla* Dwarf Myall

Taxonomy

Acacia ancistrophylla var. *lissophylla* Cowan & Maslin

This taxon has been very little studied, including being largely overlooked in the few previous surveys that included its Victorian range. It is suspected that has occurred because it occurs primarily in small unreserved Crown land patches in an otherwise cleared landscape. It is also suspected to have been previously misidentified as *Acacia melvillei*, *A. hakeoides* and/or *A. oswaldii* forms. Synonym *Acacia lineolata sensu* Willis (1972).

Current conservation status

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

Proposed conservation status

Endangered in Victoria

Criteria A2bce+3bce+4bce; B2ab(ii,iii,v)

Species Information

Description and Life History

Dense shrubs, 0.6-2.5 m high; branchlets with scattered, appressed, minute hairs. Phyllodes spreading to erect, linear or linear-oblongate, 1.8-4.8 cm long, 1-3.5 mm wide, straight to slightly curved, more or less coriaceous, subglabrous, tip curved, acute; veins numerous, closely parallel, more or less distinct; gland at or near base. Peduncles 2-5.5 mm long, 2 per node, sometimes with appressed, minute hairs; heads globular, 3-4 mm diam., 11-18-flowered, golden. Flowers 5-merous; sepals free or rarely united at base. Pods linear, raised over and slightly constricted between seeds, to 4 cm long, 2.5-3 mm wide, chartaceous to thin-coriaceous, straight to shallowly coiled, glabrous; seeds longitudinal, broadly elliptic, c. 3 mm long, dark brown, the aril cream-coloured, subapical, closely appressed to seed. Flowers Sep.-Oct. The taxon may be sporadically suckering, and potentially long lived.

Generation Length

The generation length of *Acacia ancistrophylla* var. *lissophylla* is suspected to be 20 to 60 (midpoint 35) years. Very little of the ecology of this rare taxon is known, and it occurs predominantly in scattered, unreserved locations and is little studied. Its responses to fire are unknown, but it is expected to be fire responsive and germinate and establish commonly after fires from soil-stored seed, so the generation length is likely to be consistent with fire frequencies.

Distribution

In Victoria the taxon is restricted to scattered, small occurrences in the southern Mallee in an otherwise alienated and cleared (for croplands) landscape.

Habitat

This taxon is restricted to somewhat loamy sands, often over limestone or similar alkaline parent material at moderate depth. The dominant mallee taxa include *Eucalyptus gracilis* and *E. dumosa*, extending to more Wimmera vegetation dominated by *E. behriana* and occasionally associated with *Allocasuarina luehmannii*.

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Threats

The taxon has been largely eliminated from the landscape due to clearing for croplands on relatively fertile soils that are barely susceptible to erosion. It is currently threatened by both infrequent fires and too-frequent fires in these small sites, which are largely unmanaged. Other risks may include stock grazing and firebreak construction for adjoining croplands, plus invasion of weeds that hamper seedling regeneration.

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> <ul style="list-style-type: none"> (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 60 to 180 years is inferred to be 65 to 80% (likely 75%), based on (b), (c) and (e) above.

The taxon has been largely eliminated from the landscape due to clearing for croplands.

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

Eligible under Criterion A3 as Endangered

The population reduction over the next 60 to 100 years is suspected to be 60 to 75%, based on (b), (c) and (e) above.

Future decline is based on the impacts of the identified threats. It is possible that the small remnants may disappear to the point of extinction.

Eligible under Criterion A4 as Endangered

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The population reduction over any 60 to 180 year period, including both past and future (up to 100 years in the future), is suspected to be 65 to 80% (likely 75%), based on (b), (c) and (e) above. This is based on past land clearing and future threat impacts. 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 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 Vulnerable

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 6669 km², based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA).

The taxon is estimated to be severely fragmented, and is estimated to have 7 locations. It has a continuing decline in (i), (ii), (iii) and (v).

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 40 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

The taxon has a continuing decline in (i), (ii), (iii) and (v) as a result of the identified threats, and the risks of stochastic impacts on small populations. The small reserves and other blocks of crown land, to which this taxon is now restricted in Victoria, are effectively unmanaged and thus subject to unapproved activities (such as stock grazing, rubbish dumping, trail bike use, firebreak construction).

It is estimated to be severely fragmented and to have 7 locations. The various small populations are suspected to not be in genetic contact as they are widely separated by cleared croplands. All subpopulations are small and may not be viable in the long term.

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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

The taxon is suspected to have 2000 to 10,000 (midpoint 5000) mature individuals, but this qualifier is too weak.

This is a poorly known taxon, formerly confused with other taxa, including currently accepted *A. hakeoides*, *A. oswaldii* and *A. melvillei*, so numbers cannot be easily determined. Populations of ramets at a site may be a single genet. There are a number of Victorian sites where this taxon is recorded, but all occurrences are small and with low population numbers.

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 D as Vulnerable

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

Atlas of Living Australia online (2020) Retrieved from:

<https://bie.ala.org.au/species/https://id.biodiversity.org.au/node/apni/2916096>

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 (2017). Flora of Victoria, Royal Botanic Gardens Victoria: *Acacia ancistrophylla* var. *lissophylla*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/07ca7c9c-95b7-49f3-83a8-f1267d79a996>

Whibley, D.J.E. (1994) *Acacias of South Australia*. Govt. Printer, South Australia