



Eremophila oppositifolia subsp. *oppositifolia* Twin-leaf Emu-bush

Taxonomy

Eremophila oppositifolia subsp. *oppositifolia* R. Br.

Current conservation status

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

Proposed conservation status

Endangered in Victoria

Criteria A2bce+4bce

Species Information

Description and Life History

Shrub or small tree to c. 10 m high, grey-tomentose; branches usually non-tuberculate. Leaves mostly opposite or subopposite, c. terete or linear to linear-lanceolate, mostly 3-9 cm long, 1-3 mm wide, hoary to glabrescent, apex acute and uncinuate, margins entire. Inflorescences 1-4-flowered; pedicels 3-10.5 mm long, curved. Flowers zygomorphic; sepals spatulate to oblanceolate, 5-18 mm long, obtuse, separate at base, hoary, usually cream; corolla usually 20-30 mm long, glabrous outside, hirsute inside tube and often on lower parts of lobes, white or suffused with pink, unspotted, upper lip 2-lobed; stamens 4, exserted, anthers reniform; ovary pubescent, style glabrous or hirsute. Fruit obloid-cylindric, 4.5-7 mm long, 2-3 mm diam., dry, densely pubescent. Flowers mostly May-Oct (VicFlora 2014). The fruit is a very thinly (barely) succulent drupe and shows no adaptations to fire.

Generation Length

The generation length of *Eremophila oppositifolia* subsp. *oppositifolia* is inferred to be 20 to 60 years (midpoint 35 years). The taxon is a long-lived, relatively drought resistant shrub that appears to be able to regenerate and establish in the absence of fires, but presumably only in seasons with benign rainfall conditions.

Distribution

In Victoria, *E. oppositifolia* is largely restricted to the far north-west Mallee (Millewa and Sunset Country) and solely on laterised sites.

Habitat

In Victoria, this taxon is largely restricted to relatively good quality Semi-arid (non eucalypt) Woodland in which *Casuarina pauper* is a co-dominant taxon. Degraded stands, formerly subject to heavy browsing, consistently lack *E. oppositifolia*. This major vegetation community is characteristic of old, NW-SE trending, laterised ridges often somewhat higher than the surrounding variously aeolian mallee shrublands. The soils are notably higher in otherwise limiting nutrients than in the regional matrix of mallee shrublands. The overall vegetation type is an open woodland that is not subject to fires and is fire resistant.

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Threats

The taxon is rarely browsed by native animals once mature, although it is palatable to stock such as cattle, goats, and sheep. Historical threats include browsing by feral pests, notably goats and high populations of rabbits, and land clearance. Ongoing threats include rabbit browsing, incursive fires, and weed invasion.

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 Critically Endangered

The population reduction over the past 60 to 180 years is inferred to be 55 to 85% (midpoint 70%), based on (b), (c) and (e) above.

The landform on which this taxon consistently occurs was selected early during European settlement for clearing and development of croplands.

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

Eligible under Criterion A4 as Critically Endangered

The population reduction over any 60 to 180 year period, including both past and future (up to 100 years in the future), is inferred to be 50 to 80% (midpoint 65%), based on (b), (c) and (e) above. The causes of reduction may not have ceased, be understood or be reversible.

This taxon is suspected to be in (very) slow recovery from past land clearing and feral herbivore browsing, but this is highly dependent on maintenance of good management and active efforts at restoration.

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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:

Ineligible under Criterion B

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 5,372 km² and the Area of Occupancy (AoO) is estimated to be 124 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				

Evidence:

Ineligible under Criterion C

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It is inferred that there are 3,500 to 15,000 (midpoint 8,000) mature individuals, 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 projected to be very restricted.

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

References

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