



Eucalyptus pauciflora subsp. *debeuzevillei* Jounama Sallee

Taxonomy

Eucalyptus pauciflora subsp. *debeuzevillei* (Maiden) L.A.S. Johnson & Blaxell

Current conservation status

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

Proposed conservation status

Critically Endangered in Victoria

Criteria B1ab(iii,v); C2a(ii)

Species Information

Description and Life History

Mallee or tree to 10 m tall, with underground lignotuber. Branchlets, buds and fruits usually somewhat glaucous. Juvenile leaves broadly lanceolate; adult leaves to 15 cm long, 4 cm wide; buds sessile, to 1.2 cm long, 0.7 cm diam., strongly angular. Fruit to 1.6 cm long, 1.4 cm diam., somewhat angular (VicFlora 2019).

Generation Length

The generation length of *Eucalyptus pauciflora* subsp. *debeuzevillei* is estimated to be 150 to 800 years (midpoint 200 years). This is based on the presence of a well-developed lignotuber which permits an individual to resprout following damage to the canopy (Barker 1988).

Distribution

In Victoria, the taxon is restricted to higher peaks of Mt Buffalo. It is also found in NSW and ACT.

Habitat

The taxon's habitat is subalpine woodland on granite.

Threats

Alpine taxa are prone to range contraction due to climate change, of which the impacts are likely to be seen first in marginal, lower-elevation sub-populations. Large fires are becoming more frequent, and two fires at a short interval will be particularly detrimental. Increasing impacts of feral horses and deer might be countered in some areas by recovery from cattle grazing.

Eucalyptus pauciflora subsp. *debeuzevillei* Jounama Sallee

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 style="text-align: center;"><i>based on any of the following:</i></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:

Ineligible under Criterion A

The past population reduction does not meet the threshold for eligibility under criterion A2, and the future population reduction does not meet the threshold for eligibility under criterion A3.

Eucalyptus pauciflora subsp. *debeuzevillei* Jounama Sallee

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 12 km², based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA). The EoO has been made equal to the AoO to ensure consistency with the definition of AoO as an area within EoO.

That taxon is estimated to have 1 location, as all key identified threats apply across its range and can rapidly affect all individuals of the taxon present.

It has a continuing decline in (iii) and (v) above based on the identified threats, notably inappropriate fire regimes, and bushfires that are likely to increase in frequency and intensity due to the warming and drying climate.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AOO) across the taxon's range is estimated to be 12 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

As above, the taxon has 1 location, and has a continuing decline in (iii) and (v) above.

Eucalyptus pauciflora subsp. debeuzevillei

Jounama Sallee

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:

Eligible under Criterion C1 as Endangered

It is estimated that there are 100 to 200 mature individuals, and there is estimated to be a continuing decline of 20% within two generations.

Eligible under Criterion C2 as Critically Endangered

It is estimated that there are 100 to 200 mature individuals. Plants occur in mixed stands with other subspecies of *pauciflora*, where subsp. *debeuzevillei* is the less common form. Many plants observed at lower sites on the plateau are intermediates, and are not included in this count as they are not regarded as belonging in this subspecies.

The number of mature individuals is estimated to continue to decline in response to the identified threats, and the percentage of mature individuals in one subpopulation is 90-100 %, as all plants occur in a localised area on Mt Buffalo and can be treated as a single subpopulation.

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 Endangered

It is estimated that there are 100 to 200 mature individuals.



Eucalyptus pauciflora subsp. *debeuzevillei* Jounama Sallee

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

References

Barker (1988). Populations structure of Snow Gum (*Eucalyptus pauciflora* Sieb. ex Spreng.) subalpine woodland in Kosciusko National Park. *Australian Journal of Botany* 36: 483-501.

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

VicFlora (2019). Flora of Victoria, Royal Botanic Gardens Victoria: *Eucalyptus pauciflora* subsp. *debeuzevillei*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/8cfc24e4-7ff3-4047-91f7-aad038f29c08>