



Olearia minor Satin Daisy-bush

Taxonomy

Olearia minor (Benth.) Lander

This taxon is often confused with *O. pimelioides* and is difficult to distinguish from some forms of *O. ramulosa*. It was originally described as a variety of *O. pimelioides*. Some plants, particularly those in some mallee regions, seem better placed within that taxon, while other forms, such as those in the Brisbane Ranges, seem quite distinct and worthy at specific rank. There is ongoing work to resolve this group.

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; B2ab(i,ii,iii,iv,v)

Species Information

Description and Life History

The taxon is a spreading shrub, around 1 m high; branchlets and leaf undersurfaces densely pubescent with whitish cottony hairs. Leaves alternate, sessile or subsessile, elliptic or obovate, 1.5-8 mm long, 1-2.5 mm wide, obtuse or broadly acute, upper surface green, glabrous, or sparsely cobwebby when young, smooth or scabrous. Capitula 12-22 mm diam., solitary and terminal, sessile or subsessile; involucre conical, 4-6 mm long; bracts 4-5-seriate, graduating, glabrous near base, sparsely to densely pubescent toward the acute to obtuse apex. Ray florets 7-12, white to pale mauve, ligules 5.5-11 mm long; disc florets 6-13, yellow or mauve. Cypsela narrow-obovoid, c. 1-2 mm long, indistinctly ribbed, sparsely to densely sericeous, or glabrous; pappus bristles white or straw-coloured, 4-6 mm long. The taxon flowers from August to December (VicFlora 2017).

Generation Length

The generation length of *Olearia minor* is estimated to be 35 to 70 years (midpoint 50 years). This is based on recruitment largely following fire events at pre-settlement intervals of 35-70 years, supplemented by opportunistic recruitment following sporadic disturbance.

Distribution

The taxon occurs scattered on loamy soils with mallee in the north-west at Bambill, Murrayville, Beulah, and the fringes of the Little Desert, and is localised but locally common in dry forest in the northern Brisbane Ranges and Werribee Gorge. The taxon also occurs in Western Australia, South Australia, New South Wales (VicFlora 2017) as well as in the Darling Downs region of Queensland, although it not recognised as such there and is still treated as *O. ramulosa*.

Habitat

The taxon occurs on mallee woodlands on sandy loams and dry ironbark/stringybark forest (VicFlora 2017).

Threats

While some plants of the taxon occur in dry places, most are associated with damper areas or in heavier soils, and drought is likely to cause mortality. Further land clearing in Mallee regions will potentially impact some populations. It is unclear if grazing by rabbits and weed invasion impacts on recruitment.

The taxon is likely to respond well to fire, but this has not been documented.

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:

Eligible under Criterion A2 as Endangered

The population reduction over the past 105 to 210 years is estimated to be 50 to 70%, based on (b), (c) and (e) above.

Past decline is based on the fact that approximately half of all records of this taxon are from areas that have been extensively cleared in the past 90 years.

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 105 to 210 year period, including both past and future (up to 100 years in the future), is suspected to be 50%, based on (b), (c) and (e) above. The causes of reduction may not have ceased, be understood or be reversible.

Future decline is based on increased drought, as well as continued land clearing in the Wimmera and Mallee for agriculture and infrastructure.

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 B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 88 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the Victorian Biodiversity Atlas.

The taxon is estimated to be severely fragmented naturally at the regional and landscape scales, and anthropogenically at the landscape scale. The seeds are likely to be dispersed by wind and mammals at the metre to kilometre scale.

It is estimated to have 3 locations, and has a continuing decline in (i), (ii), (iii), (iv) and (v) above, based on the habitat being highly modified, and generally in poor condition.

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				

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Evidence:

Ineligible under Criterion C

It is inferred that there are 5,000 to 10,000 mature individuals, based on the number of records and known population sizes (i.e., ranging from tens of plants for roadside populations to around 1000 plants for populations in the Brisbane Ranges), but the 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 km ² or number of locations < 5

Evidence:

Eligible under criterion D2 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.

References

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

VicFlora (2017). Flora of Victoria, Royal Botanic Gardens Victoria: *Olearia minor*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/6cf4d165-66fd-4aa5-a1d7-cf354d7d1952>