



Sclerolaena lanicuspis Woolly Copperburr

Taxonomy

Sclerolaena lanicuspis (F. Muell.) F. Muell. ex Benth.

Current conservation status

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

Proposed conservation status

Endangered in Victoria

Criteria A2ce+4ce; B2ab(i,ii,iii,iv,v)

Species Information

Description and Life History

The taxon is a spreading subshrub, to c. 30 cm high, 50 cm diam., branches with dense, fine, spreading hairs c. 0.5 mm long. Leaves narrowly oblong, 6-20 mm long, flat or slightly concave above, convex below, covered with semi-appressed long, silky hairs. Fruiting perianth densely long-silky pubescent, readily detaching from stem; tube turbinate, flattened, c. 2 mm long, weakly 4-6-ribbed, centrally attached at base, attachment circular, concave; limb erect, membranous, c. 1.5 mm long; spines 3 or 4, outcurved, the 2 abaxial 5-10 mm long, the adaxial 1 or 2 conspicuously shorter (if 2 then usually unequal), all long-silky to just below apex. Fruits July, October (2 records) (VicFlora 2018).

Generation Length

The generation length of *Sclerolaena lanicuspis* is inferred to be 10 to 50 years. The taxon is potentially able to persist in the seedbank so a generation length of 50 years is seen as a reasonable estimate given a plant half-life of greater than 14 years and a seed bank of potentially 10 years. This is similar to other *Scleroleana* of a similar growth form.

Distribution

The taxon is very rare in Victoria, and is recorded from between Hattah and Mildura. It is also known to exist at Sandhill Lake Bushland Reserve near Kerang, at the eastern edge of its range. It is also found in WA, NT, SA, Qld, and NSW (VicFlora 2018).

Habitat

The taxon is known from a few alluvial flats or lakeside lunettes supporting chenopod shrublands, with or without Black Box (*Eucalyptus largiflorens*) overstorey (VicFlora 2018).

Threats

The taxon has suffered a historic decline due to land clearing for agriculture, and grazing by domestic stock. Current and future threats include grazing by domestic stock as the primary management tool where the taxon exists in its easternmost population in the Lower Avoca Plain. The reintroduction of domestic stock at Sandhill Lake Bushland Reserve will likely result in continuing decline, however other populations appear to be secure.

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:

Eligible under Criterion A2 as Endangered

The population reduction over the past 30 to 150 years is inferred to be 20 to 90% (midpoint 55%), based on (c) and (e) above.

Past decline is based on land clearing and grazing by domestic stock.

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 30 to 150 year period, including both past and future (up to 100 years in the future), is inferred to be 20 to 90% (midpoint 55%), based on (c) and (e) above. The causes of reduction may not have ceased, be understood or be reversible.

The past threat of land clearing has been largely addressed and ceased, although the ongoing threat of grazing by domestic stock continues and has been actively reintroduced to the population at Sandhill Lake at the eastern edge of its range. It is likely that without a change in the management approach that this taxon will continue to decline.

Sclerolaena lanicuspis Woolly Copperburr

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) is estimated to be 8,718 km², based on accepted, post-1970 records in the Victorian Biodiversity Atlas (VBA).

It is estimated to have five locations, and has a continuing decline in (i), (ii), (iii), (iv) and (v) above due to the introduction of domestic stock to the conservation area.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) is estimated to be 24 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

As above, the taxon has five locations and has a continuing decline in (i), (ii), (iii), (iv) and (v) above.

Sclerolaena lanicuspis Woolly Copperburr

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

It is inferred that there are 500 to 600 mature individuals, but other thresholds under this criterion have not been met.

The taxon is infrequent at the six known sites, with estimates of less than 100 plants at each population although no direct population counts have been undertaken. The taxon is distinct and obvious where it is encountered so it is unlikely to have been under-surveyed. Population sizes of less than 100 plants are understood to be the case at each site.

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: AaO: < 20 km ² or number of locations ≤ 5

Evidence:

Eligible under Criterion D2 as Vulnerable

The taxon is estimated to be very restricted.



Sclerolaena lanicuspis Woolly Copperburr

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. 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 (2018). Flora of Victoria, Royal Botanic Gardens Victoria: *Sclerolaena lanicuspis*. Retrieved from:
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Walsh, N.G. and Entwisle, T.J. (1996). *Flora of Victoria Vol. 3, Dicotyledons Winteraceae to Myrtaceae*. Inkata Press, Melbourne.