

Euchiton traversii Mat Cudweed

Taxonomy

Euchiton traversii (Hook. f.) Holub

This taxon is distinguished from the similar *Euchiton argentifolius* by the larger, strictly solitary capitula, and the usually larger, distinctly rosetted leaves (VicFlora, 2017).

Current conservation status

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

Proposed conservation status

Vulnerable in Victoria

Criterion D2

Species Information

Description and Life History

The taxon is a tufted, rhizomatous perennial, occasionally forming loose mats. Leaves all or mostly rosetted, oblanceolate, obovate or spatulate, 1.5-3(-5) cm long, 3-7(-10) mm wide, both surfaces silver-grey or whitish with dense, appressed cottony hairs. Flowering stems erect, 1-5 cm high (to 10 cm in fruit) with 1-5 much reduced leaves. Inflorescence a solitary, terminal capitulum, not immediately subtended by leaves. Capitula campanulate or cup-shaped; inner bracts c. oblong, 5-6.5 mm long, obtuse, usually with a red-purple band just below the straw-coloured tip; bisexual florets 8-15. Cypselas c. 1 mm long, sparsely hairy. The taxon flowers from December to February (VicFlora, 2017).

Generation Length

The generation length of *Euchiton traversii* is estimated to be 30 to 40 years. This is based on an estimated longevity of 15-50 years and the likelihood that the taxon recruits episodically or opportunistically in response to optimal seasonal conditions, potentially triggered by La Niña cycles at 7-15 year intervals, or other site disturbance events. The taxon is a tufted rhizomatous perennial which can form loose mats, and is likely to survive at least a decade and potentially up to 50 years. Its seeds are likely to be wind-dispersed from nearby adults, potentially supplemented by a soil-stored seedbank of only moderate persistence, consistent with other wind-dispersed members of the Asteraceae. Recruitment is unlikely to be cued by fire which is a very rare event within the high alpine landscape.

Distribution

The taxon is restricted in Victoria to the eastern alps, e.g. Snowy Range, The Bluff, Bogong High Plains, Nunniong Plateau, and the Cobberas. Site and specimen records in the Victorian Biodiversity Atlas (VBA) and the Australian Virtual Herbarium (AVH) suggest it extends south-west to the Baw Baw Plateau and north-east to the Mt Pinnibar area.

The taxon also occurs in New South Wales, Tasmania, and New Zealand (VicFlora, 2017).

Habitat

The taxon is occasional in damp grassland communities of the eastern alps (VicFlora, 2017). Site and specimen data indicate that the habitat range of the taxon encompasses both wetter and drier alpine to subalpine habitats, including moist to drier grassland and occasional occurrences in heathland, both wet and dry, sometimes in wet peaty sites. The taxon has also been noted in occasional disturbed sites e.g. Langfords car park, and Pretty Valley pondage rock pile on the Bogong High Plains.

Threats

Given its observed habitat range, the taxon is inferred to have the capacity to survive a least current changes to wetter habitats in response to climatic drying and warming and, in analogy with *Argyrotegium nitidulum*, there is insufficient evidence that the taxon is subject to continuing decline in quality of habitat across its habitat range.

Compared with the apparent stronghold of the taxon on the Snowy Range, however, occurrences on the Bogong High Plain and the Cobberas are generally at higher elevations and are therefore more vulnerable to the long-term impact of climate change. Furthermore, a proportion of subpopulations, particularly those at the wetter end of the habitat range, are clearly subject to a range of habitat-specific threats such as pugging by Sambar Deer (*Rusa unicolor*) and feral horses, climatic drying, and consumption of peat by peat fires.

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;">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>			

Evidence:

Ineligible under Criterion A

The population reduction for this taxon is below the threshold for eligibility under criterion A.

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 10,192 km² and the Area of Occupancy (AoO) is estimated to be 204 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 as Data Deficient

There is no available estimate of population size for the taxon.

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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. The taxon has a restricted distribution, occurring in 3 locations, such that this restriction makes the taxon capable of becoming Critically Endangered or Extinct within a time frame of one or two generations, in response to the identified threats.

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: *Euchiton traversii*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/1b94bb0a-809f-4627-981a-af025ec282dc>