Threatened Species Assessment

Centipeda pleiocephala
Tall Sneezeweed

Taxonomy

Centipeda pleiocephala N.G. Walsh

Current conservation status

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

Proposed conservation status

Endangered in Victoria

Criterion B2ab(i,ii,iii)c(i,ii,iv)

Species Information

Description and Life History

Erect slender annual, to 30(-40) cm high; branches glabrous except for a few cottony hairs on young growth and occasionally in axils. Leaves more or less oblong to narrowly obovate, 8-25 mm long, 2-7 mm wide, serrate, surfaces glabrous, resin-dotted. Capitula hemispherical to biconvex at anthesis, 2-4.5 mm diam., 2-4 racemosely arranged (rarely solitary), axillary, lowest capitulum sessile or subsessile, the upper 1-3 with peduncles to c. 5 mm long; involucral bracts spathulate to obovate with ruminate membranous margins, 1-1.5 mm long; receptacle convex; female florets c. 100-170, corollas 0.2-0.3 mm long; bisexual florets (4-)10-18, corollas 0.6-0.8 mm long. Fruiting heads disintegrating when mature on still-growing plants. Cypselas obloid, narrowly obovoid, or narrowly obcuneoid, 0.8-1.1(1.3) mm long; ribs 2-4, barely raised, with antrorsely appressed hairs; intervening faces lacking vesicular trichomes or very sparse; apex obtuse or rounded (female florets) or truncate (bisexual florets), forming a pale, spongy portion up to a quarter the cypsela length. Flowers mostly September-November VicFlora (2019).

Generation Length

The generation length of *Centipeda pleiocephala* is estimated to be 1 to 2 years. This is based on the taxon's annual life cycle, which is rarely biennial in permanently damp or wet sites, and the frequency of germination, which is an average of 2 years.

Distribution

The taxon is known to occur along the floodplain of the Murray River, along major tributaries downstream of Tocumwal (e.g. Broken Ck, Goulburn, Avoca Rivers), from Mildura west, between Kerang and Ulupna Island, and downstream to the South Australian border. It is also found in WA, SA and NSW.

Away from major river systems, occurrences are mainly around lakes, swamps and farm dams.

Habitat

The taxon is found at seasonally or irregularly inundated inland sites. It is typically found on *Eucalyptus camaldulensis* and *E. largiflorens,* or chenopod-dominated riverine floodplains, with silty or clayey soils. In Victoria it grows in moist sandy, silty or clay soils, in floodplains and at the edges of watercourses.

Threats

These plants are highly aromatic and tend not to be grazed by stock, rabbits, or native herbivores. Increasingly rare natural flooding of the Murray River is likely to cause less land to become suitable habitat, although increased regularity of environmental flows and manipulated floods has probably reverted some lost habitat to functional habitat. Climate change induced lower rainfall and more rapid drying is increasingly likely to render wetlands non-permanent, particularly those away from rivers.

Weeds have not been observed or reported to be a particular threat to this taxon and are not projected to be particularly more problematic in the future.

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%

A1 Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.

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.

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*]

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.

based on any of the following:

(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

There is insufficient evidence to determine whether there has been or will be a reduction in population sufficient to meet any threshold for 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 km²	< 5,000 km²	< 20,000 km²
B2. Area of occupancy (AOO)	< 10 km²	< 500 km²	< 2,000 km²
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) across the taxon's range is estimated to be 13,000 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the Victorian Biodiversity Atlas (VBA).

It is inferred to have 1 location, and has a continuing decline in (i), (ii) and (iii) above, due to the climate change-induced reduction in flows of the Murray River.

It is projected to have extreme fluctuations in (i), (ii) and (iv) above, based on floods of the Murray River, both natural and manipulated that create or maintain habitat along the floodplain, being irregular.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 33 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

As above, it has 1 location, a continuing decline in (i), (ii) and (iii), and extreme fluctuations in (i), (ii) and (iv) above.

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 estimated that there are 2,500 to 25,000 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 km2 or number of locations ≤ 5

Evidence:

Ineligible under Criterion D

It is estimated that there are 2,500 to 25,000 mature individuals.

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 (2019). Flora of Victoria, Royal Botanic Gardens Victoria: *Centipeda pleiocephala*. Retrieved from: https://vicflora.rbg.vic.gov.au/flora/taxon/b28f0882-0591-4d44-9b72-9f1b39d19a96