

## *Ornduffia umbricola* var. *umbricola* Lax Marsh-flower

### Taxonomy

*Ornduffia umbricola* var. *umbricola* (Aston) Tippet & Les

This taxon was previously known as *V. umbricola* var. *umbricola*.

### Current conservation status

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

### Proposed conservation status

Endangered in Victoria

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

### Species Information

#### Description and Life History

*O. umbricola* is a slender tufted perennial or sometimes annual 5-105 cm high; stolons absent. Petioles of basal leaves 2.5-43 cm long; blades aerial (rarely floating), erect, ovate to almost circular, 1-8(-12) cm long, entire, rounded to moderately cordate at the base, surfaces more or less uniform, thin-textured. Panicle lax, slender, occupying much of the flowering stem. Flowers homostylous; calyx (3-)6-9 mm long; corolla 11-31 mm diam., lobes (4-)5(-6), with broad entire to crenulate wings, not keeled; stigmas 2. Fruiting pedicels 5-40(-62) mm long, recurved; capsule 5-11 mm long, equal to or usually longer than calyx, adnate to calyx-tube only at base; seeds ellipsoid to subglobular, somewhat laterally compressed, (0.8-)1-1.4(-1.6) mm long, pale fawn to light brown, smooth or tuberculate; caruncle absent (VicFlora 2016).

*O. umbricola* var. *umbricola* is the same as above, but the seeds are smooth to slightly granular. The taxon flowers and fruits from November to April (VicFlora 2018).

#### Generation Length

The generation length of *Ornduffia umbricola* var. *umbricola* is inferred to be 10 to 25 years (midpoint 15 years). This is based on recruitment likely being rare and episodic, for example following the breaking of drought. It also depends on gap creation, adult mortality, and suitable climatic conditions for recruitment.

#### Distribution

The taxon is known in Victoria only from swampland at Bridgewater Lakes, near Casterton, and at Lake Fyans (VicFlora 2018). It has been recorded c. 23 km south-south-west of Casterton, c. 4 km east of Casterton - Dartmour Road on private property.

#### Habitat

The taxon is known only from edging swampland.

It has been suggested that there is 20-25 hectares of suitable habitat at Bridgewater Lakes, and there are potentially more habitats and locations currently residing under var. *beaublehole* or v. *umbricola*.

# Ornduffia umbricola var. umbricola

## Lax Marsh-flower

### Threats

The taxon is subject to the effects of climatic drying, and it is potentially also threatened by site trampling by kangaroos, cattle, feral goats, deer, and pigs.

### 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>
--	---------------------------------------	---

### 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.

# Ornduffia umbricola var. umbricola

## Lax Marsh-flower

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 <sup>2</sup>	< 5,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>
B2. Area of occupancy (AOO)	< 10 km <sup>2</sup>	< 500 km <sup>2</sup>	< 2,000 km <sup>2</sup>
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 20 km<sup>2</sup>, 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 considering its limited dispersal ability, the barriers to dispersal, and lack of habitat separating the subpopulations.

It is estimated to have a continuing decline in (i), (ii), (iii), (iv) and (v) above based on the impacts of the identified threats including climatic drying, and potentially by the trampling of sites by kangaroos, cattle, feral goats, deer, and pigs.

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				

# Ornduffia umbricola var. umbricola

## Lax Marsh-flower

### Evidence:

#### Ineligible under Criterion C as Data Deficient

There is insufficient evidence to determine the number of mature individuals.

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 <sup>2</sup> 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 (2016). Flora of Victoria, Royal Botanic Gardens Victoria: *Ornduffia umbricola*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/8e00da37-de63-48e0-9611-bd35aa0603db>

VicFlora (2018). Flora of Victoria, Royal Botanic Gardens Victoria: *Ornduffia umbricola* var. *umbricola*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/19b359b7-9d2f-4b1c-82cf-32e9c45c7f31>