



## *Podolobium ilicifolium* Prickly Podolobium

### Taxonomy

*Podolobium ilicifolium* (Andrews) Crisp & P.H. Weston

Synonym *Oxylobium ilicifolium*.

### Current conservation status

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

### Proposed conservation status

Vulnerable in Victoria

Criteria A2c+3ce+4ce; B1ab(i,ii,iii,v)+2ab(i,ii,iii,v)

### Species Information

#### Description and Life History

The taxon is an erect shrub to 3 m tall; stems glabrous or pubescent. Leaves opposite, narrow-ovate to ovate, 2-10 cm long, 10-30 mm wide, upper surface glabrous, reticulate, shiny, lower surface often pubescent, margins irregularly lobed with each lobe pungent-pointed; petiole to c. 3 mm long; stipules spinose, 1-3 mm long, curved. Inflorescence a few-many-flowered, terminal or axillary raceme; pedicels 1-3 mm long, silky; bracts lanceolate to ovate, 1-2.5 mm long, caducous; bracteoles absent. Calyx 3-5 mm long, pubescent, teeth shorter than tube; corolla 8-10 mm long, yellow or orange-yellow with reddish markings; standard suborbicular, emarginate, yellow or orange-yellow with a reddish centre; wings yellowish; keel red; ovary stipitate, ovules c. 4. Pod obloid, to c. 15 mm long, straight or curved, with numerous low warty ridges, glabrous or pubescent; seeds 1-4, c. 2.5 mm long. The taxon flowers from September to December (VicFlora 2017).

#### Generation Length

The generation length of *Podolobium ilicifolium* is estimated to be 10 to 30 years. This is based on the taxon's habit (i.e., small shrub) and habitat (i.e., dry forest), with moderate disturbance frequency, such as flooding, erosion, or fire.

#### Distribution

In Victoria, the taxon is confined to far East Gippsland. It also occurs in Queensland and New South Wales (VicFlora 2017).

#### Habitat

The taxon occurs on open dry woodland and forest usually on coarse gravel or skeletal soils.

#### Threats

Weed invasion, particularly from Blackberry and other aggressive weeds, may be a threat to plants near rivers and creeks. Climatic warming and increased fire frequency may reduce the reproductive output or kill recruits before they reach maturity. The taxon may also be impacted by pathogens such as *Phytophthora cinnamomi*.

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The bushfires of 2019/2020 are believed to have impacted around 69% of the taxon's modelled habitat, however the overall impacts of the fire are yet to be determined.

### 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 Vulnerable

The population reduction over the past 30 to 90 years is estimated to be 20 to 50% (midpoint 35%), based on (c) above.

Past decline is based on a reduction in suitable habitat for this taxon, due to land clearing and forestry operations.

The bushfires of 2019/2020 are believed to have impacted more than 69% of the taxon's modelled habitat.

The causes of the reduction may not have ceased, be understood or be reversible.

#### Eligible under Criterion A3 as Vulnerable

The population reduction over the next 30 to 90 years is projected to be 20 to 50% (midpoint 35%), based on (c) and (e) above.

Future decline is based on the likely effects of habitat loss and fragmentation, and climatic warming and drying which may be worsened by fungal pathogens.

#### Eligible under Criterion A4 as Vulnerable

The population reduction over any 30 to 90 year period, including both past and future, is estimated to be 20 to 50% (midpoint 35%), based on (c) and (e) above. The causes of reduction may not have ceased, be understood or be reversible.

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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 B1 as Vulnerable

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 1,407 km<sup>2</sup>, based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA).

It is estimated to have six locations as all key identified threats apply across its range and can rapidly affect all individuals of the taxon present. However given different land tenures (e.g. national parks and state forest), and the distances between localities, the threats may impact different localities at different timing and intensity.

It has a continuing decline in (i), (ii), (iii) and (v) above based on the current and projected impact of the identified threats.

#### Eligible under Criterion B2 as Vulnerable

The Area of Occupancy (AoO) across the taxon's range is estimated to be 214 km<sup>2</sup>, based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA. As above, it has two locations and a continuing decline in (i), (ii), (iii) and (v) above.

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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 as Data Deficient

No reliable estimate of the total population size for the taxon is available.

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:

#### Ineligible under Criterion D

There is insufficient evidence to determine the number of 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. 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](https://www.environment.vic.gov.au/__data/assets/pdf_file/0021/50448/Advisory-List-of-Rare-or-Threatened-Plants-in-Victoria-2014.pdf)

VicFlora (2017). Flora of Victoria, Royal Botanic Gardens Victoria: *Podolobium ilicifolium*. Retrieved from:

<https://vicflora.rbg.vic.gov.au/flora/taxon/94c8ad23-ad24-4f7b-8bdc-58dc75d44277>