



## *Schelhammera undulata* Lilac Lily

### Taxonomy

*Schelhammera undulata* R. Br.

### 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 A3bc+4bc; C1+2a(ii)

### Species Information

#### Description and Life History

The taxon is a procumbent to weakly ascending perennial herb, stems to c. 20 cm long. Rhizomes thin, spreading. Leaves sessile, ovate to lanceolate with undulate margins, 15-50 mm long, 8-15 mm wide. Flowers solitary, terminal; pedicel 10-30 mm long; perianth segments oblong or narrowly obovate, 6-12 mm long, pink or mauve, faintly streaked by 3-5 nerves, widely spreading, soon deciduous; stamens about half as long as perianth segments, anthers purple. Capsule obovoid, papillate, 6-10 mm long; seeds globular, c. 2 mm diam., vertically streaked, with strophiole about as long as body of seed. Flowers Sep.-Nov (VicFlora 2017).

#### Generation Length

The generation length of *Schelhammera undulata* is estimated to be 20 to 30 years. The rhizomatous habit suggests that it is a long-lived perennial species. Seeds do not appear to have a dormancy mechanism suggesting it may be capable of continuous recruitment. Presumably, this taxon responds to canopy gap openings.

#### Distribution

The taxon occurs occasionally in near-coastal forests in the far east, extending west to near Orbost (VicFlora 2017).

#### Habitat

The taxon is found in moist sites in open forest usually in sandy soils in ecotonal sites between sclerophyll forest and rainforest. It is usually found in open areas, as evidenced by records along track margins and apparently does not persist in shaded areas or occur in rainforest.

#### Threats

The taxon is threatened in the long-term by increased fire frequency associated with climatic drying and warming, resulting in changes in vegetation structure such as increasing tree and shrub density, hence reducing the specific habitat of this species.

**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:**

**Eligible under Criterion A3 as Vulnerable**

The population reduction over the next 60 to 90 years is projected to be 10 to 30%, based on (b) and (c) above.

Future reduction of the taxon's population is based on potential effects of increased fire frequency which may lead to increased shrub/understory density.

**Eligible under Criterion A4 as Vulnerable**

The population reduction over any 60 to 90 year period, including both past and future is projected to be 10 to 30%, based on (b) and (c) above.

This is based mainly on the potential future decline.

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 3,944 km<sup>2</sup>, based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA).

The taxon is estimated to occur in five to ten locations as the key identified threat applies across its range and can rapidly affect all individuals of the taxon present in each or most of the locations. A future “megafire” could conceivably affect all locations, but smaller-scale fires are more likely.

It has a continuing decline in (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 340 km<sup>2</sup>, based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA. As above, the taxon is estimated to have 5-10 locations and has a continuing decline in (iii) and (v) 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 as Data Deficient**

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

Criterion D. Very small or restricted population <sup>a</sup>			
	Critically Endangered <sup>a</sup>	Endangered <sup>a</sup>	Vulnerable <sup>a</sup>
Number of mature individuals (observed or estimated) <sup>a</sup>	< 50 <sup>a</sup>	< 250 <sup>a</sup>	< 1,000 <sup>a</sup>
D2. Only applies to the VU category <sup>f</sup> 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. <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	D2. Typically: <sup>f</sup> AoO < 20 km <sup>2</sup> or number of locations ≤ 5 <sup>a</sup>

**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 (2019). Flora of Victoria, Royal Botanic Gardens Victoria: *Schelhammera undulata*. Retrieved from; <https://vicflora.rbg.vic.gov.au/flora/taxon/fb805f2b-c30b-4b7d-b3f8-9faf98b0b83a> Accessed 9/5/2019.