



## *Caladenia vulgaris* Slender Pink-fingers

### Taxonomy

*Caladenia vulgaris* D.L. Jones

*Caladenia vulgaris* differs from *C. carnea* in having a tall slender flowering stem, a long leaf that almost reaches the flowers, and relatively small (to c. 12 mm across) dull pink, partially opening flowers. The lateral sepals on *C. vulgaris* are often fused at the base and it tends to flower later than *C. carnea*. (VicFlora 2019).

### 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 A2bc+3c+4bc

### Species Information

#### Description and Life History

Flowering plant, very slender, 15-36 cm tall. Leaf linear, 15-27 cm long, usually subequal to the flowering stem, 2-3 mm wide, reddish at base. Flowers 1 or 2, dull pink, externally with brownish central band, often only partly opening; ovary c. 7-8 mm long; perianth segments 10-18 mm long, glandular outside, with obtuse tips; dorsal sepal obliquely erect, incurved, linear-oblongate, 2-4 mm wide; lateral sepals directed outward and forward, parallel to slightly spreading, fused at base, asymmetrically lanceolate, 3-6 mm wide; petals spreading, asymmetrically ovate-lanceolate, 3-5 mm wide. Labellum sessile, 3-lobed, 5-7 mm long, 5.5-7.5 mm wide (when flattened), white or pink, with narrow red transverse bars; lateral lobes prominent, broad, margins entire; mid-lobe small, recurved in distal half, triangular, slightly shorter (when straightened) than lateral lobes, margins with c. 5 pairs of calli, the basal ones stalked, tip of labellum yellow; lamina calli in 2 rows almost to base of mid-lobe (sometimes in 4 rows at base of labellum), stalked and clubbed, yellow or orange. Column incurved, narrowly winged, whitish green barred with dark-red; anther with prominent short point (VicFlora 2019). Flowers from late October to January (Backhouse et al. 2016).

Plants are autogamous with a small proportion of plants appearing to be cleistogamous (Jones 1991).

#### Generation Length

The generation length of *Caladenia vulgaris* is inferred to be 20 to 40 (midpoint 30) years. The generation time for non-colonial terrestrial orchids is estimated to be a nominal 30 years based on the annual replacement of the mother tuber by daughter tubers. Whilst somatically immortal, each individual is susceptible to endogenous exhaustion or environmental causes of mortality at rates likely to result in replacement at intervals of several decades only. Such orchids are classed as obligate seed regenerators (OSRs) reliant on seed-based recruitment for population maintenance.

#### Distribution

The taxon occurs across southern Victoria, occurring from the coast to the mountains. The altitude range is 5-850 metres ASL. It also occurs in NSW, Tas, SA (Backhouse et al. 2016).

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### Habitat

Backhouse et al. (2016) considered that the taxon grows in a variety of habitats including coastal scrubs, heaths, woodland and open forest, on sandy to clay loam, often gravelly soils. However records appear to be questionable in many areas, so it is difficult to describe the habitat.

### Threats

The taxon is likely to have suffered a historic decline as a result of past habitat loss and degradation.

It seems to be capable of colonising disturbed sites, particularly road and track verges, but is likely to suffer ongoing habitat degradation. It often occurs on moisture-retentive sandy soils that are sensitive to climatic drying and disturbance by animals such as pigs. In coastal areas there are numerous threats, such as coastal development, weed invasion, hydrological changes.

### 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 100 years is inferred to be 30 to 50% (midpoint 45%), based on (c) and (e) above.

This is based on habitat loss and degradation across the very wide ecological range of taxon, as a result of a range of disturbances.

#### Eligible under Criterion A3 as Vulnerable

The population reduction over the next 100 years is projected to be 20 to 35% (midpoint 45%), based on (c) and (e) above.

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Future decline is based on the likely ongoing loss and degradation of habitat.

## Eligible under Criterion A4 as Vulnerable

The population reduction over any 105 to 180 year period, including both past and future (up to 100 years in the future), is estimated to be 30 to 50% (midpoint 40%), based on (c) and (e) above.

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:

### Ineligible under Criterion B

The Extent of Occurrence (EoO) across the taxon's range, based on accepted, post-1970 records in the Victorian Biodiversity Atlas (VBA), is estimated to be 80,090 km<sup>2</sup> which exceeds the threshold for criterion B.

The Area of Occupancy (AoO) across the taxon's range, based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA, is estimated to be 106 km<sup>2</sup> 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>	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				

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### Evidence:

#### Ineligible under Criterion C

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

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

### Evidence:

#### Ineligible under Criterion D

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

**Criterion E (Quantitative Analysis) was not addressed as the taxon does not have a detailed Population Viability Analysis.**

### References

Backhouse, G., Kosky, B., Rouse, D., and Turner, J. (2016). *Bush Gems: A Guide to the Wild Orchids of Victoria, Australia*. Melbourne, Victoria: EBook.

DEPI (2014). *Advisory list of rare or threatened plants in Victoria - 2014*. Department of Environment and Primary Industries, Melbourne. Retrieved from:

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Jones, D.L. (ed.) (1991) New taxa of Australian Orchidaceae. *Australian Orchid Research* 2: 34.

VicFlora (2019). Flora of Victoria, Royal Botanic Gardens Victoria: *Caladenia vulgaris*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/971eb2fe-3234-48d8-8208-de38474a9374>