

Dampiera galbraithiana Licola Dampiera

Taxonomy

Dampiera galbraithiana Rajput & Carolin

Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988*.

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

Proposed conservation status

Vulnerable in Australia

Criteria D1+2

Species Information

Description and Life History

The taxon is an erect subshrub 20-100 cm high; stems triangular, slightly ribbed, c. glabrous, smooth. Leaves sessile, usually oblong-elliptic, 12-45 mm long, 3-17 mm wide, glabrous or slightly tomentose when young, margins toothed and recurved or thickened. Inflorescence branches 1-3 in upper axils, 1(-2)-flowered, to c. 10 mm long, with appressed grey medifixed hairs; pedicels 3-9 mm long; bracteoles 1 or 2, linear-oblong, 1.5-2 mm long. Sepals 0.5-1 mm long, often unequal; corolla 9-11 mm long, purplish-blue to white inside, with appressed grey hairs outside, wings 1-2 mm wide, veined. Fruit obloid, 2-3 mm long, glabrescent. It flowers mainly September to January (VicFlora 2015).

Generation Length

The generation length of *Dampiera galbraithiana* is inferred to be 15 to 35 years. This is based on plausible frequency of seed recruitment in response to bushfire and small-scale localised site disturbance.

Distribution

The taxon is endemic in Victoria and is known only from the vicinity of Mt Kent and Mt Margaret, between Licola and Dargo. Specifically, it is confined to a few small localities near Mt Kent and Mt Margaret in Gippsland (SAC 2002; VicFlora 2015). The taxon occurs 4 kilometres east of Cheynes Bridge on Macalister River on N-S track, J.H. Willis, 20-10-1973 (Rajput and Carolin 1988).

Habitat

The taxon is reported from dry Silvertop Ash (*Eucalyptus sieberi*) forest (VicFlora 2015).

Threats

Plausible threats to the taxon may include the impact of climatic drying and warming, and the increasing risk of repeat fire events which may result in recruitment failure, although the magnitude of these threats are difficult to quantify at present.

The restricted nature of the taxon's distribution and small population size means that the taxon is threatened by stochastic events such as bushfire (SAC 2002).

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.

| 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 ² | < 5,000 km ² | < 20,000 km ² |
| B2. Area of occupancy (AOO) | < 10 km ² | < 500 km ² | < 2,000 km ² |
| 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 is estimated to be 41 km² and the Area of Occupancy (AoO) is estimated to be 16 km², 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 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 300 to 900 mature individuals, but other thresholds under this criterion have not been met.

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| 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 ² or number of locations < 5 |

Evidence:

Eligible under Criterion D as Vulnerable

The taxon is estimated to have 300 to 900 mature individuals. Population size is based on very few site records and the striking appearance noted by several collectors, suggesting that the taxon would not be easily overlooked in the field.

Eligible under Criterion D2 as Vulnerable

The taxon is inferred to be very restricted. The taxon has a restricted distribution, occurring in a single location, such that this restriction makes the taxon capable of becoming Critically Endangered or Extinct within a time frame of one or two generations. This is in response to the impact of the identified long term threats, notably the impact of climatic drying and warming, and the increasing risk of repeat fire events.

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.

Rajput, M.T.M., and Carolin, R.C. (1988). The genus *Dampiera* (Goodeniaceae): systematic arrangement, nomenclatural notes and new taxa. *Telopea*, 3(2), 183-216.

SAC (2002). Flora and Fauna Guarantee Scientific Advisory Committee: Final Recommendation on a Nomination for Listing. Nomination No. 599 *Dampiera galbraithiana*.

VicFlora (2015). Flora of Victoria, Royal Botanic Gardens Victoria: *Dampiera galbraithiana*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/7f93a7ee-8efd-4c42-b79b-c9c47a472378>