



Grevillea micrantha Small-flower Grevillea

Taxonomy

Grevillea micrantha Meisn.

G. linearifolia plants from the Mt Clay area near Portland have broader and less granular leaves, which are less strongly enclosed on the undersurface, and has the margin refracted at more than 120°. Plants from the Brisbane Ranges also have the leaf lower surface partly exposed. The taxon is similar to *G. alpivaga* and *G. gariwerdensis*.

Current conservation status

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

Proposed conservation status

Critically Endangered in Australia

Criterion B1ab(i,ii,iii,iv,v)

Species Information

Description and Life History

The taxon is a spreading, often root-suckering shrub 0.3–0.6 m high. Leaves entire, linear, often curved, 1–4 cm long, 0.6–1.0(–1.5) mm wide; upper surface often scabrous, especially along the veins; grooves of lower surface silky; margin vertically refracted about the intramarginal vein (leaf oblong in cross-section), usually enclosing the lower surface except for the midvein. Conflorescences c. 1 cm long, sessile or very shortly pedunculate, regular, umbel-like; perianth white or pale pink, outer surface with appressed hairs, inner surface usually glabrous with a discoloured cushion-like pulvinus on each ventral tepal opposite the ovary, occasionally pulvinus bearing a few minute (less than 0.2 mm long) hairs; pistil 5–6.5(–8) mm long; ovary stipitate, glabrous, style white to pink, with minute hairs or papillae just below apex, pollen presenter oblique. Fruits glabrous. Flowers August-January (VicFlora 2018).

G. micrantha is a suckering shrub, a post-fire resprouter, and reproduces from seed. Its breeding system is unknown, but is probably preferentially outcrossing. It is pollinated by insects, presumably with limited gene-flow. Recruitment is assumed to be continuous, but with a post-fire pulse from a soil-stored seed bank of unknown longevity. Ants are assumed to be secondary dispersers after seed drops from the plants, and are also assumed to bury the seeds after eating the elaiosome.

Generation Length

The generation length of *Grevillea micrantha* is inferred to be 100 years. This is indefinite, based on the taxon's suckering habit.

Distribution

G. micrantha is endemic in south-western Victoria, with sporadic occurrences in the area bounded by the Brisbane Ranges, Wedderburn, the eastern fall of the Victoria Range, and Portland (VicFlora 2018).

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Habitat

The taxon occurs in heathy woodland or open forest, and mallee communities on sandy or stony soils, often with laterised profiles.

Threats

The taxon is threatened by climatic and physical environmental threats, including decreased rainfall, increased evaporation and extreme temperatures associated with climate change, increased fire frequency and intensity, inappropriate timing of prescribed fire, and the impacts of fire-control activities. Anthropogenic threats include infrastructure works such as road and bridge building and maintenance, and damage to plants and soils from off-road recreation vehicles such as 4-wheel drives, mountain bikes, and trail bikes. Biotic threats include weed invasion of both native and exotic taxa, nectar-robbing by introduced honeybees, and the pathogen Cinnamon Root-rot Fungus.

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 a reduction in population under criterion A2. The future population reduction does not meet the threshold for eligibility under criterion A3.

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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 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:

Eligible under Criterion B1 as Critically Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 60 km², based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA). The EoO has been made equal to the AoO to ensure consistency with the definition of AoO as an area within EoO.

The taxon is estimated to be severely fragmented naturally at the landscape scale and anthropogenically at the landscape scale (from massive land clearance and land-use change), at separations that are likely to exceed the dispersal range of the taxon.

It has a continuing decline in (i), (ii), (iii), (iv) and (v) above due to the identified threats, especially climate change, altered fire regimes, and weed invasion.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 60 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

As above, the taxon is severely fragmented, and has a continuing decline in (i), (ii), (iii), (iv) 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 ² 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

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