

Correa reflexa var. *angustifolia* Grampians Correa

Taxonomy

Correa reflexa var. *angustifolia* Paul G. Wilson

This variety is abundantly distinct from from *C. reflexa* s.s. and will be elevated in rank to species (G. Carr unpubl. data). It hybridises in the wild with *C. aemula*, *C. reflexa* var. *scabridula*, and *C. reflexa* var. *scabridula*.

Note: The suggestion by Wilson (1961) that *C. reflexa* var. *angustifolia* may be a hybrid between *C. reflexa* (sens. lat.) and *C. decumbens* (J. Muell) has no support, either biogeographically or morphologically. *C. decumbens* occurs c. 300 km to the north-west in the Mt Lofty Ranges, while this hybrid combination could not produce a plant with the morphology of *C. reflexa* var. *angustifolia*.

Current conservation status

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

Proposed conservation status

Endangered in Australia

Criteria A3c; B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)

Species Information

Description and Life History

The taxon is a shrub to 1 m high. Leaves narrow-oblong, 1–5 cm long, obtuse, scabrous above, densely rusty-flocculose beneath, margins somewhat recurved. Flower erect or pendent, not clasped by subtending leaves; calyx broadly obconical or bell-shaped, shortly 8-lobed (sepaline lobes linear, to 1.5 mm long, petaline lobes triangular, to 1 mm long), c. 5 mm long to apex of lobes, loosely rusty-tomentose; corolla cylindrical, 3–4 cm long, red with pale green lobes. Flowers mostly autumn-spring (VicFlora no date).

Correa reflexa var. *angustifolia* is fire sensitive, and reproduces only by seed from a long-lived soil-stored seedbank. It is assumed, like most *Correa* taxa, to be an obligate outcrosser. It is pollinated by honeyeaters, with the potential gene flow via pollen not more than several hundreds of metres. The seeds are explosively ejected from the fruit by the elastic endocarp, probably not more than c. 5 m, with secondary seed dispersal by ants at no more than several tens of metres. The ants bury the seed after eating the lipid-rich elaisome.

Generation Length

The generation length of *Correa reflexa* var. *angustifolia* is suspected to be 30 to 50 years. The taxon is fire sensitive but relatively long-lived. The generation length reflects recurrent frequency of fire.

Distribution

C. reflexa var. *angustifolia* is confined to the Grampians with an outlying population to the west several kilometres east of Balmoral, and apparently near Stawell.

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Habitat

The taxon occurs in heathy woodland or heathy open forest on siliceous sandy soils, derived from Devonian sandstone. Soils are typically shallow and stony, often with abundant rocks, boulders, cliffs etc., or extensively rocky.

Threats

Threats to the taxon include the effects of climate change such as decreased rainfall, increased evaporation, extreme temperatures, extreme rainfall events causing flash floods, soil erosion, and severe scouring of riparian environments, increased frequency and intensity of fire, inappropriate timing of fire control activities, elevated fuel loads of alien plants, especially *Acacia longifolia* s.l., pollen robbing of flowers by exotic honeybees that are not effective pollinators, browsing by deer, Cinnamon Root-rot Fungus, and decreased bird pollination success as the honeyeater guild declines because of reduced flowering and fragmentation of co-occurring floral resources.

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> <ul style="list-style-type: none"> (a) direct observation [except A3] (b) an index of abundance appropriate to the taxon (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat (d) actual or potential levels of exploitation (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites
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Evidence:

Eligible under Criterion A3 as Endangered

The population reduction over the next 90 to 100 years is suspected to be 30 to 50%, based on (c) above.

Future reduction of the taxon's population is based on the projected impacts of the suite of threats identified, particularly climate change and weed invasion, notably *Acacia longifolia* s.l.

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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 Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 2,078 km², based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA).

It is inferred to have 1 location, as the main threats to the taxon (i.e. fire, climatic drying and warming, habitat loss and fragmentation, weed invasion, fungal pathogens, and extreme drought stress) have a non-reversible impact on the individuals of the taxon, and occur in a stochastic manner. The threats have the potential over time to threaten the majority of individuals in the geographic area, of which there is considered to be one such area.

It has a continuing decline in (i), (ii), (iii), (iv) and (v) above, due to the identified threats.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 84 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

As above, the taxon has location, 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 populations				
		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 D2 as Vulnerable

The taxon is inferred to be very restricted.

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

References

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