



## *Dodonaea truncatiales* Angular Hop-bush

### Taxonomy

*Dodonaea truncatiales* F. Muell.

### Current conservation status

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

### Proposed conservation status

Endangered in Victoria

Criterion D

This assessment is based on the assumption that the taxon is native to Victoria.

### Species Information

#### Description and Life History

The taxon is a dioecious, erect shrub to 3 m high; branchlets angular, ribbed, glabrescent. Leaves simple, sessile, erect, narrowly elliptic, rarely oblanceolate or linear, 4.5-10(-13.5) cm long, 5-13 mm wide, acute, rarely mucronate, entire or (sometimes minutely) dentate, margins revolute, surfaces glabrous, viscid, base extending as a rib or small wing down the stem. Flowers in axillary cymes, rarely solitary or 2 together; pedicels 3-8.5 mm long; sepals 4, lanceolate to ovate, 1.5-3.5 mm long, viscid, caducous; stamens 8, c. as long as sepals; ovary pubescent. Capsule 3-4-winged, depressed-obovate to transversely oblong in outline, 5.5-8 mm long, 17-25 mm wide, glabrous or sparsely puberulent, wings (4.5-)7-10 mm wide, membranous; seeds lenticular, 2.6-2.8 mm long, black, more or less shiny, exarillate. Flowers late winter to spring. This description is based largely on New South Wales collections. (VicFlora, 2019).

#### Generation Length

The generation length of *Dodonaea truncatiales* is inferred to be 20 to 30 years. This is based on its life form of a shrub to 3 metres, its possible longevity of 20-30 years, and its habitat of dry sclerophyll forest, which is likely to burn about three times a century. However, disturbance events such as fire and flooding are expected to cause mortality of plants and have an interval of possibly 30 years, making this the expected upper limit for generation length of this taxon.

#### Distribution

The taxon is known in Victoria only from the Genoa district. It also occurs in New South Wales (VicFlora, 2019).

It is unclear if the taxon was actually collected in Victoria. If it was, the population was very small and only on a roadside, and it could have been introduced with vehicles from the NSW populations which are abundant from Howe Range in Nadgee Nature Reserve to the north.

#### Habitat

In NSW, the taxon occurs in dry sclerophyll forest on sandstone, often near streams. The collecting label of the Victorian specimen doesn't provide any habitat information (VicFlora, 2019).

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### Threats

In the absence of any data, the most plausible threats that can be inferred are small population size, narrow gene pool, isolation, fragmentation, and uncertain effects of climate change.

### 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"> <li>(a) direct observation [except A3]</li> <li>(b) an index of abundance appropriate to the taxon</li> <li>(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat</li> <li>(d) actual or potential levels of exploitation</li> <li>(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites</li> </ul>			

### 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.

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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 <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 is estimated to be 4 km<sup>2</sup> and the Area of Occupancy (AoO) is estimated to be 4 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 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 50 to 250 mature individuals, but other thresholds under this criterion have not been met.

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Criterion D - Very small or restricted population <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:

#### Eligible under Criterion D as Endangered

The taxon is estimated to have 50 to 250 mature individuals. The area where it occurs is likely to have been well surveyed, therefore the population is unlikely to be large and conspicuous, so there are plausibly fewer than 250 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.

VicFlora (2019). Flora of Victoria, Royal Botanic Gardens Victoria: *Dodoniaea truncatiales*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/a9a7a450-60e0-4a7e-9c2a-e3fa74da8d1f>