



Pogona barbata Bearded Dragon

Taxonomy

Pogona barbata (Cuvier, 1829)

Current conservation status

Categorised as Vulnerable in the 2013 Advisory list of threatened vertebrate fauna in Victoria (DSE 2013).

Proposed conservation status

Vulnerable in Victoria

Criteria A2bce+3ce+4ce; B2ab(ii,iii,iv,v)

Species Information

Description and Life History

From Robertson and Coventry (2019): This species may be dark grey, light grey to yellowish brown above, with individuals capable of rapid behavioural changes between these colours. There are often two loose rows of lighter lozenge-shaped patches along the back, or with broad paler cross bands, and sometimes bands on the tail. The species is pale grey to whitish below, usually with large, dark ocellate markings. There is usually a prominent dark stripe from the eye, through the ear, to the back of the beard. The beard is grey to black and the tail often has a black tip, both particularly prominent in brightly-coloured breeding males. Juveniles are more brightly marked, their pattern fading with age. With many enlarged spines on the head and body, this species is characterized by the spines on the nape forming a curved row that does not connect with the row of spines extending from behind the eye to above the ear. When basking, or when threatened, the body is often flattened, the irregular rows of spines on the sides becoming prominent. The iris is grey-brown, and the lining of the mouth is bright yellow. Within Victoria, the Eastern Bearded Dragon grows to a snout-vent length of 250 mm, but reach a larger size in NSW and Queensland.

It is oviparous, and may lay up to 3 clutches per year. Clutch size ranges 14-31, with a recorded mean 20.2 for specimens from south-eastern Queensland.

The lizard is exclusively diurnal in its activity. It is both ground-dwelling and arboreal, although its arboreal activity seems to be limited mostly to thermoregulation. Bearded Dragons regulate their internal temperatures by changing their colour, body posture and position, internal blood flow and panting. In the wild, the lizard eats a variety of plant and animal food.

Generation Length

The generation length of the Bearded Dragon is estimated to be 8 to 12 years. The average lifespan is ~10 years. It is assumed that older (and therefore larger) animals contribute more to successful reproduction than younger animals.

Distribution

The taxon occurs along the east coast of Australia from north-eastern Queensland in the north to Eyre Peninsula, South Australia in the west. In Victoria, it is mostly found north of the Great Dividing Range, although there are

isolated records in the south-west of the State and around the suburbs and outskirts of Melbourne (although these are likely releases or escapees, since the lizard is a common pet shop item).

Habitat

Predominantly a species of the warm temperate zone in northern and western Victoria, the Eastern Bearded Dragon is widely distributed in treed habitats within the Dry Sclerophyll Forest and Box-Ironbark Forest ecosystems, sometimes occurring marginally in the Heathland, Red Gum and Black-Box woodland ecosystems (Robertson and Coventry 2019).

Threats

The major threats to the taxon are habitat loss, mostly related to clearance for agriculture, and habitat degradation. Although the taxon can persist in areas moderately degraded by agriculture, it is not clear what its minimum requirements are for long term persistence. The bulk of its distribution is on private land, although it occurs in some reserves, so ongoing clearing or habitat modification continue to be threats. Introduced predators (cats, dogs, foxes) are viable threats - the taxon has been identified in scats of introduced predators. Intense and extensive fire is likely to be a threat, with direct and indirect impacts on the persistence of the taxon. Collection for the local and overseas (e.g. New Zealand) pet trade is also known to occur, although the impact is not able to be quantified.

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 | | | |

Evidence:

Eligible under Criterion A2 as Vulnerable

The population reduction over the past 24 to 36 years is suspected to be 15 to 40% (midpoint 30%), based on (b), (c) and (e) above.

Although the taxon has almost certainly experienced significant historic decline, due to habitat change/loss over several decades, the proportion of this decline which has occurred in the last three generations is difficult to estimate in the absence of longitudinal observations or monitoring data.

The causes of the reduction may not have ceased, be understood or be reversible.

Eligible under Criterion A3 as Vulnerable

The population reduction over the next 24 to 36 years is suspected to be 20 to 30%, based on (c) and (e) above.

Future decline in population size is difficult to estimate with any confidence since the identified threats are likely to act stochastically and with unpredictable intensity. However, the taxon is expected to decline further, albeit more slowly than other reptile taxa, if threats, notably habitat alienation, are not mitigated/reversed.

Eligible under Criterion A4 as Vulnerable

The population reduction over any 24 to 36 year period, including both past and future (up to 100 years in the future), is suspected to be 30%, based on (c) and (e) above. The causes of reduction may not have ceased, be understood or be reversible.

| 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 B2 as Vulnerable

The Area of Occupancy (AoO) across the taxon's range is estimated to be 1,309 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the Victorian Biodiversity Atlas.

The taxon is suspected to be severely fragmented. The taxon has a patchy distribution with most occurrences isolated from other occurrences at separations exceeding the dispersal range of the taxon which has no specialised mechanism for long-distance dispersal.

It has a continuing decline in (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

It is suspected that there are 3,000 to 15,000 mature individuals, but this qualifier is too weak to meet the criterion.

| 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:

Ineligible under Criterion D

It is suspected that there are 3,000 to 15,000 mature individuals.

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

References

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