

Threatened Species of the Northern Territory

BRONZEBACK SNAKE-LIZARD

Ophidiocephalus taeniatus

Conservation status

Australia: Vulnerable

Northern Territory: Endangered



Photo: I. Morris

Description

The bronzeback is a small species of legless lizard with a snout-vent length up to 102 mm. The tail is longer than the snout-vent length. The most striking feature of the animal is its bronze or rich fawn upperbody. In contrast to the upperbody, the head is pale grey. It has a broad, dark brown lateral band from the snout to the tip of the tail. The underparts are grey brown. The ventral and lower lateral surfaces have a reticulated pattern formed by the white margins of the scales contrasting against the darker basal pattern (Cogger 2000).

Distribution

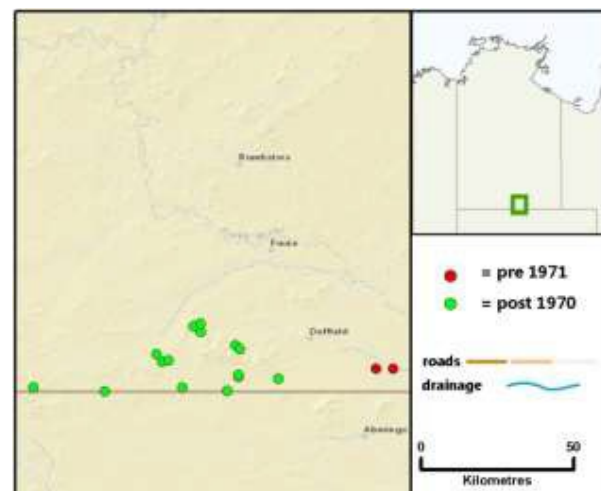
The type locality is given as Charlotte Waters, which is in the extreme South of the Northern Territory (NT). This locality probably only refers loosely to the collection site and the specimen may have come from anywhere within a 100 km radius of Charlotte Waters (Ehmann 1981).

In 2008, a single bronzeback was located in the upper Coglin Creek catchment (McDonald 2009), marking the first record in the NT in 111 years. More intensive follow-up surveys were carried later that year and resulted in locating 18 individual bronzebacks from 15

sites throughout the Beddome Ranges hill complex. These records are within a longitudinal extent of approximately 70 kilometres and a latitudinal extent of 20 kilometres.

Conservation reserves where reported:

None



Known locations of the Bronzeback

Ecology

The bronzeback is fossorial and occupies areas with dense Acacia-derived leaf litter, usually along ephemeral watercourses. These watercourses typically cut through stony gibber plains though are often associated with low stony hills and mesas. In the NT,

bronzebacks have been recorded under the litter mats of four species of acacia shrubs: *A. aneura*, *A. cambagei*, *A. latzii*, and *A. sibirica* (McDonald and Fyfe 2008).

The bronzeback is crepuscular and nocturnal. Its diet consists of various invertebrates including termites, cockroach nymphs, larvae of moths and beetles, and spiders (Ehmann 1991). It appears to lay eggs rather than give birth to live young, although further observations are needed to clarify its reproductive behaviour.

Conservation assessment

In the NT the bronzeback is restricted to the extreme south, with records from both the Finke and Stony Plains bioregions. Based on the 2008 records, together with the failure to locate any specimens further north, the predicted area of occurrence in the NT is 1365 km². An area of occupancy of 94 km² was calculated by creating a 50 m buffer around all drainage lines within the area of occurrence. However, with litter mats making up only a small proportion of the total groundcover around each drainage, the actual area occupied is likely to be far smaller. In addition, the quality of litter mats varies widely, sometimes being flood or livestock affected, and the proportion of litter mats occupied is generally low (McDonald and Fyfe 2008). The bronzeback qualifies as

Endangered in the Northern Territory (under criteria B1b(i,ii,iii),c(ii,iv)+2 b(i,ii,iii),c(ii,v)):

- extent of occurrence <5000 km²;
- area of occupancy <500 km²;
- inferred decline in extent of occurrence, area of occupancy, extent and quality of habitat; and
- extreme fluctuations in area of occupancy and number of mature individuals

Threatening processes

The two key threats to the bronzeback in the NT are:

- i. damage caused to litter mats from livestock and feral herbivores; and
- ii. damage or removal of litter mats from surface flow during flood events, perhaps exacerbated by cattle grazing (and historically rabbits) and associated changes in hydrology resulting in increased runoff.

During the 2008 surveys, no bronzebacks were located under litter mats that had been trampled by stock and it is clear that the amount of suitable habitat has been reduced as a result of the introduction of cattle (McDonald and Fyfe 2008). In areas away from bores, damage to litter mats was predominantly caused by feral horses and camels. Similar to the observations of Ehmann (1992) at Abminga in South Australia (SA), many areas were noted where litter mats had been washed away or covered in silt, rendering them unsuitable for habitation (McDonald and Fyfe 2008). These sites tended to be lower in catchments whereas the litter mats on nearby elevated creeklines were generally unaffected by flooding. In this way, populations of bronzebacks higher in catchments may act as source populations for those periodically eliminated from flood events downstream (McDonald and Fyfe 2008). The conservation of the species in the NT may be tied to the persistence of these elevated populations.

Conservation objectives and management

There is no existing recovery plan for this species and it should be noted that the majority of the bronzeback's distribution occurs within SA. Although a monitoring program is a standard recommendation for

threatened species, this is problematic for the bronzeback. The only recognized method of sampling is raking litter mats which effectively renders these mats uninhabitable for an unknown period of time. Therefore, in the absence of a less destructive means of sampling, management priorities should be directed towards the mitigation of known threatening processes. The underlying assumption being that bronzebacks will be secure if the magnitude and extent of threatening processes remains at present-day levels.

Management priorities are to:

- i. improve stakeholder understanding of the species and its threats;
- ii. discourage relevant leaseholders from expanding stock watering points further into the Beddome Ranges hill complex; and
- iii. support relevant leaseholders as they seek to remove feral herbivores.

Compiled by

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