

Threatened Species of the Northern Territory

Boodie

Bettongia lesueur graii

Conservation status

Australia: Extinct

Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Extinct

Territory Parks and Wildlife Conservation Act 1976

Description

The Boodie (*Bettongia lesueur graii*) is one of three currently recognised sub-species of the Burrowing Bettong (*Bettongia lesueur*). The Burrowing Bettong as a species is a small, stocky macropod (body mass 0.9-1.6 kg) with a short blunt head and relatively small rounded ears. It is yellow-grey above and paler grey below. The ears are short and rounded. The tail is relatively robust and used for storing fat reserves. In some individuals, the tail has a distinctive white tip.

Distribution

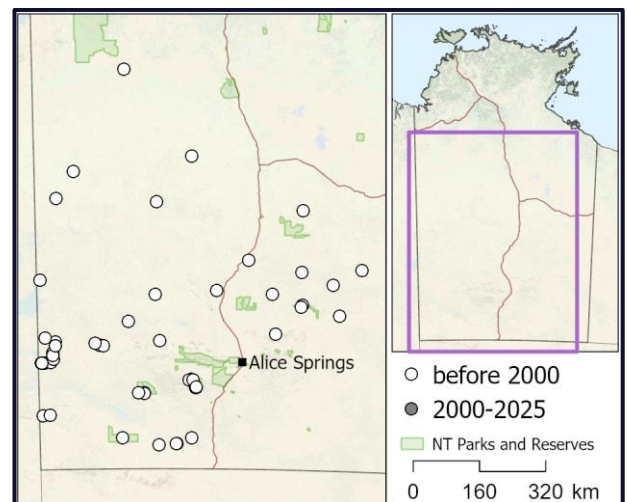
The Boodie was one of the most widely distributed native Australian mammals. It occupied most habitats, other than those with dense vegetation and higher rainfall. It occurred over most of Western Australia (with the exception of the north Kimberley) and South Australia, into western New South Wales and the Victorian mallee¹⁻². In the Northern Territory (NT), the Boodie occurred extensively in the dune and sandplain deserts of the southern arid region³.

Early naturalists noted that the Boodie was common and, in many areas, the most abundant mammal that they encountered⁴; however, abundance fluctuated locally², presumably in



Photo: P. Nunn/Alice Springs Desert Park

The animals pictured belong to the subspecies *Bettongia lesueur lesueur*



Known localities of the Boodie in the NT (nrmmaps.nt.gov.au)

response to environmental conditions. The Boodie is now extinct but the Shark Bay Burrowing Bettong *Bettongia lesueur lesueur* survived on Bernier and Dorre Islands in Shark Bay, Western Australia. The sub-species *Bettongia lesueur* (Barrow and Boodie Islands) naturally occurs only on Barrow Island in the Pilbara region of Western Australia⁵.

NT conservation reserves where reported: *Bettongia lesueur graii* formerly occurred in areas that are now included within Finke Gorge National Park, Watarrka National Park, Uluṟu Kata-Tjuṯa National Park and Tjoritja/West MacDonnell National Park.

Ecology and life-history

In arid and semi-arid NT, the Boodie occurred in a broad range of habitats, except for rocky hills and ranges^{1,4}. It was strictly nocturnal and gregarious. The diet in central Australia comprised leaves, seeds, fruits, bulbs and tubers^{1,4} and probably also included invertebrates. Breeding could occur throughout most of the year, with females carrying pouch young observed in the middle of both summer and winter⁴.

The habitual construction of burrows that are used for shelter during the day by the Burrowing Bettong as a species is unique among macropods⁴. The extensive and distinctive warrens constructed by the Boodie specifically can still be found in central Australia, particularly in calcareous country, where excavated stones and gravels form mounds around the entrance of long-abandoned warrens. These warrens created habitat for other animals, including the Western Quoll *Dasyurus geoffroyi* and Common Brush-tailed Possum *Trichosurus vulpecula*¹.

Threatening processes

The decline of the Burrowing Bettong as a species on the mainland commenced in the nineteenth century. It disappeared from Victoria in the 1860s but persisted in the central and western deserts until the mid-1900s¹. No authenticated records have been collected within the NT since the 1930s³, and the Boodie is presumed to have become extinct in the NT by the 1960s²⁻³.

The disappearance of the Burrowing Bettong as a species from central Australia and Western Australia coincided with the expansion of pastoralism and the establishment of the Red Fox *Vulpes vulpes* and the feral Cat *Felis catus*⁴. The Burrowing Bettong was probably not seriously affected by European Rabbits *Oryctolagus cuniculus*; indeed, both species sometimes shared warrens^{1,4}.

Conservation objectives and management

There are no conservation objectives or management for the Boodie as it is presumed to be extinct.

Sub-populations of the extant sub-species of the Burrowing Bettong have been established through translocation into numerous introduced predator-free reserves in Western Australia, South Australia, New South Wales and the NT⁶. As they interbreed, some of these translocations have involved mixing founders from the two extant sub-species⁷.

References

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- ⁵ Burbidge, A.A., and Short, J.C. 2023. In Baker, A. and Gynther, I. (eds) *Strahan's Mammals of Australia* Fourth edition. Reed New Holland Publishers, New South Wales, Australia pp. 291-293.
- ⁶ Richards, J.D., 2012. Western Barred Bandicoot, Burrowing Bettong and Banded Hare-wallaby Recovery Plan. Department of Environment and Conservation, Western Australia & Department of Sustainability, Environment, Water, Population and Communities, Canberra.
- ⁷ Thavornkanlapachai, R., Mills, H.R., Ottewell, K., Dunlop, J., Sims, C., Morris, K., Donaldson, F., Kennington, W.J., 2019. Mixing genetically and morphologically distinct populations in translocations: Asymmetrical introgression in a newly established population of the Boodie (*Bettongia lesueur*). *Genes* 10(9), 729.