

Burrowing Bettong (Boodie)

Bettongia lesueur (Quoy and Gaimard, 1824)

Size

Head and body length
400 mm (mean)

Tail length

300 mm (mean)

Weight

0.4–1.8 kg in males
0.5–1.7 kg in females
1.5 kg (mean)



Photo: Babs & Bert Wells/Department of Conservation and Land Management

Subspecies

Three subspecies are currently recognised:

- *B. l. graii* (mainland subspecies, extinct)
- *B. l. lesueur* (Bernier and Dorre Islands)
- *B. lesueur* unnamed subspecies (Barrow Island)

Description

Small thickset, nocturnal rat-like kangaroo. Yellow-grey above (grey on islands) and light grey below, short rounded ears and a lightly haired and thick tail. Individuals from Bernier and Dorre Islands are larger than those on Barrow and Boodie Islands.

Other common names

Lesueur's rat kangaroo, Lesueur's bettong, burrowing rat kangaroo, tungoo. Boodie is its Noongar name, many other Aboriginal names have been recorded.

Distribution



Key To Map: Islands = present distribution;
Mid-grey = historic (> 30 years); Hatched =
Late-Holocene sub-fossil

B. l. graii.

Occurred on the mainland and is now extinct. Subfossil records have been found in western Victoria, western New South Wales, and in South Australia. Abandoned burrow systems are common in Western Australian deserts.

B. l. lesueur.

Occurs on Bernier and Dorre Islands in Shark Bay (Western Australia), and has been reintroduced to Heirisson Prong in Shark Bay, and to Yookamurra Sanctuary and Roxby Downs (South Australia). This subspecies will be used in translocation programs under Western Shield.

B. lesueur unnamed subspecies.

Occurs on Barrow Island and has been successfully reintroduced to nearby Boodie Island.

Habitat

On the mainland and islands, boodies occupy arid and semi-arid habitats. On Dorre Island, boodies occur in coastal dune and *Triodia* habitats. On Bernier and Barrow Islands, they show no preference for any particular habitat type, although most warrens on Barrow Island occur in well-drained areas. Old boodie burrows on the mainland were among deep sandy or loamy patches of soil in forest, scrub and thicket. In the western deserts, old boodie burrows have been found in a variety of stony soils, but used to occur in sandy soils as well.

Behaviour

Boodies are nocturnal, and construct and live in their own burrows. Burrows vary in structure from simple tunnels to complex warrens with many (four to 91) entrances and deep, interconnecting pathways. Nests made from vegetation are constructed in burrows.

Boodies emerge after sunset and re-enter their burrows before sunrise. Up to 20 individuals have been recorded living communally in a warren system. However, boodies tend to forage independently at night rather than forming feeding aggregations. Movement is strictly by their hindlegs, and the forelimbs and tail are not used for support except when the animal is stationary. On Dorre and Bernier Islands, trapping data shows that individuals moved between 60 metres to 2.2 kilometres. On Barrow Island, one individual was reported to move five kilometres. Evidence suggests that food is located by smell. Boodies are very vocal and make a variety of grunts, hisses and squeals.

Diet

Boodies are omnivorous, and feed mainly by digging for tubers and bulbs, but are also known to consume plants, seeds, fruit, nuts, flowers, termites and fungi.

Breeding

Boodies breed throughout the year, though the length of the breeding season varies in response to rainfall. On Bernier and Dorre Islands, oestrous lasts 23 days and the gestation period is 21 days. The reproductive cycle is delayed during lactation and embryonic diapause occurs. A single young is born, and remains in the pouch for 115 days and is sexually mature at five months of age. Females can produce up to three young per year. Boodies are known to survive to at least three years of age.

Threatening processes

In the early days of white settlement, boodies were one of the most abundant of small mammals to occur across mainland Australia. By the early 1960s, the species was extinct on the mainland. Evidence from a translocation experiment in the Gibson Desert (Western Australia), suggests that predation by foxes and cats was a major factor in their extinction from the mainland.

Conservation status

- *B. l. graii*

2000 IUCN Red List of Threatened Species

Extinct

Environment Protection and Biodiversity Conservation Act

Extinct

- *B. l. lesueur*

2000 IUCN Red List of Threatened Species

Vulnerable

Western Australian Wildlife Conservation Act

Threatened

Environment Protection and Biodiversity Conservation Act

Threatened (Vulnerable)

• <i>B. lesueur</i> unnamed subsp.	
2000 IUCN Red List of Threatened Species	Vulnerable
Western Australian Wildlife Conservation Act	Threatened
Environment Protection and Biodiversity Conservation Act	Threatened (Vulnerable)

Management

- Assess Boodie Island population.
- Establish monitoring protocols for boodies on Bernier and Dorre Islands.
- Monitor and manage translocated populations to mainland sites.
- Acquire Dirk Hartog Island as a conservation reserve, remove stock and eradicate feral cats and goats.
- Reintroduce boodies to at least two mainland sites subject to predator control.

Other interesting facts

- Other mammal species, such as the chuditch, bilby and brushtail possum, have been reported to shelter in the warrens made by boodies.
- The thick tails of boodies are weakly prehensile and may be used for gathering nesting material.

Selected references

Short, J. (1992). Rare and endangered – burrowing bettong. *Australian Natural History* 24, 22-23.

Burbidge, A.A. (1995). Burrowing Bettong. In R. Strahan (Ed.) *The Mammals of Australia*. Australian Museum and Reed Books. Chatswood, NSW.

Maxwell S., Burbidge A.A, Morris K. (Eds) (1996). *The 1996 Action plan for Australian Marsupials and Monotremes*. Wildlife Australia, Canberra.

Website links

http://www.naturebase.net/projects/west_shield.html

<http://www.ea.gov.au/biodiversity/threatened/action/marsupials/index.html>

http://www.cse.csiro.au/research/Program2/SL/threatened_species/bettongs.htm