

Threatened Species of the Northern Territory

BLACK-FOOTED TREE-RAT

Mesembriomys gouldii

Conservation status

Australia: Endangered

Northern Territory: Vulnerable



Photo: K. Brennan

Description

The black-footed tree-rat is one of the largest rodents in Australia, weighing up to 830 g. It is an attractive solid rodent with long shaggy medium grey to black fur on top, pale underside, large black ears and a distinctive long hairy tail with terminal white brush.

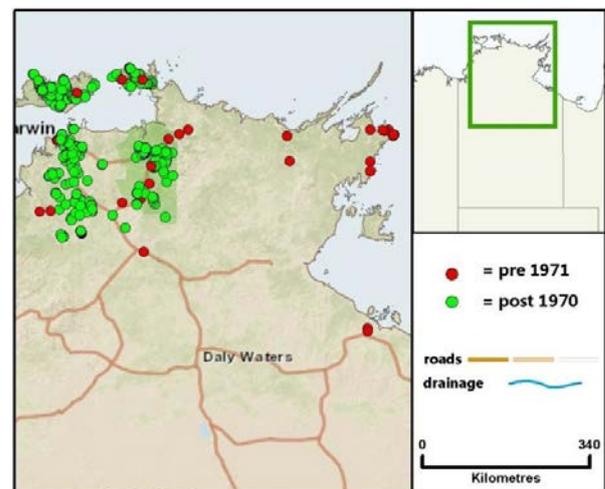
Distribution

Found in the Top End of the Northern Territory (NT) in tropical woodlands and open forests in coastal areas. Also occurs in the Kimberley in Western Australia, and the east and west coastal areas of Cape York Peninsula south to Townsville and inland to the Lynd Junction, where it is far less common.

This is one species that may have remained relatively abundant (or become more abundant) in the Darwin rural area, perhaps because of fire regimes (Price et al. 2005).

Conservation reserves where reported:

Kakadu National Park, Litchfield National Park, Gunak Gurig Barlu National Park, Charles Darwin National Park, Berry Springs Nature Park, Holmes Jungle Nature Park and Manton Dam Recreation Area.



Known locations of the black-footed tree-rat

Ecology

Black-footed tree-rats are fairly solitary, nocturnal animals, sheltering in tree hollows and pandanus stands during the day Griffiths et al. 2002). Hard fruits and seeds are a major component of their diet, supplemented by grass and invertebrates and other seasonal resources such as nectar rich flowers.

Breeding occurs throughout the year with a peak in the late Dry season (August and September). Females are able to produce one to three young every nine months. Young grow quickly and are weaned within about four weeks.

Conservation assessment

The black-footed tree-rat is one of a suite of Top End mammals showing evidence of sharp decline within the past ten years (Woinarski *et al* 2010). Recent monitoring in Kakadu and Gunak Gurig Barlu National Parks has not recorded any tree-rats in areas where they were previously in good numbers.

This species qualifies as **Vulnerable** in the NT (under criterion A2ab), based on:

- population reduction of >30 per cent over the last ten years where the cause of reduction may not have ceased.

Threatening processes

The main driver of the decline of this species is not easily defined. Studies have shown that it is disadvantaged by frequent fire, probably because of its requirement for tree hollows, and its habitat preference for a shrubby understory (Friend 1987). In addition to the requirement for a diverse shrubby understory (mediated by infrequent fire regimes), the species also requires large trees, and is notably disadvantaged by forest fragmentation (Rankmore 2006). Predation by feral cats may also be having an impact on this species although the degree to which this occurs is not known.

Conservation objectives and management

The black-footed tree-rat is one of a suite of mammal species showing declines across the top end with no clear explanation. The range of species is broad and the black-footed tree-rat has quite different requirements to many of the other declining species. There is no existing recovery plan or management program for this species.

In the interim, priorities for the recovery of this species are to:

- i. conduct research to define cause(s) of decline;
- ii. develop and implement a recovery plan or management plan; and
- iii. iii.increase the profile of the species in the Darwin rural area to advocate for its protection.

Complied by

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References

- Friend, G R (1987). Population ecology of *Mesembriomys gouldii*. *Australian Mammalogy* 23: 181 – 183.,
- Griffiths, A.D., Koenig, J. Carrol, F. and Price, O. (2002). Activity area nad day-time tree use of the black-footed tree-rat *Mesembriomys gouldii*. *Australian Mammalogy* 23, 181-183.
- Price, O., Rankmore, B., Milne, D.J., Brock, C., Tynan, C., Kean, L., and Roger, L. (2005). Regional patterns of mammal abundance and their relationships to landscape variables in eucalypt woodlands near Darwin, northern Australia. *Wildlife Research* 32, 435-446.
- Price (2005)
- Rankmore, B.R. and Price O. (2004). Effects of habitat fragmentation on the vertebrate fauna of tropical woodlands, Northern Territory. Pp 452 - 473 in the *Conservation of Australia's Forest Fauna (second edition) 2004*, edited by Daniel Lunney. Royal Zoological Society of New South Wales, Mosman, NSW, Australia..
- Woinarski, J.C.Z., Armstrong, M., Brennan, K., Fisher, A., Griffiths, A.D., Hill, B., Milne, D.J., Palmer, C., Ward, S., Watson, M., Winderlich, S., and Young, S. (2010). Monitoring indicates rapid and severe decline of native small mammals in Kakadu National Park, northern Australia. *Wildlife Research* 37, 116-126.