

Threatened species of the Northern Territory

Golden-backed tree-rat

Mesembriomys macrurus

Conservation status

Australia: Not listed

Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Critically Endangered

Territory Parks and Wildlife Conservation Act 1976

Description

The Golden-backed Tree-rat is a moderately large rodent, weighting up to 330 g and measuring up to 61 cm long. Its upper body and sides are grey with a distinctive orange-brown mid-dorsal stripe, while the underside is creamy white. The long tail is white, except for the grey basal third, and has increasingly longer hairs towards the tip that form a prominent terminal brush.

Distribution

The Golden-backed Tree-rat once occurred across the Top End and Kimberley region and in the northern Pilbara. This range has contracted markedly since European settlement and the species likely persists only in higher-rainfall areas of the northwestern Kimberley, including some offshore islands.

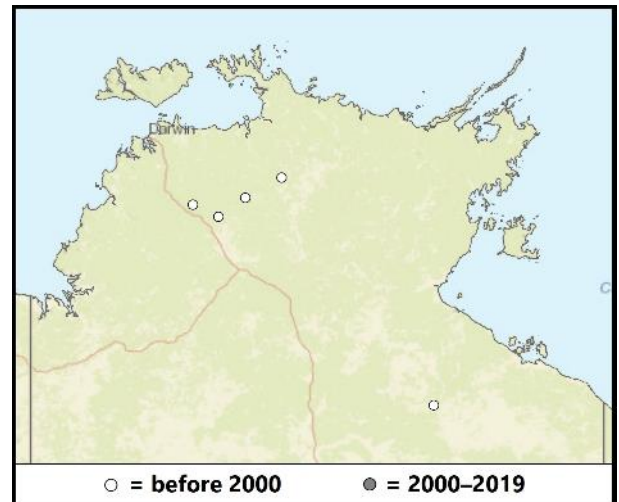
The distribution of the Golden-backed Tree-rat in the Northern Territory (NT) is poorly known. Only five specimens were collected from Yam Creek in c.1879, 'Balanbrinni Creek' (probably Balbarini) inland from the McArthur River in 1901, Nellie Creek in the upper Mary River catchment and South Alligator River in 1903, and Deaf Adder Gorge in 1969¹.



Credit: W. Lawler/Australian Wildlife Conservancy

Hairs probably from this species were collected on Marchinbar Island (Wessel Islands) in 1993². Aboriginal people knew the species from northern areas of the Arnhem Land Plateau³.

NT conservation reserves where reported: Kakadu National Park.



Caption: Known localities of the Golden-backed Tree-rat in the NT (nrmmaps.nt.gov.au)

Ecology and life-history

The Golden-backed Tree-rat occurs in a broad range of highland and lowland habitats across a range of geological formations, including eucalypt-dominated woodlands and savannas, *Livistona* palm woodlands, rugged sandstone

plateaus and scree, coastal beaches, and blacksoil plains with pandanus. The ecology of the species in the NT is poorly known; though the localities where the five specimens were collected were apparently associated with river and creek systems.

Golden-backed Tree-rats are largely nocturnal, spending the day in tree hollows, hollow logs, pandanus foliage or in among rocks in cliffs and scree slopes. Its diet includes seeds, fruits, invertebrates, leaves and grasses, which are obtained both on the ground and in trees.

Females give birth to litters of 1–3 pups, which are fully grown at about four months and sexually mature at around one year of age. Generation length is estimated to be 3 years².

Threatening processes

Key threats that are posited to have led to the considerable decline of the Golden-backed Tree-rat are inappropriate fire regimes, habitat degradation due to introduced herbivores and livestock, and predation by feral Cats *Felis catus*. In particular, intense fires late in the dry season reduce the availability of fruiting trees and shrubs and hollow-bearing trees for the Golden-backed Tree-rat⁴. These threats likely had a more severe impact in drier areas of the former distribution of the species, and along with landscape patchiness of suitable habitat, may partly explain the contraction of the range to areas of higher rainfall⁵.

Conservation objectives and management

If the Golden-backed Tree-rat is found to still be present in the NT, further investigations will be required to formulate specific conservation objectives and management priorities.

References

¹ Parker, S.A., 1973. An annotated checklist of the native land mammals of the Northern Territory. Rec. South Aust. Mus. 16, 1–57.

² Woinarski, J.C.Z., 2000. The conservation status of rodents in the monsoonal tropics of the Northern Territory. Wildl. Res. 27, 421–435.

³ Ziembicki, M.R., Woinarski, J.C.Z., Mackey, B., 2013. Evaluating the status of species using Indigenous knowledge: Novel evidence for major native mammal declines in northern Australia. Biol. Cons. 157, 78–92.

⁴ Hohnen, R., Tuft, K.D., Legge, S., Radford, I.J., Carver, S., Johnson, C.N., 2015. Post-fire habitat use of the Golden-backed Tree-rat (*Mesembriomys macrurus*) in the northwest Kimberley, Western Australia. Austral Ecol. 40, 941–952.

⁵ Palmer, C., Taylor, R., Burbidge, A., 2003. Recovery plan for the Golden Bandicoot *Isodon auratus* and Golden-backed Tree-rat *Mesembriomys macrurus* 2004–2009. Department of Infrastructure Planning and Environment, Darwin.

⁶ Threatened Species Scientific Committee, 2019. Listing Advice *Mesembriomys macrurus* Golden-backed Tree-rat. Department of the Environment and Energy, Canberra.