

Threatened species of the Northern Territory

Pale field-rat

Rattus tunneyi

Conservation status

Australia: Not listed

Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Vulnerable

Territory Parks and Wildlife Conservation Act 1976

Description

The Pale Field-rat is a medium-sized rodent with a rough and shiny coat. It is pale brown above grading through yellowish-grey to cream below and white on the feet. The tail is shorter than the combined head and body length and has dark scale rings. The head is broad and rounded, with large protruding eyes and pale brown ears.

Distribution

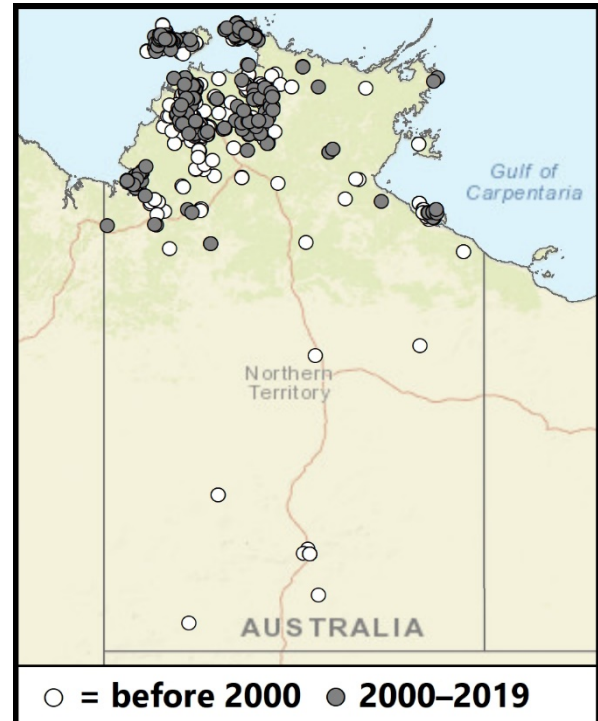
The Pale Field-rat formerly occurred in arid and semi-arid areas of the Northern Territory (NT) and western and northern Western Australia. The species is now restricted to higher rainfall areas of northern and eastern Australia¹, from the Kimberley, across the Top End to the Gulf of Carpentaria, and from far north Queensland to south-eastern Queensland.

In addition to semi-arid and arid parts of the NT, the species has evidently also disappeared from from Centre, West, and South West Islands in the Sir Edward Pellew group. This decline occurred over the period 1966–2009, particularly after 1988².



Credit: K. Brennan

NT conservation reserves where reported: Barranyi (North Island) National Park (NP), Blackmore River Conservation Reserve (CR), Charles Darwin NP, Connells Lagoon CR, Elosey NP, Fish River Gorge Block NP, Fogg Dam CR, Giwinning/Flora River Nature Park, Garig Gunak Barlu NP, Judbarra/Gregory NP, Kakadu NP, Keep River NP, Limmen NP, Litchfield NP, Manton Dam Recreation Area, Mary River NP, Nitmiluk NP, St Vidgeon Management Area, Territory Wildlife Park/Berry Springs Nature Park, Tjuwaliyn (Douglas) Hot Springs Park and Uluru-Kata Tjuta NP.



Caption: Known localities of the Pale Field-rat in the NT (nrmaps.nt.gov.au)

Ecology and life-history

The Pale Field-rat occurs in a wide range of habitats, including tall grasslands, rocky slopes, woodlands and monsoon forests with dense understoreys dominated by grasses and sedges. It formerly occupied a broader range of habitats in arid and semi-arid regions, including along inland watercourses.

The Pale Field-rat is nocturnal, sheltering during the day in complex shallow burrows. The diet consists of roots, grass stems and seeds.

The species is gregarious. In the NT, breeding occurs mostly in the dry season, from January to August. Litters comprise between two and 11 young, though four is more usual, and several litters may be raised in a year.

Threatening processes

The current NT-wide decline is probably due to feral Cat *Felis catus* predation³ and inappropriate fire regimes, characterised by a high frequency or intense fires, negatively impacting habitat suitability.

Conservation objectives and management

There is no existing recovery plan or management program for the Pale Field-rat in the NT.

In the interim, priorities for the recovery of this species are to: conduct research to define cause(s) of decline; and continue long-term monitoring programs in Kakadu, Litchfield and Nitmiluk National Parks to monitor the distribution and abundance of the Pale Field-rat.

References

¹ Braithwaite, R.W., Griffiths, A.D., 1996. The paradox of *Rattus tunneyi*: endangerment of a native pest. *Wildl. Res.* 23, 1–21.

² Woinarski, J.C.Z., Ward, S., Mahney, T., Bradley, J., Brennan, K., Ziembecki, M., Fisher, A., 2011. The mammal fauna of the Sir Edward Pellew Islands, Northern Territory, Australia: refuge and death-trap. *Wildl. Res.* 38, 307–322.

³ Tuft, K., Legge, S., Frank, A.S., James, A.I., May, T., Page, E., Radford, I.J., Woinarski, J.C., Fisher, A., Lawes, M.J., 2021. Cats are a key threatening factor to the survival of local populations of native small mammals in Australia's tropical savannas: evidence from translocation trials with *Rattus tunneyi*. *Wildl. Res.* -

⁴ 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., Young, S., 2010. Monitoring indicates rapid and severe decline of native small mammals in Kakadu National Park, northern Australia. *Wildl. Res.* 37, 116–126.

⁵ Woinarski, J.C.Z., Armstrong, M., Price, O., McCartney, J., Griffiths, T., Fisher, A., 2004. The terrestrial vertebrate fauna of Litchfield National Park, Northern Territory: monitoring over a 6-year period, and response to fire history. *Wildl. Res.* 31, 1–10.