

Threatened Species of the Northern Territory

MALA RUFIOUS HARE-WALLABY

Lagorchestes hirsutus (central mainland form)

Conservation status

Australia: Endangered

Northern Territory: Extinct in the Wild



Description

Mala is the name given to the central Australian population (an undescribed subspecies) of the rufous hare-wallaby. The rufous hare-wallaby also has a subspecies on Bernier and Dorre Island in Shark Bay, Western Australia (Short and Turner 1992). The mala is a small wallaby with a body mass of 800-1600 g. The mala's scientific name, *hirsutus*, refers to the long shaggy rufous/brown hair on its back and sides. The fur on its belly and chest is pale fawn grading to white.

Distribution

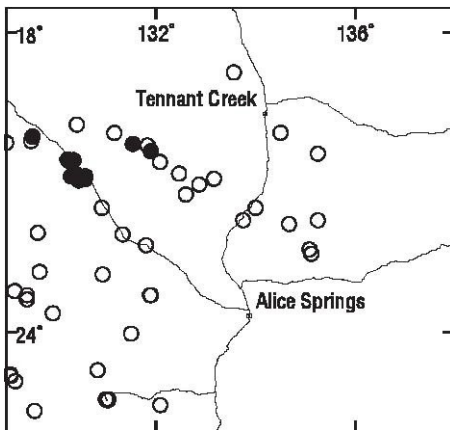
The mala is extinct in the wild on the mainland of Australia. A colony is located on Trimouille Island, Western Australia as a consequence of a translocation from the Tanami Desert to that site in 1999 (Langford and Burbidge 2001). Semi-captive populations housed in predator-proof enclosures are located at Watarrka National Park (established in 2000) and Uluru Kata Tjuta National Park (established in 2005). Captive

populations are found at the Alice Springs Desert Park, Dryandra Conservation Reserve, (south-east of Perth), François Peron National Park (central coast of Western Australia), and Scotia Sanctuary (western NSW).

Mala formerly occupied a broad swathe of country in woodlands and spinifex grasslands in central and western deserts and semi-deserts. Mala were still common in the Tanami Desert until the 1930s but their numbers crashed dramatically in the years following the expansion of European settlement into the area (Bolton and Latz 1978; Burbidge *et al.* 1988). The last wild colony of mala was extinguished by a wildfire in 1992.

Conservation reserves where reported:

None (although it formerly occurred in areas that are now included within Uluru Kata-Tjuta National Park, Watarrka National Park and West MacDonnell National Park).



Known locations of the mala. Note that the species no longer persists in the wild.
 o = pre 1970; ● = post 1970.

Ecology

The ecology of the mala was studied in detail (Lundie-Jenkins 1993; Lundie-Jenkins *et al.* 1993) at Sangsters Bore in the Tanami Desert. These studies show that mala are dependent upon a specialised form of spinifex habitat. Aspects of habitat structure and diversity appear to be important in delineating between suitable and unsuitable areas. Patchiness, hummock size, food diversity and the degree of senescence, in particular, were identified as influential factors.

Mala in the Tanami Desert showed definite seasonal patterns of habitat use. Their movements between and within two adjacent vegetation systems was found to vary in response to the availability and palatability of food plants. The home ranges of individual mala were found to consist of large areas within the dense spinifex habitat and small concentrated feeding areas on saline flats adjacent to watercourses and drainage depressions.

Conservation assessment

The mala only exists in the Northern Territory in captivity. Hence it is Extinct in the Wild.

Threatening processes

Most of the land where the mala lived has not been used for cattle or sheep, except in the south west of the continent where mala habitat was severely degraded following pastoral expansion. Rabbits may have had an effect in the south but not in the north. Feral cats and European foxes have certainly had a major role in the mala's decline (Johnson 1988; Lundie-Jenkins *et al.* 1993b). Cats and foxes have been present in the desert lands for over a century. Mala and many other desert animals are easy prey for these predators and their impact on the native desert fauna is known to be significant.

The movement of Aboriginal people off their traditional country to settlements and missions is also thought to be important in the mala's decline. For thousands of years Aboriginal people had burned the spinifex country. This involved setting fire to small patches in winter. This reduced the risk of more destructive, summer bushfires because it removed a lot of the flammable spinifex. However patch burning was also very helpful to animals like the mala. It produced a diverse habitat with areas of mature vegetation where the animals could shelter, and areas of succulent new growth where the animals could feed. When the Aboriginal people stopped burning the desert, the habitat changed and the mala and other species were affected (Bolton and Latz 1978; Loorham 1985).

Remnant and reintroduced populations were studied and managed in the Tanami Desert up to the early 1990s (Gibson *et al.* 1984; Lundie-Jenkins 1996), and the decline and loss of these populations demonstrated the major threats posed by predation by feral cats, and by inappropriate fire regimes.

Conservation objectives and management

Management of the mala in the Northern Territory presently consists of the maintenance of colonies in captivity and predator-proof enclosures (Short *et al.* 1992), including in Watarrka National Park. A revision of the national recovery plan for the rufous hare-wallaby (including the mala and the subspecies on Bernier and Dorre Island, Shark Bay) has been drafted.

Recovery actions identified for mala in the Northern Territory are:

- i. husbandry of captive populations;
- ii. establishment of a population at Uluru Kata Tjuta National Park (underway);
- iii. use of population viability analysis (PVA) to compare the viability of wild and current and potential reintroduced populations;
- iv. co-ordination of all captive breeding populations;
- v. continue to enhance the involvement of the traditional owners, the Anangu, and the Mutijulu Community, in the management of the mala population in the Uluru-Kata Tjuta National Park; and
- vi. participate in the recovery team.

Compiled by

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References

- Bolton, B.L., and Latz, P.K. (1978). The Western Hare-Wallaby *Lagorchestes hirsutus* (Gould) (Macropodidae), in the Tanami Desert. *Australian Wildlife Research* **5**, 285-293.
- Burbidge, A.A., Johnson, K.A., Fuller, P.F. and Southgate, R.I. (1988). Aboriginal knowledge of animals of the central deserts of Australia. *Australian Wildlife Research* **15**, 9-39.
- Gibson, D.F., Johnson, K.A., Langford, D.G., Cole, J.R., Clarke, D.E., and Willowra Community. (1994). The rufous hare-wallaby *Lagorchestes hirsutus*: a history of experimental reintroduction in the Tanami Desert, Northern Territory. In *Reintroduction biology of Australian and New Zealand fauna*. (ed. M. Serena.) pp. 171-176. (Surrey Beatty & Sons, Chipping Norton.)
- Johnson, K.A. (1988). Rare and Endangered: Rufous Hare-wallaby. *Australian Natural History*. **22**, 406-407.
- Langford, D.G., and Burbidge, A.A. (2001). Translocation of Mala *Lagorchestes hirsutus* from the Tanami Desert, Northern Territory to Trimouille Island, Western Australia. *Australian Mammalogy* **23**, 37-46.
- Loorham, C. (1985). The Warlpiri and the rufoushare-wallaby. *Habitat* **13**, 8-9.
- Lundie-Jenkins, G. (1993). Ecology of the rufous hare-wallaby, *Lagorchestes hirsutus* Gould (Marsupialia: Macropodidae) in the Tanami Desert, N.T.. I. Patterns of habitat use. *Wildlife Research* **20**, 457-476.
- Lundie-Jenkins, G. (1996). Developing and implementing a recovery plan: the Mala recovery program. In *Back from the brink: refining the threatened species recovery process*. (eds S. Stephens and S. Maxwell.) pp. 162-169. (Surrey Beatty & Sons, Chipping Norton.)
- Lundie-Jenkins, G., Phillips, C.M., and Jarman, P.J. (1993a). Ecology of the rufous hare-wallaby, *Lagorchestes hirsutus* Gould (Marsupialia: Macropodidae) in the Tanami Desert, N.T. II. Diet and feeding strategy. *Wildlife Research* **20**, 477-494.
- Lundie-Jenkins, G., Corbett, L.K., and Phillips, C.M. (1993b). Ecology of the rufous hare-wallaby, *Lagorchestes hirsutus* Gould (Marsupialia: Macropodidae) in the Tanami Desert, N.T. III. Interactions with introduced mammal species. *Wildlife Research* **20**, 495-511.
- Short, J., and Turner, B. (1992). The distribution and abundance of the Banded and Rufous Hare-wallabies. *Biological Conservation* **60**, 157-166.
- Short, J., Bradshaw, S.D., Prince, R.I.T., and Wilson, G.R. (1992). Reintroduction of macropods (Marsupialia: Macropodidae) in Australia - A review. *Biological Conservation* **62**, 189-204.