



Rufous Hare-wallaby or Mala *Lagorchestes hirsutus* (Gould, 1844)



Photo: Babs & Bert Wells/DEC

Size

Bernier and Dorre Islands:

Head and body length

310-360 (330) mm in males

360-390 (375) mm in females

Tail length

260-280 (270) mm in males

245-305 (275) mm in females

Weight

Bernier and Dorre Islands:

1.3-1.8 (1.6) kg in males

0.8-1.9 (1.7) kg in females

Tanami Desert:

0.8-1.6 (1.2) kg in males

0.9-1.3 (1.1) kg in females

Subspecies

Two are currently recognised:

- *Lagorchestes hirsutus bernieri*, from Bernier and Dorre Island (Western Australia)
- *Lagorchestes hirsutus* unnamed ssp (extinct in the wild, mainland Australia)

The taxonomy of the extinct mainland Western Australian population is under debate and is hampered by the rarity of specimens.

The occurrences on Bernier and Dorre Islands were previously considered separate subspecies but are now considered the same.

Description

Small macropod, rufous above including head and paler below. Animals from Bernier and Dorre Islands are larger and are grey-brown above with a dark grey head. Fur is long and soft.

Other Common Names

At least 30 indigenous names exist for this macropod, including the most commonly used, Mala.

Distribution

On the mainland the Mala was distributed throughout the spinifex deserts of central Northern Territory, the Great Sandy and Gibson Deserts of Western Australia, and the north-western parts of South Australia.

The Mala now survives on Bernier and Dorre Islands, and animals from central Australia have been translocated to Trimouille Island in the Montebello Islands (Western Australia). Other populations on the mainland only exist as captive colonies following the extinction of the last two known populations in the Northern Territory following fox predation and fire.

For further information regarding the distribution of this species please refer to www.naturemap.dpaw.wa.gov.au

Habitat

On Bernier and Dorre Islands the Rufous Hare-wallaby is found in dune habitat and hummock grasslands, and myrtaceous heath and spinifex on sandplains. On the mainland it inhabited spinifex and hummock grasslands of the central deserts interspersed with sand dunes, salt pans and saline samphire areas. In south-western Australia, they occurred on sand plains with low, woody shrubs.

Behaviour

The Rufous Hare-wallaby shelters during the day in a shallow depression (squat) dug under a spinifex hummock or low shrub. This may be developed into a short burrow, particularly in the heat of summer. The hare-wallabies often use more than one squat. When flushed from their hide, they escape in an explosive zigzag burst of speed, often uttering a high-pitched nasal squeak.

The species is relatively solitary with few interactions between individuals, although limited social contact occurs among captive individuals. Males occupy an exclusive home range (area of occupancy) which encompasses the home ranges of several females. Females with pouch young have been observed on occasion to eject young when placed under stress. Activity occurs from dusk to dawn. Some evidence suggests there is a degree of hierarchy among males in relation to access to females and feeding stations.

Diet

The diet is flexible and allows the species to exploit food resources whose availability is often limited in arid environments. Perennial grasses appear to be important in the diet, along with grass seeds and the seeds and bulbs of sedges. Insects may also be eaten during dry periods. The species is able to cope with a high fibre diet of spinifex but prefers the more nutritious foods mentioned above.

Breeding

Breeding is continuous for the mainland populations under favourable conditions. Females are polyoestrous, and embryonic diapause has been recorded. There is a relatively short gestation period and young remain in the pouch for only 124 days, allowing the female to produce up to three offspring per year. Females become reproductively mature at 5-23 months and males at 14-19 months.

Threatening processes

On the mainland habitat degradation due to rabbits, grazing and frequent and extensive wildfire have reduced populations of Mala. In addition, predation by cats and foxes has forced remnant populations to extinction. Populations on Bernier and Dorre Islands fluctuate dramatically in response to drought, fire and rainfall.

Conservation status

Lagorchestes hirsutus

IUCN Red List of Threatened Species
Vulnerable (Version 3.1)

Lagorchestes hirsutus unnamed ssp

Western Australian Wildlife Conservation Act 1950
Schedule 1 – Fauna that is rare or is likely to become extinct
(Threatened ranked as Endangered)

Environment Protection and Biodiversity Conservation Act 1999
Endangered

Lagorchestes hirsutus bernieri

Western Australian Wildlife Conservation Act 1950
Schedule 1 – Fauna that is rare or is likely to become extinct
(Threatened ranked as Vulnerable)

Environment Protection and Biodiversity Conservation Act 1999
Vulnerable

Management in Western Australia

The Mala is a taxa included in the Shark Bay Mammals Recovery Plan that has been drafted. Management actions proposed, currently underway or have been undertaken include:

- Protect wild populations and their habitat.
- Maintain captive populations
- Undertake reintroduction to suitable mainland and islands sites.
- Use population viability analysis (PVA) to compare the viability of wild as well as current and potential reintroduced populations.

Other Interesting Facts

- The Rufous Hare-wallaby has decreased since the 1930s from being one of the most abundant and widespread macropods of central Australia to one of the rarest and most limited in its distribution.
- In the central deserts, Aborigines hunted the hare-wallabies by tracking them to their hides and either stamping on them, or on the entrance to their burrows and digging them out. Aborigines also lit fires to drive Mala towards hunters.

Selected references

- Burbidge, A., Langford, D. and Fuller, P. (1999). Moving Mala. *Landscape* 14(3): 17.
- Johnson, K.A. and Burbidge, A.A. (2008). Rufous Hare-wallaby. In Van Dyck, S. and R. Strahan (Eds.) *The Mammals of Australia*. Reed New Holland. Sydney.
- Lundie-Jenkins G. (1993). Observations on the behaviour of the Rufous Hare-wallaby, *Lagorchestes hirsutus* Gould (Macropodidae: Marsupialia) in captivity. *Australian Mammalogy* 16: 29-34.
- Lundie-Jenkins G. (1993). Reproduction and growth to sexual maturity in the Rufous Hare-wallaby *Lagorchestes hirsutus* Gould (Macropodidae: Marsupialia) in captivity. *Australian Mammalogy*. 16: 45-49.
- Lundie-Jenkins G, Phillips C.M, Jarman P.J. (1993). Ecology of the Rufous Hare-wallaby, *Lagorchestes hirsutus* Gould (Macropodidae: Marsupialia), in the Tanami Desert, Northern Territory. II. Diet and feeding strategy. *Wildlife Research* 20: 477-494.
- Richards, J.D., Short, J., Prince, R.I.T., Friend, J.A. and Courtenay, J.M. (2003). The biology of the banded (*Lagostrophus fasciatus*) and rufous (*Lagorchestes hirsutus*) hare-wallabies (Diprotodontia: Macropodidae) on Dorre and Bernier Islands, Western Australia. *Wildlife Research* 28: 311-3

Last updated 8 February 2012, for further enquiries please contact fauna@dpaw.wa.gov.au

Further information

Contact your local office of the Department of Environment and Conservation.

See the department's website for the latest information: www.dec.wa.gov.au.

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