

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA



Sixteenth meeting of the Conference of the Parties
Bangkok (Thailand), 3-14 March 2013

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Delist the extinct *Macrotis leucura* from Appendix I in accordance with the Resolution Conf. 9.24 (Rev. CoP15). The species does not meet the biological criteria (Annex 1) and trade criteria (Annex 5) for Appendix I.

The precautionary measures referred to in Annex 4 A1 and D are not considered to be required for this proposal. Paragraph 1A requires species listed on Appendix I to be first transferred to Appendix II so that the impact of any trade can be monitored. Australia considers that it is not necessary to first transfer the species to Appendix II as it is extinct, has not been in trade and is never likely to be in trade. Paragraph D states that species regarded as possibly extinct should not be deleted from Appendix I if they may be affected by trade in the event of their rediscovery. Retaining the species on Appendix I with the annotation of 'possibly extinct' is not warranted because in the unlikely event of its rediscovery will not be affected by trade.

B. Proponent

Australia*, as requested by the Animals Committee, to delete the species from Appendix I (AC26 WG1 Doc. 2).

C. Supporting statement

1. Taxonomy

- | | |
|---------------------------|--|
| 1.1 Class: | Mammalia |
| 1.2 Order: | Peramelemorphia |
| 1.3 Family: | Thylacomyidae |
| 1.4 Species: | <i>Macrotis leucura</i> (Thomas, 1887) |
| 1.5 Scientific synonyms : | <i>Peragale leucura</i> Thomas, 1887
<i>Peragale minor</i> Spencer, 1897
<i>Thalacomys minor miselius</i> Finlayson, 1932
<i>Macrotis minor miseliae</i> Tate, 1948 |
| 1.6 Common names: | English: lesser bilby, lesser rabbit-eared bandicoot, white-tailed rabbit-eared bandicoot, yallara, lesser rabbit bandicoot.
French: bandicoot-lapin à queue blanche, bandicoot-lapin mineur, petit bandicoot-lapin, petit péramèle-lapin |

* The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat or the United Nations Environment Programme concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.

Spanish: cangurito narigudo coliblanco

1.7 Code numbers: A-102.004.004.002

2. Overview

As part of the periodic review of the Appendices, the Animals Committee recommended that the extinct lesser bilby (*Macrotis leucura*) be removed from Appendix I (AC 26 WG1 Doc. 2). The recommendation was made based on information provided by the Australian CITES Scientific Authority for consideration at the 26th meeting of the Animals Committee (Geneva, March 2012).

M. leucura was one of many species nominated by Australia for inclusion in the Appendices when CITES first came into force on 1 July 1975. It was listed as a precautionary measure as the species was not subject to trade and at the time, was considered extinct.

The lesser bilby was one of two species in the family Thylacomyidae; the other species being the greater bilby (*M. lagotis*). Both species are characterised by their notably long ears which are 50 – 66% of their body length, pointed snouts, long tails and silky fur (Johnson, 1989; Johnson, 1998). The greater bilby persists throughout parts of its former range, however, the lesser bilby is now extinct. The lesser bilby was last seen alive in the wild in 1931 although some reports suggest that it persisted in some areas until the 1960s (Burbidge, 1988).

M. leucura was formerly distributed over two regions in arid Australia: the northeast South Australia and adjoining southeast Northern Territory; and the Gibson and Great Sandy Deserts of Western Australia and adjoining regions of the Northern Territory (Parker, 1973; Aitken, 1979; Johnson and Southgate, 1990). It differed from the greater bilby in that it was smaller in size, tan in colouration with a wholly white tail and its tail was proportionately longer (Johnson, 1998). It also retreated into burrows that were covered at the entrance whereas the greater bilby has open burrows (Johnson, 1998). The lesser bilby is reported to have had a strong smell that was not observed in the greater bilby (Finlayson, 1935).

The primary cause of the extinction of the lesser bilby is most likely due to predation by feral cats (*Felis catus*) and European red foxes (*Vulpes vulpes*) (Pavey, 2006a). Altered fire regimes and feral dromedary camels (*Camelus dromedarius*) are threats to the vegetation that occurs in the former range of the lesser bilby and may have contributed to their extinction (Graham, 2001; Kendrick, 2001). The lesser bilby was also reportedly eaten by Aboriginal people in some areas (Finlayson, 1935). Consequently, trade was not considered to be a factor causing the extinction of the species and is not considered to be a risk in the highly unlikely event that the species is rediscovered.

3. Species characteristics

3.1 Distribution

M. leucura was described by Oldfield Thomas as "*Peragale leucura*" in 1887 from a single specimen in a collection of mammals of the British Museum from an unknown locality (Thomas, 1887). A second specimen was collected at Mungerani, east of Lake Eyre, in 1924 (Harper, 1945). A further 12 specimens were collected by Finlayson from near Cooncherie on the lower Diamantina River in northeastern South Australia (Finlayson, 1935). The most recent record is a skull of unknown age found in 1967 in a Wedge-tailed Eagle's nest south-west of Alice Springs at the edge of the Simpson Desert, Northern Territory (Johnson, 1998).

The total range of the lesser bilby extended over two regions in arid Australia: the northeast of South Australia and adjoining southeast Northern Territory; the Gibson and Great Sandy Deserts of Western Australia; and adjoining areas of the Northern Territory (Parker, 1973; Aitken, 1979; Johnson and Southgate, 1990).

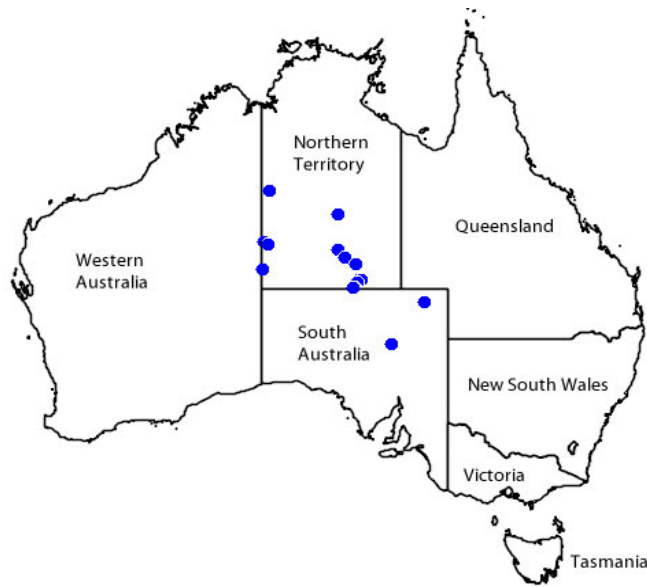


Figure 1 Map of occurrence records for the lesser bilby, *M. leucura* (Atlas of Living Australia, 2012).

3.2 Habitat

The lesser bilby inhabited sandridge desert with spinifex grassland (Finlayson, 1935; Aitken, 1979) and sometimes with mulga or tussock grass (Burbidge *et al.*, 1988). Its burrows were restricted to the sandhills, whereas *M. lagotis* burrowed only in loamy flats between the dunes (Johnson, 1998).

3.3 Biological characteristics

Little is known about the biology of the lesser bilby. Females had a rear opening pouch and possessed eight teats in two rows. Spencer (1896) recorded one set of triplets and one set of twins. Finlayson (1935) recorded one set of twins and one single young. Females excavated from burrows were either alone or with dependent young and hence it is likely that the social structure was based on single individuals or pairs (Johnson, 1998).

The lesser bilby rested in a burrow which was different from that of *M. lagotis* in that it closed the entrance whilst in residence or during windy conditions so that the only indication of the burrow was a dimple in the sand (Johnson, 1998). Finlayson (1935) described the burrows as descended steeply for about 600 mm from the entrance then turned sharply sometimes in a vertical plane and sometimes in a horizontal plane. The lesser bilby did not construct pop-holes or vent shafts and had no nest or dwelling within its burrow (Johnson, 1998). Spencer (1836) reported that in winter the animal lies within 300 mm or so of the entrance of the burrow and Aborigines exploited this fact by jumping on the surface behind the animal to cut off its retreat. The lesser bilby moved with a seemingly awkward stiff-legged gait; however, they could show short bursts of surprising speed (Johnson, 1989).

The lesser bilby was strictly nocturnal and reportedly ate small rodents, seeds, termites, ants and other insects (Finlayson, 1935; Dixon, 1988). Aboriginal people believed that the lesser bilby ate termites, ants and roots (Burbidge *et al.*, 1988). The greater bilby (and presumably also the lesser bilby) has a reduced metabolism compared to the already low level of marsupials which has been suggested to be an adaptation to the energy constraints of their arid environment (Hulbert and Dawson, 1974).

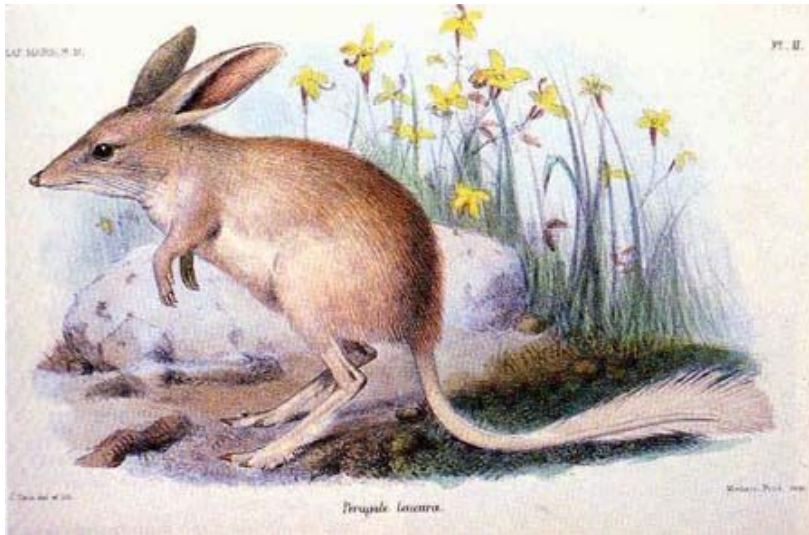


Figure 2 Lesser bilby by John Gould (Richter, 1863).

3.4 Morphological characteristics

Bilbies are characterised by their notably long ears which are 50 – 66% of their body length, pointed snouts, long tails and silky fur (Johnson, 1989; Johnson, 1998). Specimens of *M. leucura* are smaller than *M. lagotis* with males weighing between 360 – 411g and females around 311g (Johnson, 1998). The very young holotype described by Thomas (1887) had a head and body length of 142 mm and tail length of 166 mm. Adult females tended to be smaller than males with a head and body length of 240 – 270 mm for males and 200 – 240 mm for females (Johnson, 1998). The tail was long and slender making up about five-sixths the length of the head and body, and was proportionately longer compared to *M. lagotis* (Troughton, 1933). The tail was typically 125 – 170 mm in length for males and 120 – 150 mm in length for females (Johnson, 1998).

M. leucura is distinguished from *M. lagotis* by having a wholly white tail. The fur is long, silky and with no guard hairs (Finlayson, 1932). The general colour is a pale yellow fawn with limbs and underparts pure white or yellowish white (Harper, 1945). The skull is small and delicate compared with young *M. lagotis* although the general characters are similar. The dentition differed from *M. lagotis* in that the molars formed roots early in young adults and the crowns were more cuspidate (Troughton, 1933).

3.5 Role of the species in its ecosystem

The lesser bilby was known to eat seeds, ants, termites and other insects (Finlayson, 1935; Dixon, 1988). It is likely to have been predated by feral cats and foxes which is the most likely cause of its extinction. It was also reportedly eaten by Aborigines (Spencer, 1836).

4. Status and trends

4.1 Habitat trends

There is no information regarding changes in the habitat of the lesser bilby. Changed fire regimes may have altered the vegetation and contributed to their extinction, however, introduced predators (i.e. feral cats and the European red fox) are more likely to have been the primary cause of their extinction (Pavey, 2006a).

4.2 Population size

There was no information recorded on the size of the populations of the lesser bilby before they went extinct. Finlayson (1935) reported that the lesser bilby was plentiful around Cooncherie on the lower Diamantina River in northeastern South Australia.

4.3 Population structure

There is no information available on the population structure of *M. leucura*.

4.4 Population trends

There is no information available on the population trends of *M. leucura*.

4.5 Geographic trends

The lesser bilby disappeared between the 1920s and 1960s. Aboriginal people reported their last sightings for central Western Australia as: Clutterbuck Hills, 1960s; north of Rawlinson Range, 1950s; Walter James Range, 1950s; Great Sandy Desert between Southesk Tablelands and Jupiter Wells, 1940s; Murray Bore (south of Blackstone), late 1920s (Burbidge *et al.*, 1988).

5. Threats

The exact cause for the decline and extinction of the lesser bilby is not known. It seems likely that the main cause was the invasion by introduced predators namely feral cats and European red foxes (The IUCN Mammal Red Data Book, 1982). Introduced dromedary camels and changed fire regimes are threats to vegetation in the former range of the lesser bilby (Kendrick, 2001; Graham, 2001).

6. Utilization and trade

6.1 National utilization

There is no trade in the lesser bilby as the species is considered extinct. Historical data indicates that the species was never subject to trade (Burbidge *et al.*, 1988). The lesser bilby was reportedly used as food by Aboriginal people in some regions (Finlayson, 1935).

6.2 Legal trade

There are no records of legal trade in *M. leucura*.

6.3 Parts and derivatives in trade

There were no part or derivatives of the lesser bilby used in trade.

6.4 Illegal trade

There was, and is currently, no indication of illegal trade in the lesser bilby. Illegal trade is not considered to have been a factor in the lesser bilby's extinction.

6.5 Actual or potential trade impacts

The lesser bilby was not subject to trade before its extinction. Should the species be rediscovered, it is unlikely that there would be any trade activity for this species. Any potential trade in this species would be strictly regulated under domestic Australian law.

7. Legal instruments

7.1 National

The lesser bilby, *Macrotis leucura*, is listed nationally as Extinct under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

7.2 International

The species is listed as Extinct under the International Union for Conservation of Nature (IUCN) Red List 2012 (Burbidge *et al.*, 2008). *M. leucura* is listed in Appendix I under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Permits are required for the import and export of CITES Appendix I listed species.

8. Species management

8.1 Management measures

No management measures are currently taking place as the species is considered to be extinct.

8.2 Population monitoring

The species is considered to be extinct. Numerous surveys have been conducted for bilbies including across the former range of the lesser bilby in the deserts of the Northern Territory and Western Australia. Some of these surveys have found the greater bilby *M. lagotis* but all surveys to date have failed to find the lesser bilby, *M. leucura* (Southgate *et al.*, 2005; Pavey, 2006b).

8.3 Control measures

8.3.1 International

The EPBC Act regulates trade in CITES listed and Australian native wildlife and their products. Export of live Australian native mammals is strictly prohibited for commercial purposes but may be exported for specific non-commercial purposes (e.g. for research, education or exhibition). As an Australian native mammal an Australian export permit will be required for the export of *M. leucura* even if it were delisted from CITES.

8.3.2 Domestic

Should the lesser bilby be rediscovered, any take from the wild would be strictly regulated by relevant Australian domestic environmental legislation.

8.4 Captive breeding and artificial propagation

Captive breeding programs were not established before the extinction of *M. leucura* between the 1930s and 1960s.

8.5 Habitat conservation

Suitable habitat for the lesser bilby with intact vegetation still remains throughout its former range.

8.6 Safeguards

Should the species be rediscovered, *M. leucura* will be afforded protection from international trade by provisions of the EPBC Act.

9. Information on similar species

M. leucura was readily distinguished from the still surviving *M. lagotis* by its size and colouration. *M. leucura* was considerably smaller in size compared to *M. lagotis*. Maximum weights for *M. leucura* were 435g and 311g for males and females respectively. In comparison, male *M. lagotis* can weigh as much as 2500g and females up to 1100g (Johnson, 1998).

The tail of *M. leucura* was wholly white in coloration, whereas the tail of *M. lagotis* was black at the base and changed abruptly to white approximately halfway along its length. *M. leucura* also had a longer tail in proportion to its body compared to *M. lagotis* (Troughton, 1933). Finlayson (1935) noted that *M. lagotis* lacked the strong smell of *M. leucura*.

10. Consultations

The species was endemic to Australia prior to its extinction and hence consultation with other range States is not required.

11. Additional remarks

None

12. References

- Aitken, P. 1979. The status of endangered Australian wombats, bandicoots, and the marsupial mole. Pp. 61-65 *In* Tyler, M.J. (ed.). *The status of endangered Australasian wildlife*. Royal zoological Society of South Australia, Adelaide.
- Atlas of Living Australia website at <http://bie.ala.org.au/species/Onychogalea+lunata> Accessed 2 October 2012
- Burbidge, A.A., Johnson, K.A., Fuller, P.J. and Southgate, R.I. 1988. Aboriginal knowledge of the mammals of the central deserts of Australia. *Australian Wildlife Research* 15: 9-39.
- Burbidge, A., Johnson, K. and Dickman, C. 2008. *Macrotis leucura*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.1. <http://www.iucnredlist.org>. Downloaded on 24 August 2012.
- Finlayson, H.H. 1932. Preliminary descriptions of two new mammals from South Australia. 1. *Thalacomys minor* var. *miselius* (subsp. nov.). 2. *Pseudomys* (*Gyomys*) *apodemoides* (sp. nov.). *Transactions of the Royal Society of South Australia* 56: 168-171.
- Finlayson, H.H. 1935. On mammals from the Lake Eyre Basin. Part II – The Peramelidae. *Transactions of the Royal Society of South Australia* 59: 277-236.
- Graham, G. 2001. Great Sandy Desert 1. (GSD1 – McLarty subregion). Department of Environment and Conservation, Western Australia.
- Harper, F. 1945. *Extinct and vanishing mammals of the Old World*. Special Publication No. 12. American Committee for International Wild Life Protection, New York.
- Hulbert, A.J. and Dawson, T.J. 1974. Standard metabolism and body temperature of perameloid marsupials from different environments. *Comparative Biochemistry and Physiology* 47A: 585-590.
- Johnson, K.A. 1989. Chapter 25. Thylacomyidae. *In* Walton, D.W. and Richardson, B.J. (eds.) *Fauna of Australia Volume 1B. Mammalia*. CSIRO Publishing/Australian Biological Resources Study, Canberra.
- Johnson, K.A. 1998. Lesser Bilby. *In* Strahan, R. (ed.) *The Mammals of Australia*. Australian Museum/Reed New Holland Publishers Pty Ltd, Sydney.
- Johnson, K.A. and Southgate, R.I. 1990. Present and former status of bandicoots in the Northern Territory pp. 85-92 *In* Seebeck, J.H., Brown, P.R., Wallis, R.L., and Kemper, C.M. (eds.) *Bandicoots and Bilbies*. Surrey Beatty and Sons, Sydney.
- Kendrick, P. 2001. Great Sandy Desert 2 (GSD 2 – Mackay subregion). Department of Environment and Conservation, Western Australia.
- Parker, S.A. 1973. An annotated checklist of the native land mammals of the Northern Territory. *Records of the South Australian Museum* 16: 1-57.
- Pavey, C. 2006a. Lesser Bilby. *Macrotis leucura*. Threatened Species of the Northern Territory. Department of Natural Resources, Environment and the Arts. Available at: http://www.nretas.nt.gov.au/__data/assets/pdf_file/0014/10805/lesser_bilby_ex.pdf . Downloaded 17 August 2012.
- Pavey 2006b. National Recovery Plan for the Greater Bilby *Macrotis lagotis*. Northern Territory Department of Natural Resources, Environment and the Arts.
- Richter, H.C. 1863. Mammals of Australia by John Gould. Volume II. Plate 66. Published by the author, London.
- Southgate, R., Paltridge, R., Masters, P. and Nano, T. 2005. An evaluation of transect, plot and aerial survey techniques to monitor the spatial pattern and status of the bilby (*Macrotis lagotis*) in the Tanami Desert. *Wildlife Research* 32, 43-52.
- Spencer, B. 1896 Mammalia. *In* *Report on the work of the Horn Scientific Expedition to Central Australia, pt. 2, zoology*. pp 52. London and Melbourne.
- Spencer, B. 1897. Description of two new species of marsupials from Central Australia. *Proceedings of the Royal Society of Victoria* ns 9: 5-11.
- Tate, G.H.H. 1948. Results of the Archbold Expeditions. No. 60 Studies in the Peramelidae (Marsupialia). *Bulletin of the American Museum of Natural History* 92: 313-346.
- The IUCN Mammal Red Data Book. 1982. Part I: Threatened mammalian taxa of the Americas and the Australasian zoogeographic region (excluding Cetacea). IUCN Gland, Switzerland.

- Thomas, O. 1887 Description of a second species of rabbit-bandicoot (*Peragale*). *Annals and Magazine of Natural History* 5 19: 397-399.
- Troughton, E.L.G. 1933. A revision of the rabbit-bandicoots. Family Peramelidae. Genus *Macrotis*. *The Australian Zoologist* 7: 234-236.