

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

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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 *Onychogalea lunata* 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:               | Diprotodontia   |
| 1.3 Family:              | Macropodidae  |
| 1.4 Species:             | <i>Onychogalea lunata</i> (Gould, 1841)   |
| 1.5 Scientific synonyms: | <i>Macropus lunatus</i> Gould, 1841   |
| 1.6 Common names:        | English: crescent nailtail wallaby, lunated nailtail wallaby, scrub' wallaby, wurrung<br>French: onychogale croissant, wallaby à queue cornée<br>Spanish: canguro rabipelado occidental |
| 1.7 Code numbers:        | A-102.012.013.002 (CITES identification manual)   |

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\* 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.

## 2. Overview

As part of the periodic review of the Appendices, the Animals Committee recommended that the extinct crescent naitail wallaby (*Onychogalea lunata*) 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 26<sup>th</sup> meeting of the Animals Committee (Geneva, March 2012).

*O. lunata* 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 to be extinct.

The crescent naitail wallaby formerly occurred over a large part of arid and semi-arid Australia. Little scientific information has been published on the species (Burbidge *et al.*, 1988). It was regarded as common in south-western Australia, where it went into rapid decline commensurate with large-scale land clearing in the late 19<sup>th</sup> century. It persisted in remote arid areas of Western and South Australia until the early 20<sup>th</sup> century, when several specimens were collected for museums (Burbidge, 2008).

By the 1940s it had disappeared from western deserts and the last reliable record was in 1956 (Burbidge, 2008). The crescent naitail wallaby has not been reliably recorded since 1956 and is considered to be extinct (Burbidge and Johnson, 2008). The actual reasons for its decline and extinction are unknown, but are likely to be a combination of factors including habitat modification, predation by feral animals and possibly hunting by Australian Aboriginals (food and skin) and European settlers (sport hunting) (Morton, 1990; Tunbridge, 1991). Consequently, trade was not considered to be a factor in 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

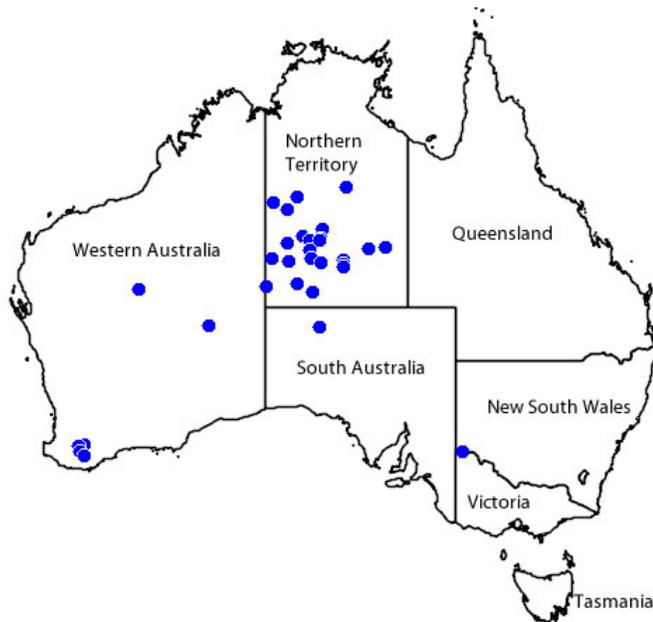


Figure 1 Map of occurrence records for the crescent naitail wallaby, *O. lunata*. (Atlas of Living Australia, 2012).

The crescent naitail wallaby formerly occurred in a vast area of the arid and semi-arid zones in the western half of Australia, mainly outside of the tropics. It probably occurred across most of inland Western Australia, south-western Northern Territory, most of South Australia (except the north-east), south-western New South Wales and the north-western corner of Victoria (Burbidge, 2008). It was apparently absent from the Little Sandy Desert and Great Sandy Desert (Burbidge *et al.*, 1988). Specimens were collected in the: Everard and Musgrave Ranges (north-western South Australia); 'the centre'; near Alice Springs, Northern Territory; near Rawlinna on the Nullarbor Plain, and the

Cavenagh Range, Western Australia (with an unsubstantiated record from the Warburton Range); and 'between the Tarlton and Jervois Ranges', Northern Territory (Burbidge, 2008). It occurred in the Flinders Ranges and on Yorke and Eyre Peninsulas, South Australia (Tunbridge, 1991).

Subfossil deposits have been uncovered throughout the Nullarbor Plain, Western Australia (Burbidge, 2008). The western boundary of its distribution appears to have been the Darling Range, Western Australia and there was a single record of it occurring in north-western Victoria (Biodiversity Heritage Library, 1945). Aboriginal people recalled its occurrence in central deserts of Western Australia, Northern Territory and north-western South Australia (Burbidge, 2008).

### 3.2 Habitat

Little is recorded about habitat preference of the crescent naitail wallaby. It is likely to have occurred in a wide range of different habitats in semi-arid and arid Australia. According to Aboriginal people of the central deserts, it occupied most types of country, including stony hills, but was most abundant among mulga shrubland (Burbidge *et al.*, 1988). The few written descriptions of its habitat state a preference for woodlands or 'open timbered country' where patches of thick scrub, and hollow logs and trees, provided shelter (Burbidge, 2008). Leake (1962) stated that it inhabited open timbered country with tussocks. Tunbridge (1991) stated that it inhabited 'thick scrub and dense thickets', 'mulga country' and 'areas near creeks with River Gums'.

### 3.3 Biological characteristics

Little is known about the biology of the crescent naitail wallaby. Aboriginal people in the western deserts said it ate grass (Burbidge, 2008). This is supported by analysis of *Onychogalea* dentition (Sanson, 1989). It was reported to sun itself in glades in eucalypt woodlands, retreating to shelter in dense scrub when alarmed (Burbidge, 2008). It rested in hollows formed in soft soil under shrubs; *Onychogalea* wallabies have elongated forepaws commensurate with digging scrapes (Strahan, 2008). Aboriginal people stated that it lay on its side in shade under low vegetation, such as a shrub or spinifex hummock (Burbidge, 1988). Hollow logs were also used for shelter (Burbidge, 1988) and it is recorded as clambering up a considerable distance inside hollow trunks to escape predators (Leake, 1962). Nothing is recorded of its breeding biology.

### 3.4 Morphological characteristics



Figure 2 Crescent naitail wallaby by John Gould (Richter, 1863).

The crescent naitail wallaby was a small macropod (hopping marsupial) with a horny growth at the end of its tail, a characteristic unique to the genus *Onychogalea* (Strahan, 2008). It was ash-grey above, pale-grey to whitish below, with rich rufous flanks and sides of the neck. It had a crescent-shaped white shoulder patch, a pale hip stripe and another stripe above it. Its facial markings

consisted of a black eyestripe bordered above and below with white. Its tail was uniform grey (Biodiversity Heritage Library, 1945). Tunbridge (1991) reported it had white forepaws and a crest along the dorsal surface of its tail. Its head-body length was 371–508 mm, its tail measured 153–330 mm and it weighed about 3.5 kg (Burbidge, 2008).

### 3.5 Role of the species in its ecosystem

Nothing is known of the crescent naitail wallaby's role in the ecosystem. It co-existed with numerous other species of large and small macropod across its former range, and presumably occupied a grazing niche. In Western Australia it shared habitat with the tammar wallaby (*Macropus eugenii*) and was often seen in its close proximity (Biodiversity Heritage Library, 1945).

## 4. Status and trends

### 4.1 Habitat trends

The crescent naitail wallaby's disappearance in south-western Australia followed massive land clearance and habitat loss in the second half of the 19<sup>th</sup> century (Burbidge, 2008). Its disappearance from the eastern extremity of its range is poorly documented, but settlement and habitat modification probably occurred earlier in New South Wales, South Australia and north-western Victoria, than in south-western Australia. Away from populated areas the crescent naitail wallaby occupied very remote country. Although most of this has been modified to varying extent by grazing and feral animals, there are still large areas in natural or near-natural condition. *Onychogalea* wallabies are adapted for grazing (Sanson, 1989). Successive droughts and modified fire regimes could have had a cumulative effect in depleting its primary food source and breeding habitat in some areas (Morton, 1990).

### 4.2 Population size

No estimates of population size are available for the crescent naitail wallaby.

### 4.3 Population structure

Nothing is known of the crescent naitail wallaby's population structure.

### 4.4 Population trends

There are no quantitative population trend data for this species. It declined at the eastern and western extremities of its range during the last two decades of the 19<sup>th</sup> century (Leake, 1962; Tunbridge, 1991; Burbidge, 2008). It was common in the south-west agricultural zone until after 1900. Thereafter its decline appears to have been precipitous; several specimens were collected between 1904 and 1907; the last Western Australian specimen was collected in the south-west in 1908 (Burbidge, 2008). Specimens were collected in 'South Australia' in 1888 and the Everard Range in the north-west of the state in 1891. It was reportedly common in the Flinders Ranges, with an estimated date of extinction there of 1880–90 (Tunbridge, 1991). *O. lunata* was reported from 'the centre' in 1884 (Burbidge, 2008). In the Northern Territory it was recorded near Alice Springs in 1894 (Gibson and Cole, 1996). It persisted in remote parts of South Australia and Western Australia until the late 1920s. A specimen was shot on the Nullarbor Plain in 1927 or 1928, and in the 1930s the species was reported still to occur near the Everard and Musgrave Ranges, South Australia, and the Cavenagh Range, Western Australia. It was reported to be in small numbers in the southern Flinders Ranges-Northern Mt Lofty region of South Australia by 1941, although it had disappeared from South Australian coastal areas by about 1900 (Tunbridge, 1991). One was reportedly killed between the Tarlton and Jervis Ranges, Northern Territory in or about 1956 (Finlayson, 1961). Unsubstantiated reports came from the Carnarvon Range, Western Australia in the 1960s (Tunbridge, 1991) and the Warburton Ranges, WA in 1964 (Burbidge, 2008), but there have been no further verifiable records. Aboriginal people reported the crescent naitail wallaby had disappeared from the Flinders Ranges of South Australia by the 1890s and from western deserts by the 1940s (Burbidge *et al.*, 1988).

### 4.5 Geographic trends

No information is available on the geographic trend of this species.

## 5. Threats

The decline and disappearance of the crescent nailtail wallaby, particularly in remote areas, is mysterious and the causes for its extinction are unknown. The crescent nailtail wallaby fits into the critical weight range category (120–5000g) that would have made it vulnerable to predation by the introduced European red fox (*Vulpes vulpes*) and feral cat (*Felis catus*) (Morton, 1990). However, feral cats were recorded as early as 1894 in central Australia (Gibson and Cole, 1996) and therefore co-existed with *O. lunata* for up to 50 years before its extinction. The fox did not reach south-western Australia until 1924 (Leake, 1962), well after the disappearance of *O. lunata*. It has not been explained why *O. lunata* should have succumbed to predation from introduced predators and not the dingo (*Canis lupus dingo*), with which it had coexisted for millennia and which Aboriginal hunters used to hunt *O. lunata* (Tunbridge, 1991).

Indigenous people hunted *O. lunata* for food and skins (Leake, 1962; Burbidge *et al.*, 1988; Tunbridge, 1991). Hunting for sport by white settlers occurred (Tunbridge, 1991). A model developed by Morton (1990) to explain extinction of critical weight range mammals such as *O. lunata* postulated that they succumbed to the cumulative effects of competition for grazing with introduced herbivores (e.g. rabbits, sheep); habitat loss exacerbated by overgrazing, erosion, altered fire regimes and drought; loss of habitat mosaic which formerly provided drought refuges; and predation by introduced predators.

## 6. Utilization and trade

### 6.1 National utilization

There is no trade in the crescent nailtail wallaby as the species is considered extinct. There is no historical evidence that the species was ever subject to trade. The crescent nailtail wallaby was hunted for food by the Australian Aboriginals (Tunbridge, 1991; Burbidge, 1988; 2008; Leake, 1962).

### 6.2 Legal trade

There are no records of legal trade in *O. lunata*.

### 6.3 Parts and derivatives in trade

No parts or derivatives of the crescent nailtail wallaby were used in trade.

### 6.4 Illegal trade

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

### 6.5 Actual or potential trade impacts

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

## 7. Legal instruments

### 7.1 National

The crescent nailtail wallaby *O. lunata* is listed nationally as Extinct under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

### 7.2 International

The crescent nailtail wallaby is listed as Extinct under the International Union for Conservation of Nature (IUCN) Red List 2012 (Burbidge and Johnson, 2008). *O. lunata* is listed in Appendix I under CITES. Permits are required for the import and export of CITES Appendix 1 listed species.

## 8. Species management

### 8.1 Management measures

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

### 8.2 Population monitoring

The species is considered extinct.

### 8.3 Control measures

#### 8.3.1 International

The EPBC Act regulates trade in CITES listed and Australian native wildlife and wildlife 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 would be required for the export of *O. lunata* even if it were delisted from CITES.

#### 8.3.2 Domestic

Should the crescent nailtail wallaby be rediscovered, any take 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 *O. lunata*.

### 8.5 Habitat conservation

Large tracts of central Australia where *O. lunata* once occurred are protected as national parks, nature reserves or other conservation areas. However, these areas are not managed for feral predator control and are subject to stochastic events that have been implicated in the extinction of critical weight range Australian native mammals (Morton, 1990). No specific habitat conservation measures for this species are being undertaken across its former range.

### 8.6 Safeguards

Should the crescent nailtail wallaby be rediscovered, it would be afforded protection from international trade by provisions of Australian wildlife law (the EPBC Act).

## 9. Information on similar species

The genus *Onychogalea* includes two other endemic, extant Australian wallaby species: northern nailtail wallaby *O. unguifera* and bridled nailtail wallaby *O. fraenata*.

*Onychogalea* wallabies are characterised by: bold markings; a small, horny spur at the tip of the tail; very slender, forward-inclined upper incisors commensurate with grazing as a primary source of nutrition (Sanson, 1989); and long, strongly developed forepaws for digging scrapes in which they rest during the day (Strahan, 2008).

The bridled nailtail wallaby *O. fraenata* was formerly distributed across a large part of inland eastern Australia. It was hunted extensively and thought extinct until its rediscovery in 1973. It now survives only in two small protected areas in western Queensland (Strahan, 2008). *O. unguifera* has a wide distribution across tropical Australia, where it inhabits savannahs and grasslands. It is not threatened but is apparently uncommon in parts of its range (Strahan, 2008).

## 10. Consultations

The species was endemic to Australia before its extinction and therefore consultation with range States was not required.

11. Additional comments

None.

12. References

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