

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 *Pteropus brunneus* from Appendix II in accordance with the Resolution Conf. 9.24 (Rev. CoP15) as it is no longer considered to be a valid species and therefore does not meet the trade criteria (Annexes 2a and 2b) for inclusion in Appendix II.

B. Proponent

Australia\*, as requested by the Animals Committee, to delete *P. brunneus* from Appendix II (AC26 WG1 Doc. 2).

C. Supporting statement

1. Taxonomy

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|--------------------------|---|
| 1.1 Class:               | Mammalia  |
| 1.2 Order:               | Chiroptera  |
| 1.3 Family:              | Pteropodidae  |
| 1.4 Species:             | <i>Pteropus brunneus</i> Dobson, 1878   |
| 1.5 Scientific synonyms: | <i>Pteropus gouldi</i> (in error)   |
| 1.6 Common names:        | English: Percy Island flying-fox, dusky flying-fox<br>Spanish: Zorro volador de las islas Percy<br>Swedish: Percyflyghund |
| 1.7 Code numbers:        | none listed in CITES identification manual  |

2. Overview

As part of the periodic review of the Appendices, the Animals Committee recommended that the Percy Island flying-fox be removed from Appendix II (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).

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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.

*P. brunneus* 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 approach, as the species was not subject to trade.

The Australian government does not regard *P. brunneus* as a valid species. If the Percy Island flying-fox ever existed, it is now extinct. It was delisted from Australia's national environmental law—the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on the basis of taxonomic uncertainty, the sole specimen's uncertain provenance and its similarity to the little red flying-fox (*P. scapulatus*) (TSSC, 2001).

*Pteropus brunneus* Dobson, 1878 was described from a single specimen of an adult male collected on 'Percy Island' (no further details) in 1859 by Captain Denham of HMS *Herald* (David, 1995; Conder, 2008). The specimen, consisting of a skull and skin erroneously labelled *P. gouldi*, was procured by the British Museum of Natural History in 1874 from Stevens' Sales Rooms (Conder, 2008). No other specimens of *P. brunneus* are known and it is presumed to be a mistakenly identified specimen of the widespread little red flying-fox *P. scapulatus*.

A description of the specimen (held in the British Museum of Natural History) appears in Conder (2008). There were no subsequent records of the species apart from a second-hand report in Lucas (1897). The specimen closely resembles the little red flying-fox (*P. scapulatus*) in appearance; its morphometrics fall within known parameters of *P. scapulatus*; and the Queensland coast opposite the Percy Islands falls within the normal geographical distribution of *P. scapulatus* (Churchill, 2008). The Percy Island flying-fox was therefore probably described in error and is not a valid species.

### 3. Species characteristics

#### 3.1 Distribution

The only information available on the geographical distribution of the Percy Island flying-fox, if it ever existed as a species, is 'Percy Island' (no further details), as marked on the label attached to the only known specimen (Conder, 2008). There is no Percy Island *per se*: the Percy Islands consist of a group of continental islands in the Northumberland Group, which lies between latitudes 21°S and 22°S. The three main islands, Middle, North East and South Percy, are about 75km east of the central Queensland coast; the nearest part of the mainland is about 50 km to the south-west at an unnamed point of Shoalwater Bay. On which of the three main islands in the group the specimen was collected was not specified by the collector, Captain Denham. Kendall Broadbent, a collector for the Queensland Museum, reported this species to be 'plentiful' on Percy Island and that he had seen this species flying between there and the mainland 'opposite' (Lucas, 1897). Lucas is equivocal on the veracity of this observation. *P. scapulatus* was recognised as a species at the time, but there is no record of how Broadbent differentiated between *P. scapulatus* and *P. brunneus*.

Flying-foxes disperse from their daytime roosts to distant feeding sites in the early evening, when they are typically silhouetted against the sky and very difficult to identify in flight. The 'opposite' point to the mainland from the Percy Group is some 75 km distant, which is far beyond the documented nightly foraging range of *P. scapulatus* (McWilliam, 1986; Birt, 2005). As the Percy Islands and the mainland opposite are invisible from each other at sea level, Broadbent's claim is rather fanciful unless the Percy Island he spoke of is not the island on which the specimen was collected. However, there are no similarly named alternative sites in Australia to which Broadbent could have been referring (Geoscience Australia, 2010). Broadbent had therefore probably mistaken the species involved, the location of Percy Island, or both. It is reasonable to assume that *P. scapulatus* was the species reported by Broadbent in error.

#### 3.2 Habitat

If the Percy Island flying-fox ever existed then its habitat use is unknown. Middle Percy (1657 ha) is the largest island of the group and may have been suitable for a permanent flying-fox camp. Its original vegetation probably included hoop pine (*Araucaria*)-dominated vine thickets and mangrove forests. Part of the island was cleared for a grazing lease after 1964; remnants of hoop pine vine thickets survive and there are mangroves near a small creek system on the western side of the island. It is not known whether any of the Percy Islands have supported flying-foxes since the specimen was collected.

### 3.3 Biological characteristics

If the Percy Island flying-fox ever existed as a species, nothing is known of its biology.

### 3.4 Morphological characteristics

The only known specimen of the Percy Island flying-fox is an adult male that measures approximately 210 mm (head-body length) with a forearm length of 118 mm. Its weight is stated as 'probably 200 g' (Conder, 2008). Its coloration is mid-brown overall, lighter on the mantle, with partially concealed buff-coloured glandular tufts at the sides of the neck. The head is a paler, golden brown and the ventral coloration slightly lighter than the dorsal. The specimen's coloration could have altered with age. The dorsal surfaces of the tibiae are furred for the proximal three-quarters of their length (Conder, 2008). Conder (2008) regarded the Percy Island flying-fox as being distinct from the six extant species of *Pteropus* occurring in Australia on the basis of overall size, forearm length and concealed glandular tufts on the shoulders. However, its size, including forearm length, and coloration fall within known parameters for little red flying-fox *P. scapulatus*.

### 3.5 Role of the species in its ecosystem

The role of this species, if it ever existed, in the ecosystem is not known.

## 4. Status and trends

### 4.1 Habitat trends

A grazing lease has been in operation on Middle Percy Island since 1964. This probably would have involved clearing of native hoop pine–vine thicket to create pasture which may have impacted on flying-fox roosts if any were present. The original or current extent of mangrove forest on Middle Percy Island is unknown.

### 4.2 Population size

If the Percy Island flying-fox ever existed, nothing is known of its population size.

### 4.3 Population structure

If the Percy Island flying-fox ever existed, there are no published studies of its population structure.

### 4.4 Population trends

If the Percy Island flying-fox ever existed, no population estimates or trends have been published.

### 4.5 Geographic trends

There is no information on the geographic trends of this species (if it ever existed).

## 5. Threats

If the Percy Island flying-fox ever existed, the causes of its extinction are unknown. No other flying-fox species have become extinct in Australia since settlement.

## 6. Utilization and trade

### 6.1 National utilization

As only one specimen of the Percy Island flying-fox has ever been identified, it is unlikely that any national utilization is occurring. It is unlikely that the Percy Island flying-fox was subject to trade.

### 6.2 Legal trade

A single specimen, procured by the captain of HMS *Herald* in 1859, was purchased by the British Museum of Natural History from Stevens' Sale Rooms, London in 1874 (Conder, 2008). No

subsequent trade is known or documented. The collection and subsequent sale of a single male specimen is unlikely to have contributed to the species' extinction, if in fact it was a distinct species.

### 6.3 Parts and derivatives in trade

Only one specimen of the Percy Island flying-fox has ever been identified and no parts or derivatives were used in trade.

### 6.4 Illegal trade

Only one specimen of the Percy Island flying-fox has ever been identified and no illegal trade is known or documented.

### 6.5 Actual or potential trade impacts

Only one specimen of the Percy Island flying-fox has ever been identified and the species was not subject to trade. If *P. brunneus* is a real species and should it be rediscovered, any potential trade in this species would be strictly regulated under domestic Australian law.

## 7. Legal instruments

### 7.1 National

The Percy Island flying-fox was delisted from the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in 2001 on the advice of the Threatened Species Scientific Committee (TSSC). The committee's reasons for delisting it included taxonomic uncertainty, the specimen's uncertain provenance and its similarity to little red flying-fox (TSSC, 2001).

### 7.2 International

*P. brunneus* is listed as Extinct under the International Union for Conservation of Nature (IUCN) Red List 2012 (Richards and Hall, 2008). *P. brunneus* is listed in Appendix II 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 II listed species.

## 8. Species management

### 8.1 Management measures

No specific management measures have been applied as Australia does not regard *P. brunneus* as a valid species and, if it ever existed, it has not been seen in the wild since 1859.

### 8.2 Population monitoring

No specific population monitoring has been applied as Australia does not regard *P. brunneus* as a valid species and, if it ever existed, it has not been seen in the wild since 1859.

### 8.3 Control measures

#### 8.3.1 International

The EPBC Act regulates trade in CITES-listed and Australian native wildlife and its 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). Should *P. brunneus* be rediscovered, it would be classed as an Australian native mammal and an Australian export permit would be required for its export even if it were delisted from CITES.

### 8.3.2 Domestic

If the Percy Island flying-fox is a valid species, and should it be rediscovered, it would be considered an Australian native species and any take from the wild would be strictly regulated by relevant Australian domestic environmental legislation.

### 8.4 Captive breeding and artificial propagation

No specific captive breeding and artificial propagation is applicable as Australia does not regard *P. brunneus* as a valid species and, if it ever existed, it has not been seen in the wild since 1859.

### 8.5 Habitat conservation

South Percy and North East Percy are national parks. Part of Middle Percy Island has recently been acquired by the Queensland Government as a conservation reserve. The Percy Group is accessible only by boat or seaplane and habitat destruction on a scale large enough to cause the extinction of a large, volant mammal such as a flying-fox is unlikely. There are no permanent flying-fox camps on the Percy Islands. National parks are currently managed by the Queensland Department of Environment and Heritage Protection under the *Nature Conservation Act 1992* (Qld) which aims to preserve and protect Queensland's natural and cultural values.

### 8.6 Safeguards

If the Percy Island flying-fox did exist and should it be rediscovered, it would be afforded protection from international trade by provisions of the EPBC Act.

## 9. Information on similar species

In appearance, the Percy Island flying-fox specimen bears a strong resemblance to the little red flying fox (*P. scapulatus*), an endemic Australian species (Churchill, 2008). The specimen's coloration and morphometrics fall within the known variation for *P. scapulatus*, especially when shrinkage and discoloration with age are taken into consideration. *P. scapulatus* is widespread, highly nomadic and abundant in tropical and subtropical Australia. Its geographical distribution overlaps the hypothetical distribution of the Percy Island flying-fox. Misidentification of the Percy Island flying-fox specimen is therefore likely. Conder (2008) does not elaborate on the significance of the concealed glandular tufts or the furred tibiae of the specimen. *P. brunneus* may be an aberrant specimen of *P. scapulatus* or have been collected from a colony of that species with a significant percentage of such aberrations. It is not known whether the specimen has been compared with similar *Pteropus* species that occur outside Australia.

## 10. Consultations

If the Percy Island flying-fox ever existed as a species, it was endemic to Australia prior to its extinction and therefore consultation with other range States was not required.

## 11. Additional remarks

In summary, there is no convincing evidence that the sole specimen of the Percy Island flying-fox represents a valid species. If it ever existed as a distinct species, it is now extinct. The only known specimen, now in the collection of the Museum of Natural History, London, is of dubious provenance (TSSC, 2001). Morphologically, the specimen is very similar to the little red flying-fox *P. scapulatus* and falls within accepted morphometric parameters and the geographic distribution for *P. scapulatus* (Churchill, 2008; TSSC, 2001). The most recent publication on the Percy Island flying-fox failed to resolve this anomaly (Conder, 2008). *P. scapulatus* is a common and widespread species whose distribution overlaps that of *P. brunneus*. *P. brunneus* is therefore likely to be a misidentified specimen of *P. scapulatus*. After its collection, there were no further reports of *P. brunneus* except for a dubious second-hand eyewitness account lacking in critical details (Lucas, 1897). The Australian government delisted the Percy Island flying-fox from the *EPBC Act 1999* on the grounds of taxonomic uncertainty, the specimen's uncertain provenance and its similarity to little red flying-fox (TSSC, 2001). If it was a distinct species, trade is not considered to have been a factor in its extinction. Should *P. brunneus* be rediscovered, trade is unlikely to become a threatening factor. Australia, therefore, proposes the removal of *P. brunneus* from CITES Appendix II and all CITES Appendices.

## 12. References

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