

Volume 4 Number 1 2014

ISSN 1979-1631

Asian Primates Journal

A Journal of the Southeast Asia, South Asia and China Sections of the IUCN SSC Primate Specialist Group



CONSERVATION
INTERNATIONAL



 **SSC**
Species Survival Commission



SeAPA
Southeast Asian
Primatological
Association

Asian Primates Journal

A Journal of the Southeast Asia, South Asia and China Sections
of the IUCN SSC Primate Specialist Group

EDITORS

Ramesh Boonratana

IUCN SSC PSG SE Asia (Regional Vice-Chair) / Mahidol University International College, Thailand

John R. Fellowes

Kadoorie Farm & Botanic Garden, China / UK

Christian Roos

IUCN SSC PSG SE Asia (Regional Vice-Chair) / German Primate Center, Germany

Jatna Supriatna

IUCN SSC PSG SE Asia (Regional Vice-Chair) / University of Indonesia, Indonesia

EDITORIAL ASSISTANTS

Nurhafizie binti Mohamad Hapiszudin

Bukit Merah Orang Utan Island Foundation, Malaysia

Rosimah binti Roslan

Bukit Merah Orang Utan Island Foundation, Malaysia

EDITORIAL BOARD

Noviar Andayani

Wildlife Conservation Society, Indonesia / University of Indonesia, Indonesia

Warren Y. Brockelman

Mahidol University, Thailand

Colin Groves

Australian National University, Australia

Michael A. Huffman

Primate Research Institute, Japan

Ajith Kumar

National Centre of Biological Sciences, India

Le Xuan Canh

Institute of Ecology and Biological Resources, Vietnam

Long Yongcheng

IUCN SSC PSG China (Regional Vice-Chair) / The Nature Conservancy, China

Russell A. Mittermeier

IUCN SSC PSG (Chairman) / Conservation International, USA

Anna Nekaris

Oxford Brookes University, UK

Anthony B. Rylands

IUCN SSC PSG (Deputy Chairman) / Conservation International, USA

Myron Shekelle

Ewha Womans University, Republic of Korea

Ian Singleton

Sumatran Orangutan Conservation Program, Indonesia

Barth Wright

Kansas City University of Medicine and Biosciences, USA

LAYOUT

Pratchaya Leelaprachayanont

Mahidol University International College, Thailand

COVER PAGE

Bornean Orangutan *Pongo pygmaeus*. Photo by Ramesh Boonratana.

ASIAN PRIMATES JOURNAL is produced in collaboration with Conservation International, IUCN Species Survival Commission and SeAPA (Southeast Asian Primatological Association)



SeAPA Southeast Asian Primatological Association

The Asian Primates Journal wishes to acknowledge the following persons and agencies/institutions for disseminating or covering the costs of dissemination of the journal in the following countries:

China	Bosco Chan & Kadoorie Conservation China, Kadoorie Farm & Botanic Garden
India	Ajith Kumar
Japan	Michael Huffman
Indonesia	Jatna Supriatna
Lao PDR	Wildlife Conservation Society Lao PDR
Malaysia	Sabapathy Dharmalingam & The Bukit Merah Orang Utan Island Foundation
Sri Lanka	Charmalie Nahallage
Vietnam	Le Xuan Canh & Institute of Ecology and Biological Resources

FOREWORD

The current issue comprises a single paper, but an important one.

The dynamic nature of mammal taxonomy is a great sign of the growth of our understanding, particularly since the wider application of genetic techniques. Still, these changes can make life difficult for those involved in studying and conserving mammals. Following years of work, 2013 saw the publication of the primate volume in the encyclopaedic series *“The Handbook of the Mammals of the World.”* This brought the new findings together in one synthesis of the current primate taxa and their distributions and conservation status.

A downside of the comprehensive published format was that the results of the synthesis were inaccessible to many in Asia and elsewhere. The present paper seeks to make that synthesis more available for Asia's primates, whilst incorporating some further changes since the *Handbook* volume was published. It also adds greater consistency in the use of English common names. Supplementing the text are Stephen Nash's excellent illustrations.

The science will not stand still, but for the moment this paper summarises the state of knowledge on nomenclature, distribution and status of Asia's primates. It's a stirring reminder of the immense variety of these remarkable animals; and the precarious position so many of them are in.

Editors

AN UPDATED TAXONOMY AND CONSERVATION STATUS REVIEW OF ASIAN PRIMATES

Christian Roos^{1*}, Ramesh Boonratana², Jatna Supriatna³, John R. Fellowes⁴,
Colin P. Groves⁵, Stephen D. Nash⁶, Anthony B. Rylands⁷,
and Russell A. Mittermeier⁸

¹ Gene Bank of Primates and Primate Genetics Laboratory, German Primate Center, Leibniz Institute for Primate Research, Kellnerweg 4, 37077 Göttingen, Germany. E-mail: croos@dpz.eu

² Mahidol University International College, 999 Buddhamonthon 4 Road, Salaya, Nakhon Pathom 73170, Thailand. E-mail: ramesh.boon@mahidol.ac.th

³ Department of Biology, FMIPA, University of Indonesia, Depok 16421, Indonesia. E-mail: jatna.supriatna@rccc.iu.ac.id, jatna.supriatna@gmail.com

⁴ Kadoorie Farm & Botanic Garden, Lam Kam Road, Tai Po, New Territories, Hong Kong, China. E-mail: kfjrf@kfbg.org

⁵ School of Archaeology & Anthropology, Australian National University, Canberra, ACT 0200, Australia. E-mail: colin.groves@anu.edu.au

⁶ Department of Anatomical Sciences, Health Sciences Center, T-8, State University of New York, Stony Brook, NY 11794-8081, USA. E-mail: Stephen.nash@stonybrook.edu

⁷ Conservation International, 2011 Crystal Drive, Arlington, VA, 22202, USA. E-mail: a.rylands@conservation.org

⁸ Conservation International, 2011 Crystal Drive, Arlington, VA, 22202, USA. E-mail: rmittermeier@conservation.org

* Corresponding author

ABSTRACT

The present paper summarises and updates information on the taxonomy and status of Asian non-human primates from a new multi-author synthesis. For each species we include taxonomic authority, species type locality, subspecies, current distribution and conservation status. Including taxa described since the synthesis was published, the Asian non-human primate fauna comprises 119 species and 183 taxa, in 22 Asian countries. We give a breakdown of species by country, by conservation status category, and the number of species per status category in each family and genus. Of the 113 Asian primate species that have been assessed, 17 (15%) are Critically Endangered, 45 (40%) are Endangered and 25 (22%) are Vulnerable. The most endangered genera are *Rhinopithecus*, *Pygathrix*, *Nasalis*, *Simias*, *Hylobates*, *Nomascus*, *Symphalangus* and *Pongo*.

Keywords: Asian primates, taxonomy, conservation status, threatened fauna

INTRODUCTION

To conserve the non-human primate fauna of Asia, there has long been a need for an accessible, updated checklist of recognised taxa. Volume 3 (Primates) of *The Handbook of the Mammals of the World*, edited by Russell A. Mittermeier, Anthony B. Rylands and Don E. Wilson, was published in April 2013 (Mittermeier *et al.*, 2013). The book integrates new information on primates, including data on morphology, behaviour, acoustics, and genetics. For each primate family, there is an introductory section with reviews of systematics, morphology, habitat, general habits, communication, food and feeding, breeding, movements, home range and social organization, relationship with humans, and conservation status, followed by species accounts

with more detailed information, along with illustrations (by Stephen D. Nash) of each.

According to the book, the order Primates comprises 16 families, 78 genera, 480 species and 682 taxa. In Asia, this multi-author compilation recognizes five families, 19 genera, 116 species and 179 taxa of non-human primates. Since it went to press, the Bornean Slow Loris (*Nycticebus menagensis*) has been split into four species (Munds *et al.*, 2013) and a new subspecies of Hoolock gibbon (*Hoolock hoolock mishmiensis* Choudhury, 2013) has been described; thus, non-human primates in Asia now comprise 119 species and 183 taxa.

There remained a need to make this information widely available. In the following, we give an overview of non-human primates in Asia, based on *The Handbook of the Mammals of the World* and the updated taxonomy on *Nycticebus* and *Hoolock*, including taxonomic authorities, type localities, subspecies, current distribution and conservation status. For consistency and clarity, we also suggest new common names for some taxa, mainly subspecies. We further list species in each country, species in each conservation status category (based on IUCN, 2013), and the number of species per status category in each family and genus. Although formal punctuation is retained for taxonomic purposes (scientific names and author initials), we have omitted this for general use (notably compass directions) for ease of reading. For place names, we have tried to standardise to English geographic terms (Island, River, Lake), with the exception of those in which the local term is part of its internationally familiar name; by way of explanation “Gunung” (Malay) = Mountain or Mt; “Batang” (Malay) = River; “Shan” (Chinese) = Mountain; “Jiang” (Chinese) = River.

1. Family Lorisidae

1.1. Genus *Loris*

1.1.1. Red Slender Loris *Loris tardigradus* (Linnaeus, 1758)

Type locality: Ceylon [= Sri Lanka].

Subspecies/colour variants: 2 subspecies are recognized: Lowland Red Slender Loris *L. t. tardigradus* (Linnaeus, 1758); Horton Plains Red Slender Loris *L. t. nycticeboides* Hill, 1942, but this is in need of revision, and more species may exist; for example, the Horton Plains Slender Loris may be specifically distinct. In *L. t. tardigradus*, there are variants in coloration and head form.

Distribution: *L. t. tardigradus*: SW Sri Lanka (Western and Southern provinces), from the outskirts of Colombo in the N to Ranna in the S, up to 470 m; *L. t. nycticeboides*: Sri Lanka (Central Province highlands), 1650–2000 m.

Conservation status: Endangered (both subspecies).

1.1.2. Grey Slender Loris *Loris lydekkerianus* Cabrera, 1908

Type locality: India, Madras.

Subspecies/colour variants: 4 subspecies are recognized: Mysore Grey Slender Loris *L. l. lydekkerianus* Cabrera, 1908; Highland Grey Slender Loris *L. l. grandis* Hill & Phillips, 1932; Malabar Grey Slender Loris *L. l. malabaricus* Wroughton, 1917; Northern Sri Lankan Grey Slender Loris

L. l. nordicus Hill, 1933. The two Indian taxa need reinvestigation; they may actually be distinct species. The nature and status of the Highland Grey Slender Loris needs to be investigated.

Distribution: *L. l. lydekkerianus*: S and E India (Andhra Pradesh, Karnataka and Tamil Nadu states), found in the dry forests of the Eastern Ghats; *L. l. grandis*: C Sri Lanka (Central Province); only known from the East Matale Hills, but probably occurs throughout the lower foothills at an average elevation of 900 m; *L. l. malabaricus*: SW India (Karnataka, Kerala and Tamil Nadu states), found in the wet forests of the Western Ghats up to 1200 m; *L. l. nordicus*: NC and E Sri Lanka throughout the lowland dry zone; the extent of its distribution to SE Sri Lanka is uncertain.

Conservation status: Least Concern; *L. l. lydekkerianus*, *L. l. malabaricus* Near Threatened; *L. l. grandis*, *L. l. nordicus* Endangered.

1.2. Genus *Nycticebus*

1.2.1. Bengal Slow Loris *Nycticebus bengalensis* (Lacépède, 1800)

Type locality: Bengal.

Subspecies/colour variants: No subspecies are recognized, but colour variants occur.

Distribution: E Bangladesh, NE India (Arunachal Pradesh, Assam, Meghalaya, Tripur, Nagaland, Manipur and Mizoram states), S China (S Yunnan Province from c. 25°N in Yunnan and the Pearl River in the E, and possibly S Guangxi Autonomous Region), Myanmar (including the Mergui Archipelago), N and C Vietnam, Laos, Cambodia, Thailand, and possibly N of peninsular Malaysia.

Conservation status: Vulnerable.

1.2.2. Sunda Slow Loris *Nycticebus coucang* (Boddaert, 1785)

Type locality: Malaysia, Malacca [= Melaka].

Subspecies/colour variants: No subspecies are recognized, but it has been claimed that there is morphological diversity in Sumatra, probably based on altitude.

Distribution: S Thailand, peninsular Malaysia (including Penang, Langkawi and Tioman islands), Singapore, and Sumatra, also Malacca Straits Islands and Riau Archipelago (Batam, Galang and Tebingtinggi islands), and Bunguran in the North Natuna Islands.

Conservation status: Vulnerable.

1.2.3. Javan Slow Loris *Nycticebus javanicus* É. Geoffroy Saint-Hilaire, 1812

Type locality: Java.

Subspecies/colour variants: No subspecies are recognized, but colour variants occur.

Distribution: W and C Java, with an isolated locality in the E.

Conservation status: Endangered.

1.2.4. East Bornean Slow Loris *Nycticebus menagensis* (Lydekker, 1893)

Type locality: Philippines, Tawitawi.

Subspecies/colour variants: None.

Distribution: N and E coastal Borneo (Brunei, Sabah and East Kalimantan) and the Southern Philippines.

Conservation status: Vulnerable; but assessment included *N. bancanus*, *N. borneanus* and *N. kayan*, which were recently separated from *N. menagensis*.

1.2.5. Bangka Slow Loris *Nycticebus bancanus* Lyon, 1906

Type locality: Klabat Bay, Bangka, Indonesia.

Subspecies/colour variants: None.

Distribution: Far SW of Borneo (West and South Kalimantan), S of the Kapuas River and E to the Barito River (appears not to extend all the way E to the Barito River), and on Bangka Island off Sumatra.

Conservation status: Not Evaluated.

1.2.6. Schwaner Mountains Slow Loris *Nycticebus borneanus* Lyon, 1906

Type locality: Sanggau District, Sakaïam River, Western Kalimantan, Borneo, Indonesia.

Subspecies/colour variants: None.

Distribution: SC Borneo (West, South and Central Kalimantan, but excluding the extreme SW), S of the Kapuas River, extending as far E as the Barito River.

Conservation status: Not Evaluated.

1.2.7. Kayan River Slow Loris *Nycticebus kayan* Munds et al., 2013

Type locality: Peleben, East Kalimantan, Borneo, Indonesia (S2°46', E116°34').

Subspecies/colour variants: None.

Distribution: Central and Northern Borneo (Sarawak, Sabah, East Kalimantan); S to the Mahakam River in East Kalimantan and the Rajang River in Sarawak, N to the southern part of Mt Kinabalu in Sabah, from E to W Borneo, but

not along the coast.

Conservation status: Not Evaluated.

1.2.8. Pygmy Slow Loris *Nycticebus pygmaeus* Bonhote, 1907

Type locality: Nha Trang, Annam [= Vietnam].

Subspecies/colour variants: None.

Distribution: Laos, Vietnam and E Cambodia (E of the Mekong River). The precise W limit of the distribution is uncertain, but it appears to be absent (or at least very scarce) in the extreme W of the Mekong plain; records from S China (SE Yunnan Province) are uncertain and may be based merely on released captives brought in from elsewhere.

Conservation status: Vulnerable.

2. Family Tarsiidae

2.1. Genus *Tarsius*

2.1.1. Selayar Tarsier *Tarsius tarsier* (Erxleben, 1777)

Type locality: Unknown. Restricted to Selayar Island, off the South-western peninsula of Sulawesi, Indonesia, by C.P. Groves and M. Shekelle in 2010.

Subspecies/colour variants: None.

Distribution: Selayar Island, off the tip of the SW peninsula of Sulawesi.

Conservation status: Vulnerable.

2.1.2. Makassar Tarsier *Tarsius fuscus* Fischer, 1804

Type locality: "Madagascar". Corrected and restricted to Makassar, South Sulawesi, Indonesia, by C.P. Groves and M. Shekelle in 2010.

Subspecies/colour variants: None.

Distribution: SW peninsula of Sulawesi, presumably S of the Lake Tempe Depression.

Conservation status: Not Evaluated.

2.1.3. Dian's Tarsier *Tarsius dentatus* G.S. Miller & Hollister, 1921

Type locality: Indonesia, Labua Sore, North of Parigi, Sulawesi.

Subspecies/colour variants: None.

Distribution: E portion of the central core of Sulawesi to the tip of the E peninsula, the N boundary is the Isthmus of Palu (between Marantale, Ampibabo and Tomini Bay), the S boundary from Lore Lindu National Park to the E coast is unknown, but the W boundary appears to extend at least to the Palu River and S as far as Gimpu.

Conservation status: Vulnerable.

2.1.4. Peleng Tarsier *Tarsius pelengensis* Sody, 1949

Type locality: Indonesia, Peleng Island.

Subspecies/colour variants: None.

Distribution: Peleng Island, off the coast of the E peninsula of Sulawesi; it may also occur on other islands of the Banggai Archipelago.

Conservation status: Endangered.

2.1.5. Great Sangihe Tarsier *Tarsius sangirensis* Meyer, 1897

Type locality: Indonesia, Sanghir [= Sangihe] Island.

Subspecies/colour variants: None.

Distribution: Great Sangihe Island, c. 200 km N of Sulawesi; it may also occur on other islands in the Sangihe chain.

Conservation status: Endangered.

2.1.6. Siau Island Tarsier *Tarsius tumpara* Shekelle et al., 2008

Type locality: Siau Island, Indonesia, the southern end of the island c. 100 m from the N shore of a small lake (N2°39', E125°23').

Subspecies/colour variants: None.

Distribution: Siau Island, in the Sangihe Archipelago, c. 100 km N of Sulawesi; it may occur also on some small islands close to Siau.

Conservation status: Critically Endangered.

2.1.7. Sulawesi Mountain Tarsier *Tarsius pumilus* G.S. Miller & Hollister, 1921

Type locality: Indonesia, Rano Rano, Middle Celebes [= Sulawesi].

Subspecies/colour variants: None.

Distribution: S and C Sulawesi (known only from Rano Rano and the Latimojong Mts); distribution fragmented on isolated mountain tops.

Conservation status: Data Deficient.

2.1.8. Lariang Tarsier *Tarsius lariang* Merker & Groves, 2006

Type locality: Gimpu (S1°38', E120°02', 500 m), west of Lore-Lindu National Park, c. 5 km North of the River Lariang, Central Sulawesi, Indonesia.

Subspecies/colour variants: None.

Distribution: WC Sulawesi in the Lariang River Basin near the confluence with its tributary, the Meweh River, and extending N as far as Gimpu; the precise limits of its distribution may be much wider than those confirmed to date.

Conservation status: Data Deficient.

2.1.9. Wallace's Tarsier *Tarsius wallacei* Merker et al., 2010

Type locality: Uwemanje, Central Sulawesi, Indonesia.

Subspecies/colour variants: None.

Distribution: NW Sulawesi (discontinuous range in Central Sulawesi Province); the N form occurs on the Isthmus of Palu from just W of the village of Tomini to the NE (c. E120°30'), the coastlines of the Isthmus of Palu to the E and to the W, to the villages of Ampibabo and Marantale in the S (c. S0°30'); the S form occurs in a very fragmented area W to SW of Palu, around the type locality Uwemanje (S0°58', E119°50').

Conservation status: Data Deficient.

2.2. Genus *Carlito*2.2.1. Philippine Tarsier *Carlito syrichta* (Linnaeus, 1758)

Type locality: "Luzon".

Subspecies/colour variants: 3 subspecies are conventionally recognized; they have not, however, been revised since their original descriptions, and it remains to be seen whether they are valid subspecies, or perhaps distinct species, or perhaps not valid at all. They are as follows: Philippine Tarsier *C. s. syrichta* (Linnaeus, 1758); Mindanao Tarsier *C. s. carbonarius* (Heude, 1898); Bohol Tarsier *C. s. fraterculus* (G.S. Miller, 1911). It may be that other taxa remain to be identified.

Distribution: *C. s. syrichta*: Eastern Visayas in SE Philippines (Leyte, Samar, Dinagat, Biliran and Maripipi islands), but by default, all other areas within the distribution of *C. syrichta*, except for Mindanao and Bohol islands; *C. s. carbonarius*: SE Philippines (Mindanao), some known locations in the N, C and SW provinces of Bukidnon, Davao del Norte, Davao del Sur, Misamis Occidental, Misamis Oriental, South Cotabato, Zamboanga del Norte, and Zamboanga del Sur, although presumably extirpated in many places today; also in Basilan Island; *C. s. fraterculus*: SE Philippines on Bohol Island.

Conservation status: Near Threatened (as *Tarsius syrichta*); individual subspecies have not been separately assessed.

2.3. Genus *Cephalopachus*2.3.1. Western Tarsier *Cephalopachus bancanus* (Horsfield, 1821)

Type locality: Indonesia, South-east Sumatra, Bangka Island.

Subspecies/colour variants: 4 subspecies are conventionally recognized; they have not been revised

since their original descriptions, and it remains to be seen whether they are valid subspecies, or distinct species; or perhaps not valid at all. They are: Horsfield's Tarsier *C. b. bancanus* (Horsfield, 1821); Bornean Tarsier *C. b. borneanus* (Elliot, 1910); Natuna Islands Tarsier *C. b. natunensis* (Chasen, 1940); and the Belitung Tarsier *C. b. saltator* (Elliot, 1910). The possibility of hitherto unidentified taxa, especially on Borneo, remains to be studied.

Distribution: *C. b. bancanus*: S Sumatra and Bangka Island; the precise distribution on Sumatra is unknown, but most likely delimited by the Musi River in the N; *C. b. borneanus*: Borneo and Karimata Island (off the SW coast of Borneo); *C. b. natunensis*: Serasan Island, one of the South Natuna Islands (just off the W coast of Borneo) and possibly nearby Subi Island; *C. b. saltator*: Belitung Island.

Conservation status: Vulnerable (as *Tarsius bancanus*); *C. b. borneanus* Vulnerable; *C. b. bancanus*, *C. b. saltator* Endangered; *C. b. natunensis* Critically Endangered.

3. Family Cercopithecidae

3.1. Genus *Papio*

3.1.1. Hamadryas baboon *Papio hamadryas* (Linnaeus, 1758)

Type locality: Egypt.

Subspecies/colour variants: None.

Distribution: SW Saudi Arabia (up to Jeddah), W Yemen, NE Sudan (Red Sea Hills), E Eritrea, Djibouti, NE Ethiopia, and NE Somalia.

Conservation status: Least Concern.

3.2. Genus *Macaca*

3.2.1. Lion-tailed Macaque *Macaca silenus* (Linnaeus, 1758)

Type locality: "Ceylon" [= Sri Lanka], corrected by J. Fooden in 1975 to India, Western Ghats, inland from Malabar Coast.

Subspecies/colour variants: None.

Distribution: SW India, endemic to the hills of the Western Ghats in the states of Karnataka, Kerala and Tamil Nadu, stretching from Anshi Ghats in the N to the Kalakkad Hills in the S, 800–1300 m.

Conservation status: Endangered.

3.2.2. Northern Pig-tailed Macaque *Macaca leonina* (Blyth, 1863)

Type locality: "Mountainous and rocky situation", Arakan District, South-eastern Burma [=Myanmar].

Subspecies/colour variants: None.

Distribution: NE India (S of the Brahmaputra River in the states of Assam, E Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura), extending SE through E Bangladesh and Myanmar (including the Mergui Archipelago), SW China (SW Yunnan Province), Thailand, Laos, Vietnam and Cambodia; S to Surat Thani-Krabi Depression in peninsular Thailand (N8–9°). Lack of records in C and NE Myanmar between N20° and N25° suggests that this may be a natural gap in the distribution of the species.

Conservation status: Vulnerable.

3.2.3. Sunda Pig-tailed Macaque *Macaca nemestrina* (Linnaeus, 1766)

Type locality: Sumatra.

Subspecies/colour variants: None.

Distribution: Sunda area from Surat Thani-Krabi Depression in peninsular Thailand (N8–9°) SE through peninsular Malaysia, Sumatra, Bangka and Borneo; apparently native to offshore islets of Penang (W coast of peninsular Malaysia), Tioman (E coast of peninsular Malaysia) and Batam (Riau Archipelago off the S tip of peninsular Malaysia).

Conservation status: Vulnerable.

3.2.4. Siberut Macaque *Macaca siberu* Fuentes & Olson, 1995

Type locality: Indonesia, Siberut Island.

Subspecies/colour variants: None.

Distribution: Mentawai Archipelago, Siberut Island.

Conservation status: Vulnerable.

3.2.5. Pagai Macaque *Macaca pagensis* (G.S. Miller, 1903)

Type locality: Indonesia, South Pagai Island.

Subspecies/colour variants: None.

Distribution: Mentawai Archipelago (Sipora, North Pagai, South Pagai and on the Sinakak islet off the E coast of South Pagai).

Conservation status: Critically Endangered.

3.2.6. Crested Macaque *Macaca nigra* (Desmarest, 1822)

Type locality: “One of the islands of the Indian Archipelago”.

Subspecies/colour variants: None.

Distribution: N Sulawesi (E tip of the N peninsula), Manado Tua and Talise islands. Introduced into the Moluccas Archipelago (Bacan Island).

Conservation status: Critically Endangered.

3.2.7. Gorontalo Macaque *Macaca nigrescens* (Temminck, 1849)

Type locality: Gorontalo, North Sulawesi Island, Indonesia.

Subspecies/colour variants: None.

Distribution: N Sulawesi, E of Gorontalo to Onggak Dumoga River in the N peninsula.

Conservation status: Vulnerable.

3.2.8. Tonkean Macaque *Macaca tonkeana* (Meyer, 1899)

Type locality: Indonesia, Sulawesi Tengah.

Subspecies/colour variants: Provisionally none are recognized, but this species may be divided into an eastern and a western species.

Distribution: C Sulawesi (S to Latimojong, SW to the base of the Toraja highlands at the Tempe Depression, SE toward, but not at, the lakes region of the SE peninsula, and NW to the isthmus between Palu and Parigi) and Togian Islands.

Conservation status: Vulnerable.

3.2.9. Booted Macaque *Macaca ochreata* (Ogilby, 1841)

Type locality: Unknown.

Subspecies/colour variants: 2 subspecies are recognized: Mainland Booted Macaque *M. o. ochreata* (Ogilby, 1841); Buton Macaque *M. o. brunnescens* (Matschie, 1901).

Distribution: *M. o. ochreata*: SE Sulawesi, through the entire SE peninsula, extending to the N of the lakes region; in the E, the border between this subspecies and *M. tonkeana* is the La River, while in the W it extends along the coast, across the Karaena River in its lower course, but not reaching into uplands further inland; *M. o. brunnescens*: Muna and Buton islands, and possibly the neighbouring islet of Labuan Blanda, off the coast of Sulawesi; it may no longer occur on Muna Island.

Conservation status: Vulnerable (both subspecies).

3.2.10. Heck's Macaque *Macaca hecki* (Matschie, 1901)

Type locality: Buol, Tengah, Sulawesi, Indonesia.

Subspecies/colour variants: None.

Distribution: NW Sulawesi from the base of the N peninsula (Isthmus of Palu) NE to just E of Gorontalo.

Conservation status: Vulnerable.

3.2.11. Moor Macaque *Macaca maura* (Schinz, 1825)

Type locality: Sulawesi Selatan, Indonesia.

Subspecies/colour variants: None.

Distribution: SW Sulawesi (from Bontobahari at the tip of the SW peninsula N to Tempe Depression).

Conservation status: Endangered.

3.2.12. Toque Macaque *Macaca sinica* (Linnaeus, 1771)

Type locality: Unknown.

Subspecies/colour variants: 3 subspecies are recognized: Dry-zone Toque Macaque *M. s. sinica* (Linnaeus, 1771); Wet-zone Toque Macaque *M. s. aurifrons* Pocock, 1931; Hill-zone Toque Macaque *M. s. opisthomelas* Hill, 1942.

Distribution: *M. s. sinica*: NE and SE Sri Lanka (Dry Zone); *M. s. aurifrons*: SW Sri Lanka (Wet Zone lowlands from the coast to c. 2000 m); *M. s. opisthomelas*: SC Sri Lanka (montane areas above 1800 m).

Conservation status: Endangered (all three subspecies).

3.2.13. Bonnet Macaque *Macaca radiata* (É. Geoffroy Saint-Hilaire, 1812)

Type locality: India.

Subspecies/colour variants: 2 subspecies are recognized; Dark-bellied Bonnet Macaque *M. r. radiata* (É. Geoffroy Saint-Hilaire, 1812); Pale-bellied Bonnet Macaque *M. r. diluta* Pocock, 1931.

Distribution: *M. r. radiata*: S and W India (states of Gujarat, Maharashtra, Andhra Pradesh, Goa, Karnataka, Kerala and Tamil Nadu), the N limit is the Tapi River, S to the Palni Hills and SE as far as Timbala, inland of Puducherry; introduced to the Mascarene Islands, including Mauritius and Réunion, probably in the 16th Century; *M. r. diluta*: SE India (states of Kerala and Tamil Nadu), from the S tip and the SE coast, N to Kambam at the SW foot of the Palni Hills and Puducherry on the E coast.

Conservation status: Least Concern (both subspecies).

3.2.14. Assamese Macaque *Macaca assamensis* (McClelland, 1839)

Type locality: India, Assam.

Subspecies/colour variants: 2 subspecies are recognized: Eastern Assamese Macaque *M. a. assamensis* (McClelland, 1839); Western Assamese Macaque *M. a. pelops* (Hodgson, 1840). *M. a. assamensis* may contain additional taxa.

Distribution: *M. a. assamensis*: SE Asia, 200–2750 m, E of the great bend of the Brahmaputra River, in SW China (SE Xizang, SW Guangxi, SW Yunnan and Guizhou provinces), NE India (E Arunachal Pradesh, E Assam, Nagaland, Meghalaya, Manipur, Mizoram and Tripura states), S and E through N and E Myanmar, N and W Thailand, Laos and N Vietnam; *M. a. pelops*: Himalayas up to 3100 m, from C Nepal (W limit Tipling, E83°36') E through NE India (N West Bengal, Sikkim and W Assam states), and Bhutan (E limit Manas River, E90°58'), with a widely disjunct record, of what may be a geographic relict, in coastal SW Bangladesh (Sundarbans).

Conservation status: Near Threatened (both subspecies).

3.2.15. Tibetan Macaque *Macaca thibetana* (Milne-Edwards, 1870)

Type locality: China, near Moupin [= Baoxing], Sichuan.

Subspecies/colour variants: Some subspecies have been described, but due to lack of information, provisionally none are recognized.

Distribution: E & C China (N25–33°, E102°30'–119°30') in E Xizang, Sichuan, S Gansu, S Shaanxi, Hubei, Anhui, Zhejiang, N Yunnan, Guizhou, Jiangxi, Fujian, N Guangxi and N Guangdong provinces; W limit in the Yangtze Gorge in W and NW Sichuan and S limit at N23°48', c. E110° in Guangxi. The species may range into NE India (Arunachal Pradesh, Assam and Meghalaya states), although some reports, at least, appear to be based on misidentifications.

Conservation status: Near Threatened.

3.2.16. Arunachal Macaque *Macaca munzala* Sinha et al., 2005

Type locality: Zemithang (N27°42', E91°43', 2180 m), Tawang District, Arunachal Pradesh, India.

Subspecies/colour variants: None.

Distribution: NE India (W Arunachal Pradesh State), in the districts of Tawang and West Kameng at elevations of 2000–3000 m; it possibly extends

into Bhutan and Xizang [= Tibet] in W China. There are reports of its occurrence in Mouling National Park in the Upper Siang District of C Arunachal Pradesh, but they have yet to be confirmed.

Conservation status: Endangered.

3.2.17. Stump-tailed Macaque *Macaca arctoides* (L. Geoffroy Saint-Hilaire, 1831)

Type locality: Cochinchine [a region in southern Vietnam.] Based on the mounted skin of an adult male collected by P.M. Diard in June 1822; exact place of collection unknown.

Subspecies/colour variants: No subspecies are recognized, but colour variants occur.

Distribution: S and SE Asia, NE India S and E of the Brahmaputra River (Assam, Arunachal Pradesh, Meghalaya, Nagaland, Manipur, Mizoram and Tripura states), SW China S of N25° (Yunnan, Guizhou, Guangxi and Guangdong provinces), N Myanmar, Bangladesh, Thailand, Laos, Cambodia, Vietnam and N peninsular Malaysia where it could be a colonizer dispersed from S Thailand as recently as 1959; it may be now extirpated in Bangladesh where it was last recorded in 1982 and 1989. Known records are, at present, concentrated along N and S margins of its distribution, and it is rare or absent in C Indochinese peninsula, where deciduous forests predominate.

Conservation status: Vulnerable.

3.2.18. Long-tailed Macaque *Macaca fascicularis* (Raffles, 1821)

Type locality: Indonesia, Sumatra (Bengkulu).

Subspecies/colour variants: 10 subspecies are recognized: Common Long-tailed Macaque *M. f. fascicularis* (Raffles, 1821); Dark-crowned Long-tailed Macaque *M. f. atriceps* Kloss, 1919; Burmese Long-tailed Macaque *M. f. aureus* É. Geoffroy Saint-Hilaire, 1831; Con Song Long-tailed Macaque *M. f. condorensis* Kloss, 1926; Simeulue Long-tailed Macaque *M. f. fuscus* (G.S. Miller, 1903); Kemujan Long-tailed Macaque *M. f. karimondjawae* Sody, 1949; Lasia Long-tailed Macaque *M. f. lasiae* (Lyon, 1916); Philippine Long-tailed Macaque *M. f. philippinensis* (L. Geoffroy Saint-Hilaire, 1843); Maratua Long-tailed Macaque *M. f. tua* Kellogg, 1944; Nicobar Long-tailed Macaque *M. f. umbrosus* (G.S. Miller, 1902).

Distribution: *M. f. fascicularis*: S Laos, S Vietnam, Cambodia, E and S Thailand (and offshore islands), S to the Malay peninsula, Borneo, Sumatra, Java, Bali and most but not all offshore

islands, also extending into the Sulu Archipelago and Zamboanga peninsula of W Mindanao in the Philippines; probably artificially introduced in the Nusa Penida-Timor Islands chain; *M. f. atriceps*: Khram Island [= Khram Yai], in Bight of Bangkok, off SE coast of Thailand; *M. f. aureus*: SW Bangladesh (Teknaaf peninsula), S Myanmar (including the Mergui Archipelago), and WC Thailand (S to c. N10°); *M. f. condorensis*: SE Vietnam (Con Son and Hon Ba islands in the South China Sea); *M. f. fuscus*: Simeulue Island in Banyak Archipelago, off NW Sumatra; *M. f. karimondjawae*: Karimunjawa Island and presumably nearby Kemujan Island, N of Java; *M. f. lasiae*: Lasia Island in Banyak Archipelago, off NW Sumatra; *M. f. philippinensis*: Philippine Archipelago N of c. N10°; *M. f. tua*: Maratua Island, off E Borneo; *M. f. umbrosus*: Nicobar Islands (Katchall, Little Nicobar and Great Nicobar islands).

Conservation status: Least Concern; *M. f. fascicularis* Least Concern; *M. f. condorensis*, *M. f. umbrosus* Vulnerable; *M. f. philippinensis* Near Threatened; *M. f. atriceps*, *M. f. aureus*, *M. f. fuscus*, *M. f. karimondjawae*, *M. f. lasiae*, *M. f. tua* Data Deficient.

3.2.19. Rhesus Macaque *Macaca mulatta* (Zimmermann, 1780)

Type locality: India. Based solely on Tawny Monkey, a menagerie animal (presumably observed in London), not preserved, identified by Pennant in 1771. Restricted by R. Pocock in 1932 to “Nepal Tarai” [= Terai], the narrow plain that extends along the southern border of Nepal.

Subspecies/colour variants: Many subspecies have been described, but due lack of information, provisionally none are recognized.

Distribution: S and SE Asia from c. N36° (in Afghanistan, Pakistan, India and China) S to c. N15° (in India, Thailand, Laos and Vietnam), also in Nepal, Bhutan, Bangladesh, Myanmar and Hainan Island. An isolated population at N40°24' in NE China was extirpated in 1987.

Conservation status: Least Concern.

3.2.20. Japanese Macaque *Macaca fuscata* (Blyth, 1875)

Type locality: Japan.

Subspecies/colour variants: 2 subspecies are recognized: Mainland Japanese Macaque *M. f. fuscata* (Blyth, 1875); Yakushima Macaque *M. f. yakui* Kuroda, 1941.

Distribution: *M. f. fuscata*: Japanese Archipelago S of the Tsugaru Strait (N41°30') in Honshu, Shikoku and Kyushu islands, and the nearby Kojima [= Koshima], Kashima, Awajishima, Shodoshima and Kinkazan islets; *M. f. yakui*: Japanese Archipelago (Yakushima Island, c. 60 km S of Kyushu).

Conservation status: Least Concern (both subspecies).

3.2.21. Taiwanese Macaque *Macaca cyclopis* (Swinhoe, 1863)

Type locality: Formosa [= Taiwan]. Restricted by R. Kellogg in 1945 to “Jusan (Ape's Hill), Takao prefecture, Formosa” [= Shou Shan, Kaohsiung, Hsien, Taiwan].

Subspecies/colour variants: None.

Distribution: Taiwan Island, where it is widely distributed in the E mountains.

Conservation status: Least Concern.

3.3. Genus *Presbytis*

3.3.1. Thomas's langur *Presbytis thomasi* (Collett, 1893)

Type locality: Indonesia, Sumatra, Aceh, Langkat.

Subspecies/colour variants: None.

Distribution: N Sumatra (Aceh Province), mostly N of the Wampu and Alas [= Simpang Kiri] rivers; a population has also been discovered S of the Alas at c. N3°50'.

Conservation status: Vulnerable.

3.3.2. Black-crested Sumatran Langur *Presbytis melalophos* (Raffles, 1821)

Type locality: Indonesia, Bencoolen [= Bengkulu], Sumatra.

Subspecies/colour variants: No subspecies are recognized, but colour variants occur.

Distribution: W Sumatra, from the upper Rokan River (Tanangtalu, N0°20', E99°59'), just N of Gunung Talakmau, S to the upper Batang Hari and beyond along the Barisan Range, W of Lampung Province.

Conservation status: Near Threatened (as *P. melalophos melalophos*).

3.3.3. Black Sumatran Langur *Presbytis sumatrana* (Müller & Schlegel, 1841)

Type locality: “Mt Ophir” [= Gunung Talakmau], North of Padang.

Subspecies/colour variants: None.

Distribution: W and NC Sumatra (N highlands and W coast S of the Simpang Kiri River, N of Gunung Talakmau, and on the E coast from the Wampu River to the Barumun River, and SE to the Rokan River), and

Batu Islands (Pini Island).

Conservation status: Endangered (as *P. melalophos sumatranus*).

3.3.4. Black-and-white Langur *Presbytis bicolor* Aimi & Bakar, 1992

Type locality: Batang Kering, S0°50', E101°23', 14 km North of Kiliranjao, West Sumatra.

Subspecies/colour variants: None.

Distribution: EC Sumatra, from the Inderagiri River in the N to the Batang Hari in the S, mainly in highlands.

Conservation status: Data Deficient (as *P. melalophos bicolor*).

3.3.5. Mitred Langur *Presbytis mitrata* Eschscholtz, 1821

Type locality: Indonesia, Sumatra, mainland opposite Zutphen Islands.

Subspecies/colour variants: None.

Distribution: SE Sumatra E of the Barisan Range, from the Batang Hari, SW to the upper Musi River drainage, and S to Lampung Province.

Conservation status: Endangered (as *P. melalophos mitrata*).

3.3.6. Javan Langur *Presbytis comata* (Desmarest, 1822)

Type locality: Indonesia, Western Java.

Subspecies/colour variants: 2 subspecies are recognized; Grizzled Javan Langur *P. c. comata* (Desmarest, 1822); Fuscous Javan Langur *P. c. fredericae* (Sody, 1930).

Distribution: *P. c. comata*: W Java, from Ujung Kulno to Mt Lawu; E limit unknown; *P. c. fredericae*: C Java, around slopes of the volcanoes Gunung Slamet, Gunung Cupu and Diyeng; extent of its distribution to the W unknown.

Conservation status: Endangered (both under *P. comata*).

3.3.7. Pagai Langur *Presbytis potenziani* (Bonaparte, 1856)

Type locality: Tenasserim (corrected by O. Thomas in 1895 to Mentawai Islands, restricted by F.N. Chasen and C.B. Kloss in 1927 to Sipora Island).

Subspecies/colour variants: None.

Distribution: Mentawai Islands (Sipora, North Pagai, South Pagai and nearby Sinakak Island).

Conservation status: Critically Endangered (as *P. potenziani potenziani*).

3.3.8. Siberut Langur *Presbytis siberu* (Chasen & Kloss, 1928)

Type locality: Siberut Island, Indonesia.

Subspecies/colour variants: None.

Distribution: Mentawai Islands (Siberut Island).

Conservation status: Endangered (as *P. potenziani siberu*).

3.3.9. Banded Langur *Presbytis femoralis* (Martin, 1838)

Type locality: Singapore.

Subspecies/colour variants: 3 subspecies are recognized: Raffles' Banded Langur *P. f. femoralis* (Martin, 1838); East Sumatran Banded Langur *P. f. percura* Lyon, 1908; Robinson's Banded Langur *P. f. robinsoni* Thomas, 1910. In *P. f. femoralis*, colour variants occur.

Distribution: *P. f. femoralis*: S peninsular Malaysia (extreme S of Pahang and Johor states) and Singapore; *P. f. percura*: CE Sumatra, in a small area between the Rokan and Siak rivers; *P. f. robinsoni*: S Myanmar, S Thailand (from N13°50' in Phetchaburi Province), and NW peninsular Malaysia (S to Larut Hills, Perak State).

Conservation status: Near Threatened; *P. f. femoralis* Vulnerable; *P. f. robinsoni* Near Threatened; *P. f. percura* Data Deficient.

3.3.10. Pale-thighed Langur *Presbytis siamensis* (S. Müller & Schlegel, 1841)

Type locality: Malaya, Malacca [= Melaka].

Subspecies/colour variants: 4 subspecies are recognized: Malaysian Pale-thighed Langur *P. s. siamensis* (Müller & Schlegel, 1841); Riau-coast Pale-thighed Langur *P. s. cana* G.S. Miller, 1906; Mantled Pale-thighed Langur *P. s. paenulata* (Chasen, 1940); Bintan Pale-thighed Langur *P. s. rhionis* G.S. Miller, 1903.

Distribution: *P. s. siamensis*: peninsular Malaysia, in S Thailand (population isolate reported at N6°22', E101°08', well within the distribution of *P. femoralis robinsoni*) and most of peninsular Malaysia (it is absent in the NW to the N to the Piah Valley in Perak State, and in the S); *P. s. cana*: CE Sumatra (between the Siak and Indragiri rivers) and the Riau Archipelago (Kundur Island); *P. s. paenulata*: CE Sumatra (confined to a small wedge of coastal forest, with a population isolate reported from near Lake Toba); separated from *P. femoralis percura* by the Rokan River; *P. s. rhionis*: Riau Archipelago (for certain only from Bintan but may also occur on Batam and Galang islands).

Conservation status: Near Threatened; *P. s. siamensis*, *P. s. cana*, *P. s. paenulata* Near Threatened; *P. s. rhionis* Data Deficient.

3.3.11. Natuna Islands Langur *Presbytis natunae* (Thomas & Hartert, 1894)

Type locality: Indonesia, Bunguran Island, North Natuna Islands.

Subspecies/colour variants: None.

Distribution: Natuna Islands (Bunguran Island), N of the W coast of Borneo.

Conservation status: Vulnerable.

3.3.12. Cross-marked Langur *Presbytis chrysomelas* (Müller, 1838)

Type locality: Indonesia, Pontianak, West Borneo.

Subspecies/colour variants: 2 subspecies are recognized: Western Cross-marked Langur *P. c. chrysomelas* (Müller, 1838); Eastern Cross-marked Langur *P. c. cruciger* (Thomas, 1892). In both subspecies, colour variants occur.

Distribution: *P. c. chrysomelas*: W Borneo, from the IV Division in W Sarawak, S to the Kapuas River in West Kalimantan Province, also in W Brunei; *P. c. cruciger*: N Borneo, from Melalap in Sabah State to the Baram District in N Sarawak.

Conservation status: Critically Endangered (both subspecies).

3.3.13. Maroon Langur *Presbytis rubicunda* (Müller, 1838)

Type locality: Indonesia, Mt Sekumbang, South-east of Banjarmasin, South Kalimantan.

Subspecies/colour variants: 5 subspecies are recognized; Southeast Bornean Maroon Langur *P. r. rubicunda* (Müller, 1838); Red-naped Maroon Langur *P. r. carinatae* G.S. Miller, 1906; Orange-backed Maroon Langur *P. r. chrysea* Davis, 1962; Orange-naped Maroon Langur *P. r. ignita* Dollman, 1909; Southwest Bornean Maroon Langur *P. r. rubida* (Lyon, 1911). In *P. r. rubicunda*, colour variants occur.

Distribution: *P. r. rubicunda*: Borneo (SE Kalimantan, roughly S of the Mahakam River and E of the Barito River); *P. r. carinatae*: Karimata Island, off W Borneo; *P. r. chrysea*: NE Borneo, confined to a very small area in E Sabah State near Kinabatangan; *P. r. ignita*: Borneo, in Sarawak State, from the Baram River at the border with Brunei, and in Kalimantan S to the Kapuas River; possibly in Brunei; *P. r. rubida*: Borneo (SW Kalimantan, roughly S of the Kapuas River and W of the Barito River).

Conservation status: Least Concern; *P. r. rubicunda*, *P. r. rubida*, *P. r. ignita* Least Concern; *P. r. chrysea*, *P. r. carinatae* Data Deficient.

3.3.14. Hose's Langur *Presbytis hosei* (Thomas, 1889)

Type locality: Malaysia, Sarawak, Niah.

Subspecies/colour variants: None.

Distribution: NW Borneo, W Sabah State (along W coast N to Mt Kinabalu), NE Brunei, and N Sarawak State (from its type locality Niah and the lower Baram River, E inland to N2°40', and the border with N Kalimantan).

Conservation status: Data Deficient (as *P. hosei hosei*).

3.3.15. Miller's Grizzled Langur *Presbytis canicrus* G.S. Miller, 1934

Type locality: Indonesia, East Kalimantan (Dutch North-east Borneo).

Subspecies/colour variants: None.

Distribution: Borneo, confined to an area of E Kalimantan, from the Kayan and Sembakung [= Sebuku] rivers in the N, S and SW to the Mahakam River, the W boundary is not well known but certainly E of the Apau Kayan and the Kayan Mentarang National Park.

Conservation status: Endangered (as *P. hosei canicrus*).

3.3.16. Sabah Grizzled Langur *Presbytis sabana* (Thomas, 1893)

Type locality: Malaysia, Sabah, Paitan.

Subspecies/colour variants: None.

Distribution: N Borneo in most of Sabah State, as far SW as Kalabakan (N4°26', E117°29'); its occurrence in N Kalimantan is not confirmed.

Conservation status: Endangered (as *P. hosei sabana*).

3.3.17. White-fronted Langur *Presbytis frontata* (Müller, 1838)

Type locality: Indonesia, South-eastern Borneo (restricted by Lord Medway in 1965 to South-eastern Kalimantan, Murung and "Pulu Lampy", near Banjarmasin, Pematang, Kuala).

Subspecies/colour variants: None.

Distribution: Found patchily in C and E Borneo, from C Sarawak State (absent from coastal areas and possibly occurs only between upper Rajang and upper Lupar rivers) to most of E Kalimantan and a few areas in the W (in the SE restricted to the E of the Barito River, there is a population in Gunung Palung in the SW, but it is not known whether it is

isolated or continuous with other populations in the W).

Conservation status: Vulnerable.

3.4. Genus *Trachypithecus*

3.4.1. Golden Langur *Trachypithecus geei* Khajuria, 1956

Type locality: India, Assam, Goalpara District, Jamduar Forest Rest House, East bank of Sankosh River.

Subspecies/colour variants: No subspecies are recognized, but colour variants occur.

Distribution: NE India (Himalayan foothills of NW Assam State between the Manas and Sankosh rivers, and in the area immediately to the S, nearly to the Brahmaputra River) and Bhutan (as far N as Black Mt, c. N27°30', E of the Sankosh River; also extends E of the Mangde River along either side of the main stream).

Conservation status: Endangered.

3.4.2. Capped Langur *Trachypithecus pileatus* (Blyth, 1843)

Type locality: Type received from Barrackpore (menagerie), stated to be Malayan (corrected and restricted by C.P. Groves in 2005 to India, Assam).

Subspecies/colour variants: 4 subspecies are recognized: Blond-bellied Capped Langur *T. p. pileatus* (Blyth, 1843); Buff-bellied Capped Langur *T. p. brahma* (Wroughton, 1916); Orange-bellied Capped Langur *T. p. durga* (Wroughton, 1916); Dusky Capped Langur *T. p. tenebricus* (Hinton, 1923).

Distribution: *T. p. pileatus*: NE India highlands S and E of the Brahmaputra River, in the states of Arunachal Pradesh, Assam, Meghalaya, and Nagaland (Karbi Anglong Plateau, Barail Range, and Khasi, Garo, Naga, and Jaintia Hills), and in NW Myanmar (W of the Chindwin River, S to Chin Hills range and Mt Victoria), 600–3000 m; *T. p. brahma*: NE India, known only from the Dafla Hills, N of the Brahmaputra River, in Arunachal Pradesh State; *T. p. durga*: E Bangladesh and NE India in the states of Assam, Mizoram, and Tripura (Naga Hills, Lakhimpur, Golaghat, Cachar Hills, Samaguting, and Sibsagar), adjoining the distribution of *T. p. pileatus* to the N, but at lower elevations (from nearly sea level up to 600 m); *T. p. tenebricus*: NE India (Assam State) and Bhutan, in the Manas region N of the Brahmaputra River, 100–2000 m.

Conservation status: Vulnerable; *T. p. pileatus*, *T. p. durga*, *T. p. tenebricus* Endangered; *T. p. brahma* Data Deficient.

3.4.3. Shortridge's Langur *Trachypithecus shortridgei* (Wroughton, 1915)

Type locality: Burma [= Myanmar], Homalin, upper Chindwin.

Subspecies/colour variants: None.

Distribution: NE Myanmar, E of the Chindwin River (Kachin State N to Myitkyina District) and SW China (Dulong River Valley in Gongshan County, NW Yunnan Province).

Conservation status: Endangered.

3.4.4. East Javan Langur *Trachypithecus auratus* (É. Geoffroy Saint-Hilaire, 1812)

Type locality: Indonesia, Semarang (restricted by D. Brandon-Jones in 1995 to Batu District).

Subspecies/colour variants: No subspecies are recognized, but colour variants occur.

Distribution: E Java (NW to the vicinity of Jakarta, and E of c. E109° in the S coast), Bali and Lombok islands, and Sempu and Nusa Barung islands, off the S coast of Java.

Conservation status: Vulnerable (as *T. auratus auratus*).

3.4.5. West Javan Langur *Trachypithecus mauritius* (Griffith, 1821)

Type locality: "Mauritius", probably W Java (restricted by D. Brandon-Jones in 1995 to Jasinga).

Subspecies/colour variants: None.

Distribution: W Java (restricted to the N coast W of Jakarta, and inland to Bogor, Cisalak, and Jasinga, SW to Ujung Kulon, then along the S coast as far E as Cikaso and possibly Ciwangi).

Conservation status: Vulnerable (as *T. auratus mauritius*).

3.4.6. Silvered Langur *Trachypithecus cristatus* (Raffles, 1821)

Type locality: Indonesia, Sumatra, Bencoolen [= Bengkulu].

Subspecies/colour variants: 2 subspecies are recognized: Sunda Silvered Langur *T. c. cristatus* (Raffles, 1821); Natuna Islands Silvered Langur *T. c. vigilans* (G.S. Miller, 1913). In *T. c. cristatus*, colour variants occur.

Distribution: *T. c. cristatus*: Borneo, Sumatra, Bangka, Belitung, and Riau (Bintan, Combol, Sugi, and perhaps Batam) and Lingga (Bakung, Lingga) archipelagos, off E Sumatra; *T. c. vigilans*: Natuna Islands (Serasan Island), off W Borneo.

Conservation status: Near Threatened; *T. c. cristatus* Near Threatened; *T. c. vigilans* Critically Endangered.

3.4.7. Selangor Silvered Langur *Trachypithecus selangorensis* Roos *et al.*, 2008

Type locality: West Malaysia, Selangor Province, Kuala Selangor (N3°20', E101°20').

Subspecies/colour variants: None.

Distribution: W peninsular Malaysia, confined to a strip along the W coast from N6° to N1°30' in the states of Kedah, Perak, Selangor, Negeri Sembilan, Melaka, and Johor.

Conservation status: Not Evaluated.

3.4.8. Germain's Langur *Trachypithecus germaini* (Milne-Edwards, 1876)

Type locality: Cochinchina [= S Vietnam] and Cambodia.

Subspecies/colour variants: No subspecies are recognized, but colour variants occur.

Distribution: Mainland SE Asia in S Myanmar, S Thailand, S Laos, Cambodia (W of Mekong River), and the S tip of Vietnam; Mekong River as E limit not yet confirmed.

Conservation status: Endangered, but assessment included *T. margarita*.

3.4.9. Annamese Langur *Trachypithecus margarita* (Elliott, 1909)

Type locality: Vietnam, Langbian.

Subspecies/colour variants: None.

Distribution: S Laos (N limit is N16°23'), SC Vietnam (N limit is N14°30'), and E Cambodia (Ratanakiri and Mondulakiri provinces); most likely the W limit is the Mekong River, but further studies are needed to confirm this. Records in Vietnam N to N16°37' are questionable.

Conservation status: Endangered (but as a synonym of *T. germaini*).

3.4.10. Dusky Langur *Trachypithecus obscurus* (Reid, 1837)

Type locality: Malaysia (restricted by F.N. Chasen in 1940 to Malacca). [Melaka]

Subspecies/colour variants: 7 subspecies are recognized: Reid's Dusky Langur *T. o. obscurus* (Reid, 1837); Terutau Island Dusky Langur *T. o. carbo* (Thomas & Wroughton, 1909); Blond-tailed Dusky Langur *T. o. flavicauda* (Elliott, 1910); Cantor's Dusky Langur *T. o. halonifer* (Cantor, 1845); St Matthew Island Dusky Langur *T. o. sanctorum* (Elliott, 1910); Phangan Dusky Langur *T. o. seimundi* (Chasen, 1940); Perhentian Dusky Langur *T. o. styx* (Kloss, 1911).

Distribution: *T. o. obscurus*: peninsular Malaysia (S

from about Perlis); *T. o. carbo*: Langkawi, Terutau and Dayang Bunting islands, off the W coast of the Thai-Malay Peninsula; *T. o. flavicauda*: S Myanmar (S of c. N15°10', and including James, Kisseraing and King islands in the Mergui Archipelago), SW Thailand (including Khao Lak Island), and N peninsular Malaysia (S to Perlis); *T. o. halonifer*: Penang Island, off W peninsular Malaysia; *T. o. sanctorum*: Mergui Archipelago (Zadetkyi Island), off W Myanmar; *T. o. seimundi*: Phangan Island; probably also on the adjacent E coast of the Thai-Malay Peninsula; *T. o. styx*: East Perhentian Island; probably also on the adjacent E coast of the Thai-Malay Peninsula.

Conservation status: Near Threatened; *T. o. obscurus*, *T. o. flavicauda*, *T. o. halonifer*, *T. o. carbo* Least Concern; *T. o. styx*, *T. o. seimundi*, *T. o. sanctorum* Vulnerable.

3.4.11. Phayre's Langur *Trachypithecus phayrei* (Blyth, 1847)

Type locality: Burma [= Myanmar], Arakan.

Subspecies/colour variants: 2 subspecies are recognized: Bengal Phayre's Langur *T. p. phayrei* (Blyth, 1847); Shan States Phayre's Langur *T. p. shanicus* (Wroughton, 1917).

Distribution: *T. p. phayrei*: E Bangladesh, NE India (Assam, Mizoram and Tripura states), and W Myanmar (SE through Arakan to Pegu); *T. p. shanicus*: SW China (Yingjiang-Namting River and Tunchong-Homushu Pass districts in W Yunnan Province), and N and E Myanmar (Shan State and neighbouring dry zone of N Myanmar).

Conservation status: Endangered (both subspecies).

3.4.12. Tenasserim Langur *Trachypithecus barbei* (Blyth, 1847)

Type locality: Burma [= Myanmar], Ye, South of Moulmein.

Subspecies/colour variants: None.

Distribution: E Myanmar and W Thailand, confined to a small region N of the Thai-Malay Peninsula (N14°20'–15°10', E98°30'–98°55').

Conservation status: Data Deficient.

3.4.13. Indochinese Grey Langur *Trachypithecus crepusculus* (Elliott, 1909)

Type locality: Burma [= Myanmar], Mt Muleiyit, 1500 m.

Subspecies/colour variants: None.

Distribution: SW China (E of Salween River and S of Xishuangbanna, S Yunnan Province), S Myanmar,

N Thailand (S to Raheng, and W to the coast of the Bay of Bengal), N and C Laos, and N Vietnam; the W limit is most likely the Salween River; S of the distribution of Phayre's Langur (*T. phayrei*).

Conservation status: Endangered (as *T. phayrei crepuscula*).

3.4.14. Francois' Langur *Trachypithecus francoisi* (Pousargues, 1898)

Type locality: Longzhou, China.

Subspecies/colour variants: None.

Distribution: SW China (Chongqing, Guizhou and Guangxi provinces) and N Vietnam (Ha Giang, Cao Bang, Tuyen Quang, Bac Kan and Thai Nguyen provinces).

Conservation status: Endangered.

3.4.15. Cat Ba Langur *Trachypithecus poliocephalus* (Trouessart, 1911)

Type locality: The type locality is supposed to be the village Cai Kien (N21°19', E107°44') or the Cai Kinh limestone massif (N21°45', E107°30').

Subspecies/colour variants: None.

Distribution: Cat Ba Island, Ha Long Bay, off N Vietnam.

Conservation status: Critically Endangered (as *T. poliocephalus poliocephalus*).

3.4.16. White-headed Langur *Trachypithecus leucocephalus* Tan, 1957

Type locality: Fusui County, Guangxi, China.

Subspecies/colour variants: None.

Distribution: S China, restricted to the counties of Fusui, Chongzuo, Ningming and Longzhou in SW Guangxi Autonomous Region; it is bordered in the NW and N by the Zuo River, in the SW and S by the Ming River, and to the SE by the Shiwan Mts.

Conservation status: Critically Endangered (as *T. poliocephalus leucocephalus*).

3.4.17. Delacour's Langur *Trachypithecus delacouri* (Osgood, 1932)

Type locality: Hoi Xuan, Vietnam.

Subspecies/colour variants: None.

Distribution: NC Vietnam (Hoa Binh, Ha Nam, Ninh Binh and Thanh Hoa provinces).

Conservation status: Critically Endangered.

3.4.18. Laotian Langur *Trachypithecus laotum* (Thomas, 1921)

Type locality: Ban Na Sao, South-west French Laos, on the French side of the Mekong, c. N17°30'.

Subspecies/colour variants: None.

Distribution: WC Laos, from S Bolikhamsai Province, probably with the Nam Kading River as N barrier of the distribution, S to C Khammouane Province, at c. N17°40'; there are also reports from the corridor to Nakai-Nam Theun National Protected Area, and from Khamkeut District, close to Lak Sao (N18°13', E104°47').

Conservation status: Vulnerable.

3.4.19. Hatinh Langur *Trachypithecus hatinhensis* (Dao Van Tien, 1970)

Type locality: Xom Cuc (N17°56', E105°47'), Ha Tinh Province [now Tuyen Hoa District, Quang Binh Province], Vietnam.

Subspecies/colour variants: None.

Distribution: NC Vietnam (Quang Binh and Quang Tri provinces), and EC Laos (Khammouane Province). The records in other Vietnamese provinces (Nghe An, Thu Thien Hue, Gia Lai, Phu Yen) are errors.

Conservation status: Endangered.

3.4.20. Black Langur *Trachypithecus eburnus* (Brandon-Jones, 1995)

Type locality: "Indo China"; probably either Lai Chau or Fan Si Pan mountain chain (c. N22°30', E103°50'), Vietnam.

Subspecies/colour variants: None.

Distribution: EC Laos, in S Khammouane Province, close to the border with Vietnam and in scattered limestone blocks to the S into N Savannakhet Province to c. N16°50'; the species is also recorded in C Vietnam, Quang Binh Province (N17°59', E105°40').

Conservation status: Endangered (as synonym of *T. hatinhensis*).

3.5. Genus *Semnopithecus*

3.5.1. Northern Plains Sacred Langur *Semnopithecus entellus* (Dufresne, 1797)

Type locality: India, Bengal.

Subspecies/colour variants: None.

Distribution: India: the species' range extends 1900 km W to E, and includes all populations with the northern-type tail carriage between the Tapi River in Gujarat State and Krishna River in Andhra Pradesh State to the foothills of the Himalayas. Introduced into SW Bangladesh, where the population may have arisen from descendents of a pair introduced by Hindu pilgrims on banks of the Jalangi River.

Conservation status: Least Concern.

3.5.2. Chamba Sacred Langur *Semnopithecus ajax* (Pocock, 1928)

Type locality: India, Chamba, Deolah, 1800 m.

Subspecies/colour variants: None.

Distribution: NW India, confined to the Chamba Valley of Himachal Pradesh State; it may also occur in the Kishtwar Valley of Jammu and Kashmir State.

Conservation status: Endangered.

3.5.3. Terai Sacred Langur *Semnopithecus hector* (Pocock, 1928)

Type locality: India, Sitabani, Ramnagar, Kumaon, 600 m.

Subspecies/colour variants: None.

Distribution: Himalayan foothills in N India (states of Uttarakhand, Uttar Pradesh, and W Bengal), and W and C Nepal; it also probably occurs in SW Bhutan near Pankhabari.

Conservation status: Near Threatened.

3.5.4. Central Himalayan Sacred Langur *Semnopithecus schistaceus* Hodgson, 1840

Type locality: Nepal.

Subspecies/colour variants: None.

Distribution: NW Pakistan, N India (Jammu and Kashmir, Himachal Pradesh, Uttarakhand, and NW Bengal states, and Sikkim), S China (Tibetan regions of Bo Qu, Ji Long Zang Bu and Chumbi Valleys in Xizang Autonomous Region), Nepal, and W Bhutan (E to Sankosh River); its presence in E Afghanistan is uncertain.

Conservation status: Least Concern.

3.5.5. Malabar Sacred Langur *Semnopithecus hypoleucos* Blyth, 1841

Type locality: India, Travancore.

Subspecies/colour variants: 3 subspecies are provisionally recognized: Southern Malabar Sacred Langur *S. h. hypoleucos* Blyth, 1841; Northern Malabar Sacred Langur *S. h. achates* (Pocock, 1928); Black-legged Malabar Sacred Langur *S. h. iulus* (Pocock, 1928).

Distribution: *S. h. hypoleucos*: SW India (S Western Ghats), from around Brahmagiri Hills in Karnataka State S to the N of Silent Valley in Kerala State; *S. h. achates*: W India (W Deccan Plateau and E slopes of Western Ghats) up to the Roonwal line that follows the Tapti and Godavari rivers in the N; limited by the distribution of *S. entellus* in the NE and *S. priam priam* in the E; *S. h. iulus*: SW India (Western Ghats), from Jog Falls in Karnataka State, at 440 m, and S along the hilly wet zones to

the Brahmagiri Hills.

Conservation status: Vulnerable; *S. h. hypoleucos* (as *S. hypoleucos*) Vulnerable; *S. h. achates*, *S. h. iulus* (both as synonyms of *S. dussumieri*) Least Concern.

3.5.6. Tufted Sacred Langur *Semnopithecus priam* Blyth, 1844

Type locality: India, Coromandel Coast.

Subspecies/colour variants: 3 subspecies are recognized: Madras Tufted Sacred Langur *S. p. priam* Blyth, 1844; Central Indian Tufted Sacred Langur *S. p. anchises* Blyth, 1844; Sri Lankan Tufted Sacred Langur *S. p. thersites* (Blyth, 1847) (described as *Presbytis*).

Distribution: *S. p. priam*: S and SE India (Andhra Pradesh, Karnataka, Kerala and Tamil Nadu states), a highly fragmented distribution ranging from the Krishna River in Andhra Pradesh S to Tirunelveli in Tamil Nadu; *S. p. anchises*: SC India (S Deccan Plateau), found in the districts of Kurnool, Andhra Pradesh, and in Pavagada in the district of Tumkur, Karnataka; *S. p. thersites*: Dry Zone of Sri Lanka, ranging from Jaffna in the N to the S coast.

Conservation status: Near Threatened; *S. p. priam* Near Threatened; *S. p. anchises* (as synonym of *S. dussumieri*) Least Concern; *S. p. thersites* Endangered.

3.5.7. Purple-faced Langur *Semnopithecus vetulus* (Erxleben, 1777)

Type locality: Ceylon [= Sri Lanka].

Subspecies/colour variants: 4 subspecies are recognized: Southern Purple-faced Langur *S. v. vetulus* (Erxleben, 1777); Highland Purple-faced Langur *S. v. monticola* (Kelaart, 1850); Western Purple-faced Langur *S. v. nestor* Bennett, 1833; Northern Purple-faced Langur *S. v. philbricki* (Phillips, 1927).

Distribution: *S. v. vetulus*: SW Sri Lanka (Wet Zone), from Kalu River S to Rama, up to 1000 m; the distribution is less than 5000 km²; *S. v. monticola*: mountains of C Sri Lanka 1000–2200 m; *S. v. nestor*: W Sri Lanka (Wet Zone), N of the Kalu River up to 1000 m; *S. v. philbricki*: N & E Sri Lanka (Dry Zone) up to 1500 m in E Matale and Madulkele Hills.

Conservation status: Endangered (as *Trachypithecus vetulus*); *S. v. vetulus*, *S. v. monticola*, *S. v. philbricki* Endangered; *S. v. nestor* Critically Endangered.

3.5.8. Nilgiri Langur *Semnopithecus johnii* (Fischer, 1829)

Type locality: India, Tellicherry.

Subspecies/colour variants: None.

Distribution: SW India (Karnataka, Kerala, and Tamil Nadu states); it occurs sporadically in montane forests of the Western Ghats from Srimangala (N12°01', E75°58') in Karnataka S to the Aramboli Pass (N8°16') in Kerala.

Conservation status: Vulnerable (as *Trachypithecus johnii*).

3.6. Genus *Rhinopithecus*

3.6.1. Tonkin Snub-nosed Monkey *Rhinopithecus avunculus* Dollman, 1912

Type locality: Yen Bay, Songkoi River, Vietnam.

Subspecies/colour variants: None.

Distribution: NW Vietnam, known only from small forest patches in Ha Giang, Tuyen Quang, Bac Kan, and Thai Nguyen provinces. Most likely also present in neighbouring China.

Conservation status: Critically Endangered.

3.6.2. Yunnan Snub-nosed Monkey *Rhinopithecus bieti* Milne-Edwards, 1897

Type locality: China, Yunnan, left bank of upper Mekong, Kipape, a day's journey South of Atuntze (N28°25', E98°55').

Subspecies/colour variants: None.

Distribution: SW China, in SE Xizang Autonomous Region [= Tibet] and NW Yunnan Province (fragmented populations in the Yun Ling Mts), W of the Yangtze River and E of the Mekong River.

Conservation status: Endangered.

3.6.3. Guizhou Snub-nosed Monkey *Rhinopithecus brelichi* Thomas, 1903

Type locality: China, Van Gin Shan [= Fanjingshan], Guizhou.

Subspecies/colour variants: None.

Distribution: SC China, Guizhou Province, Fanjingshan in the Wuling Mts.

Conservation status: Endangered.

3.6.4. Golden Snub-nosed Monkey *Rhinopithecus roxellana* (Milne-Edwards, 1870)

Type locality: China, Sichuan, near Moupin [= Baoxing] (N30°26', E102°50').

Subspecies/colour variants: 3 subspecies are recognized: Moupin Golden Snub-nosed Monkey *R. r. roxellana* (Milne-Edwards, 1870); Hubei Golden Snub-nosed Monkey *R. r. hubeiensis* Wang *et al.*,

1998; Qinling Golden Snub-nosed Monkey *R. r. qinlingensis* Wang *et al.*, 1998.

Distribution: *R. r. roxellana*: WC China (S Gansu, S Shaanxi, and W Sichuan provinces); *R. r. hubeiensis*: WC China (Shennongjia in W Hubei Province and NW Sichuan Province); *R. r. qinlingensis*: WC China (Qinling Mts, S Shaanxi Province).

Conservation status: Endangered (all three subspecies).

3.6.5. Myanmar Snub-nosed Monkey *Rhinopithecus strykeri* Geissmann *et al.*, 2011

Type locality: N26.43101°, E98.38894° [= N26°26', E98°23'] (2815 m), Maw River area, North-eastern Kachin State, North-east Myanmar.

Subspecies/colour variants: None.

Distribution: NE Myanmar (Salween–N'mai Hka divide in NE Kachin State, only around the Maw River, as far E as the mountains above the village of Chichitago, N26.31°–26.51° and E98.34°–98.61°) and SW China (Gaoligongshan Nature Reserve, Yunnan Province).

Conservation status: Critically Endangered.

3.7. Genus *Pygathrix*

3.7.1. Grey-shanked Douc *Pygathrix cinerea* Nadler, 1997

Type locality: Vietnam, Gia Lai Province, Play Ku.

Subspecies/colour variants: None.

Distribution: C Vietnam between N16° and N13°38' (Quang Nam, Kon Tum, Quang Ngai, Gia Lai, and Binh Dinh provinces), and a small part of NE Cambodia. Probably also S Laos.

Conservation status: Critically Endangered.

3.7.2. Red-shanked Douc *Pygathrix nemaeus* (Linnaeus, 1771)

Type locality: Vietnam, "Cochin-China".

Subspecies/colour variants: None.

Distribution: EC and SE Laos, N and C Vietnam (but very fragmented), and a small area in NE Cambodia (Voensei, Ratanakkiri Province).

Conservation status: Endangered.

3.7.3. Black-shanked Douc *Pygathrix nigripes* (Milne-Edwards, 1871)

Type locality: Vietnam, Saigon [= Ho Chi Minh City].

Subspecies/colour variants: None.

Distribution: E Cambodia (E of the Mekong River and S of the Srepok River) and SW Vietnam from c. N14° to S Cat Tien National Park. The presence of this species in S Laos is suspected but not

confirmed.

Conservation status: Endangered.

3.8. Genus *Nasalis*

3.8.1. Proboscis Monkey *Nasalis larvatus* (van Wurm, 1787)

Type locality: Pontiana [= Pontianak], Borneo.

Subspecies/colour variants: No subspecies are recognized, but colour variants occur.

Distribution: Borneo (Sabah and Sarawak states, Brunei, and Kalimantan), also on Berhala, Sebatik and Laut islands.

Conservation status: Endangered.

3.9. Genus *Simias*

3.9.1. Pig-tailed Langur *Simias concolor* G.S. Miller, 1903

Type locality: Indonesia, West Sumatra, South Pagai Island.

Subspecies/colour variants: 2 subspecies are recognized: Pagai Pig-tailed Langur *S. c. concolor* G.S. Miller, 1903; Siberut Pig-tailed Langur *S. c. siberu* Chasen & Kloss, 1928. In both subspecies, colour variants occur.

Distribution: *S. c. concolor*: Mentawai Islands (Sipora, North Pagai, South Pagai and nearby Simalegu, Simatapi and Sinakak islands); *S. c. siberu*: Mentawai Islands (Siberut).

Conservation status: Critically Endangered (both subspecies).

4. Hylobatidae

4.1. Genus *Hoolock*

4.1.1. Western Hoolock Gibbon *Hoolock hoolock* (Harlan, 1834)

Type locality: India, Garo Hills, Assam.

Subspecies/colour variants: 2 subspecies are recognized: Common Western Hoolock Gibbon *H. h. hoolock* (Harlan, 1834); Mishmi Hills Western Hoolock Gibbon *H. h. mishmiensis* Choudhury, 2013.

Distribution: *H. h. hoolock*: Bangladesh and NE India (states of Assam, Arunachal Pradesh, Nagaland, Meghalaya, Manipur, Mizoram and Tripura), S of the Brahmaputra and Lohit rivers, extending into W Myanmar, W of the Chindwin River. *H. h. mishmiensis*: NE India (states of Assam and Arunachal Pradesh) between the Dibang and Lohit rivers, and to the S of the Ithun River. The identity of a population in the Medog Nature Reserve in SE Tibet, across the border from Arunachal Pradesh, is unknown.

Conservation status: Endangered; subspecies not separately evaluated.

4.1.2. Eastern Hoolock Gibbon *Hoolock leuconedys* (Groves, 1967)

Type locality: Burma [= Myanmar], Sumprabum, 1200 m.

Subspecies/colour variants: None.

Distribution: E Myanmar (E of the Chindwin River), and SW China in W Yunnan Province.

Conservation status: Vulnerable.

4.2. Genus *Hylobates*

4.2.1. Pileated Gibbon *Hylobates pileatus* Gray, 1861

Type locality: Cambodia.

Subspecies/colour variants: None.

Distribution: SE Thailand (E and S of the Mun and Takhong rivers; W limit may have formerly been the Bang Pakong River), SW Laos (W of the Mekong River), and N and W Cambodia (W of the Mekong River); may have formerly occurred in S Vietnam (W of the Mekong River).

Conservation status: Endangered.

4.2.2. Lar Gibbon *Hylobates lar* (Linnaeus, 1771)

Type locality: None. Malaysia, Malacca [= Melaka] (restricted by C.B. Kloss in 1929).

Subspecies/colour variants: 5 subspecies are recognized: Malaysian Lar Gibbon *H. l. lar* (Linnaeus, 1771); Carpenter's Lar Gibbon *H. l. carpenteri* Groves, 1968; Central Lar Gibbon *H. l. entelloides* I. Geoffroy Saint-Hilaire, 1842; Sumatran Lar Gibbon *H. l. vestitus* G.S. Miller, 1942; Yunnan Lar Gibbon *H. l. yunnanensis* Ma & Wang, 1986. In *H. l. lar*, *H. l. carpenteri* and *H. l. entelloides*, colour variants occur.

Distribution: *H. l. lar*: peninsular Malaysia, from N9° to the Mudah River and S of the Perak River; *H. l. carpenteri*: E Myanmar, NW Laos, and NW Thailand, from Chieng Dao at N19°22' to c. N16°; *H. l. entelloides*: S Myanmar and SW Thailand, from c. N15° to N10°; *H. l. vestitus*: N Sumatra, NW of Lake Toba and the Singkil River; *H. l. yunnanensis*: SW China (SW Yunnan Province), originally between the Salween and Mekong rivers in the counties of Cangyuan, Menglian and Ximeng, but probably now extirpated.

Conservation status: Endangered; *H. l. lar*, *H. l. vestitus*, *H. l. carpenteri* Endangered; *H. l. entelloides* Vulnerable; *H. l. yunnanensis* Data Deficient.

4.2.3. Agile Gibbon *Hylobates agilis* F. Cuvier, 1821

Type locality: Indonesia, West Sumatra.

Subspecies/colour variants: No subspecies are recognized, but colour variants occur.

Distribution: S Thailand (near the Malaysian border, E of the Thepha River watershed), N peninsular Malaysia (from Mudah and Thepha rivers in the N to the Perak and Kelantan rivers in the S), and most of Sumatra (from SE of Lake Toba and the Singkil River to the S).

Conservation status: Endangered.

4.2.4. Bornean White-bearded Gibbon *Hylobates albibarbis* Lyon, 1911

Type locality: Indonesia, near Sukadana, South-west Borneo.

Subspecies/colour variants: None.

Distribution: SW Borneo (West and Central Kalimantan provinces), S of the Kapuas River and W of the Barito River.

Conservation status: Endangered.

4.2.5. Müller's Gibbon *Hylobates muelleri* Martin, 1841

Type locality: Indonesia, Kalimantan (restricted by M. Lyon in 1911 to South-eastern Borneo).

Subspecies/colour variants: No subspecies are recognized, but colour variants occur.

Distribution: Borneo, SE Kalimantan, c. S of the Mahakam River and E of the Barito River.

Conservation status: Endangered (as *H. m. muelleri*).

4.2.6. Abbott's Grey Gibbon *Hylobates abbotti* Kloss, 1929

Type locality: Indonesia, Pontianak, South-western Borneo.

Subspecies/colour variants: None.

Distribution: SW Borneo (S Sarawak State and West Kalimantan Province), N of the Kapuas River and as far E as the Spaok [= Saribas], District of Sarawak.

Conservation status: Endangered (as *H. muelleri abbotti*).

4.2.7. East Bornean Grey Gibbon *Hylobates funereus*

I. Geoffroy Saint-Hilaire, 1850

Type locality: Philippines, Sulu Islands.

Subspecies/colour variants: None.

Distribution: N & NE Borneo, from Sabah State S to the Mahakam River in East Kalimantan and perhaps W to the Baram District and the IV Division of Sarawak State.

Conservation status: Endangered (as *H. muelleri funereus*).

4.2.8. Kloss's Gibbon *Hylobates klossii* (G.S. Miller, 1903)

Type locality: Indonesia, West Sumatra, South Pagai Island.

Subspecies/colour variants: None.

Distribution: Mentawai Islands (Siberut, Sipora, North Pagai, South Pagai, and Sinakak) off the W coast of Sumatra.

Conservation status: Endangered.

4.2.9. Moloch Gibbon *Hylobates moloch* (Audebert, 1798)

Type locality: Indonesia, Java (restricted by H. Sody in 1949 to W Java, Mt Salak).

Subspecies/colour variants: No subspecies are recognized, but colour variants occur.

Distribution: Java, mainly in the W provinces (Banten and West Java), with an additional population in a small area in the C as far E as the Dieng Mts.

Conservation status: Endangered.

4.3. Genus *Nomascus*4.3.1. Hainan Crested Gibbon *Nomascus hainanus* (Thomas, 1892)

Type locality: China, Hainan.

Subspecies/colour variants: None.

Distribution: China, Hainan Island. Formerly widespread, but today restricted to Bawangling Nature Reserve in the W of the island.

Conservation status: Critically Endangered.

4.3.2. Eastern Black Crested Gibbon *Nomascus nasutus* (Milne Edwards, 1884)

Type locality: Vietnam, Along [= Halong] Bay.

Subspecies/colour variants: None.

Distribution: Formerly S China to N Vietnam as far S and W as the Red River, but now restricted to a small area along the Sino-Vietnamese border in Trung Khanh District (Cao Bang Province, NE Vietnam) and Jingxi County (Guangxi Autonomous Region, SW China).

Conservation status: Critically Endangered.

4.3.3. Western Black Crested Gibbon *Nomascus concolor* (Harlan, 1826)

Type locality: Vietnam, Tonkin.

Subspecies/colour variants: 2 subspecies are recognized: Tonkin Western Black Crested Gibbon

N. c. concolor (Harlan, 1826); Laotian Western Black Crested Gibbon *N. c. lu* (Delacour, 1951).

Distribution: *N. c. concolor*: SW China (C & SW Yunnan Province) including a small population W of the Mekong River near the Myanmar border, and N Vietnam (Lao Cai, Son La, and Yen Bai provinces) between the Black and Red rivers from c. N20° to N23°45'; *N. c. lu*: NW Laos (Bokeo and Luang Namtha provinces) in an isolated population E of the Mekong River at c. N20°17'–N20°25'.

Conservation status: Critically Endangered (both subspecies).

4.3.4. Northern White-cheeked Crested Gibbon *Nomascus leucogenys* (Ogilby, 1841)

Type locality: Siam (restricted by J. Fooden in 1987 to Laos, Muang Khi).

Subspecies/colour variants: None.

Distribution: S China (extreme S Yunnan Province but probably extirpated, N Laos, and NW Vietnam between the Mekong and Black rivers, to the S possibly limited by the Khading River in Laos and the Rao Nay River in Ha Tinh Province in Vietnam).

Conservation status: Critically Endangered.

4.3.5. Southern White-cheeked Crested Gibbon *Nomascus siki* (Delacour, 1951)

Type locality: Vietnam, Thua Luu.

Subspecies/colour variants: None.

Distribution: C Laos and C Vietnam, restricted by the Rao Nay River in Vietnam and the Khading River in Laos in the N, the Mekong River in the W, the Vietnamese coastal agricultural areas in the E, and around the Thach Han River (N16°40'–N16°50') in Quang Tri Province, Vietnam, and Savannakhet Province in Laos, to the S.

Conservation status: Endangered.

4.3.6. Northern Yellow-cheeked Crested Gibbon *Nomascus annamensis* Van Ngoc Thinh *et al.*, 2010

Type locality: Vietnam, Ja Boc, Sa Thay District, Kon Tum Province (c. N14°25', E107°35', Chu Mom Ray National Park).

Subspecies/colour variants: None.

Distribution: S Laos (E of Mekong River, up to approximately the Banhiang River, N16°00'–N16°03', in Savannakhet Province), C Vietnam (from the Thach Han River, N16°40'–N16°50', in Quang Tri Province in the N to approximately the Ba River, N13°00'–N13°10', in Gia Lai and Phu Yen provinces in the S), and NE Cambodia (Ratan-

akiri and Stung Treng provinces, E of the Mekong River and N of the Srepok River, N13°30').

Conservation status: Not Evaluated.

4.3.7. Southern Yellow-cheeked Crested Gibbon *Nomascus gabriellae* (Thomas, 1909)

Type locality: Vietnam, Langbian, 460 m.

Subspecies/colour variants: None.

Distribution: S Vietnam (from Ba River, N13°00'–N13°10', in Gia Lai and Phu Yen provinces in the N to the Nui Ong Nature Reserve, N11°01', in Binh Thuan Province in the S) and SE Cambodia (E of the Mekong River and S of the Srepok River).

Conservation status: Endangered.

4.4. Genus *Symphalangus*

4.4.1. Samang *Symphalangus syndactylus* (Raffles, 1821)

Type locality: Indonesia, West Sumatra, Bencoolen [= Bengkulu].

Subspecies/colour variants: None.

Distribution: S Thailand on the west coast in Hala Bala Wildlife Sanctuary (on the border with Malaysia), and NW & C peninsular Malaysia (largely restricted to mountainous areas in the W of the country, S of the Perak River and N of the Muar River, and Lake Bera across to the Pahang River), and W Sumatra confined to the Barisan Mts; it may have formerly occurred on Bangka Island.

Conservation status: Endangered.

5. Family Hominidae

5.1. Genus *Pongo*

5.1.1. Sumatran Orangutan *Pongo abelii* Lesson, 1827

Type locality: Indonesia, Sumatra.

Subspecies/colour variants: None. The identity of the population in the Batang Toru region, on the west coast S of Lake Toba, remains to be studied.

Distribution: NW Sumatra (Aceh and North Sumatra provinces).

Conservation status: Critically Endangered.

5.1.2. Bornean Orangutan *Pongo pygmaeus* (Linnaeus, 1760)

Type locality: Indonesia, Kalimantan, Landak River.

Subspecies/colour variants: 3 subspecies are recognized: North-west Bornean Orangutan *P. p. pygmaeus* (Linnaeus, 1760); North-east Bornean Orangutan *P. p. morio* (Owen, 1837); South-west Bornean Orangutan *P. p. wurmbii* (Tiedemann, 1808).

Distribution: *P. p. pygmaeus*: W Borneo in Malaysia (S Sarawak State) and Indonesia (N West Kalimantan Province); *P. p. morio*: N & E Borneo in Malaysia (Sabah State) and Indonesia (East Kalimantan Province); possibly in N Sarawak; *P. p. wurmbii*: S Indonesian Borneo (S West and Central Kalimantan provinces).

Conservation status: Endangered (all three subspecies).

DISCUSSION

Non-human primates occur in 22 Asian countries (Table 1, Fig. 1). The countries with the highest number of species are Indonesia (58–59 species), Vietnam (25), Malaysia (24–25), China (22–26), India (21–22), Laos (20–22), Myanmar (18) and Thailand (18).

Of the 113 Asian non-human primate species that have been assessed, 87 (77%) are threatened with extinction, and over half are Endangered or Critically Endangered (Table 2). Seventeen species (15%) are Critically Endangered, 45 (40%) are Endangered, 25 (22%) are Vulnerable and 10 (9%) are Near Threatened. Thus Asia has the world's most threatened primate fauna after Madagascar.

The most endangered primate families, based on proportion of assessed species that are either Critically Endangered (CR) or Endangered (EN), are Hominidae (2 out of 2 = 100%), Hylobatidae (17/18 = 94%), Cercopithecidae (38/73 = 52%), Tarsiidae (3/10 = 30%) and Lorisidae (2/7 = 29%) (Table 3). The most endangered genera are *Rhinopithecus*, *Pygathrix*, *Nasalis*, *Simias*, *Hylobates*, *Nomascus*, *Symphalangus*, and *Pongo*. All species in these genera are CR or EN. Other highly endangered genera include *Trachypithecus* (12/19 = 63% CR or EN), *Loris* (1/2 = 50%), *Hoolock* (1/2 = 50%) and *Presbytis* (8/17 = 47%).

ACKNOWLEDGEMENTS

The following are the authors who contributed to *The Handbook of the Mammals of the World*, Volume 3, providing the family overviews and species accounts for the Asian primates: Lorisidae – K. Anna I. Nekaris; Tarsiidae – Myron Shekelle, Sharon Gursky-Doyen and Matthew C. Richardson; Cercopithecidae (family account) – Dietmar Zinner, Gisela Fickenschner and Christian Roos; Cercopithecidae (accounts for Asian species) – Martina V. Anandam, Elizabeth L. Bennett, Antje Engelhardt, Ardlith A. Eudey, Colin P. Groves, K. Praveen Karanth, Sanjay Molur, Tilo Nadler, Matthew C. Richardson, Erin P. Riley, Christian Roos, Anthony B. Rylands, Lori K. Sheeran, Danielle J. Whittaker and Dietmar Zinner; Hylobatidae (family account) – David J. Chivers; Hylobatidae (species accounts) – Martina V. Anandam, Sanjay Molur, Colin P. Groves, Benjamin M. Rawson, Matthew C. Richardson, Christian Roos and Danielle J. Whittaker; Hominidae (family account) – Elizabeth A. Williamson, Fiona G. Maisels and Colin P. Groves; Hominidae (accounts for Asian species) – F. Blake Morton, Anne E. Russon, Ian Singleton and Elizabeth A. Williamson.

REFERENCES

- Choudhury, A. 2013. Description of a new subspecies of hoolock gibbon *Hoolock hoolock* from Northeast India. *Newsletter and Journal of the Rhino Foundation for Nature in Northeast India* **9**: 49–59.
- IUCN 2013. *The IUCN Red List of Threatened Species. Version 2013.2*. <<http://www.iucnredlist.org>>. Downloaded on 9 March 2014.
- Mittermeier, R.A., Rylands, A.B. and Wilson, D.E. (eds.). 2013. *Handbook of the Mammals of the World. Volume 3. Primates*. Lynx Edicions, Barcelona, Spain.
- Munds, R.A., Nekaris, K.A.I. and Ford, S.M. 2013. Taxonomy of the Bornean slow lorises, with new species *Nycticebus kayan* (Primates, Lorisidae). *American Journal of Primatology* **75**: 46–56.

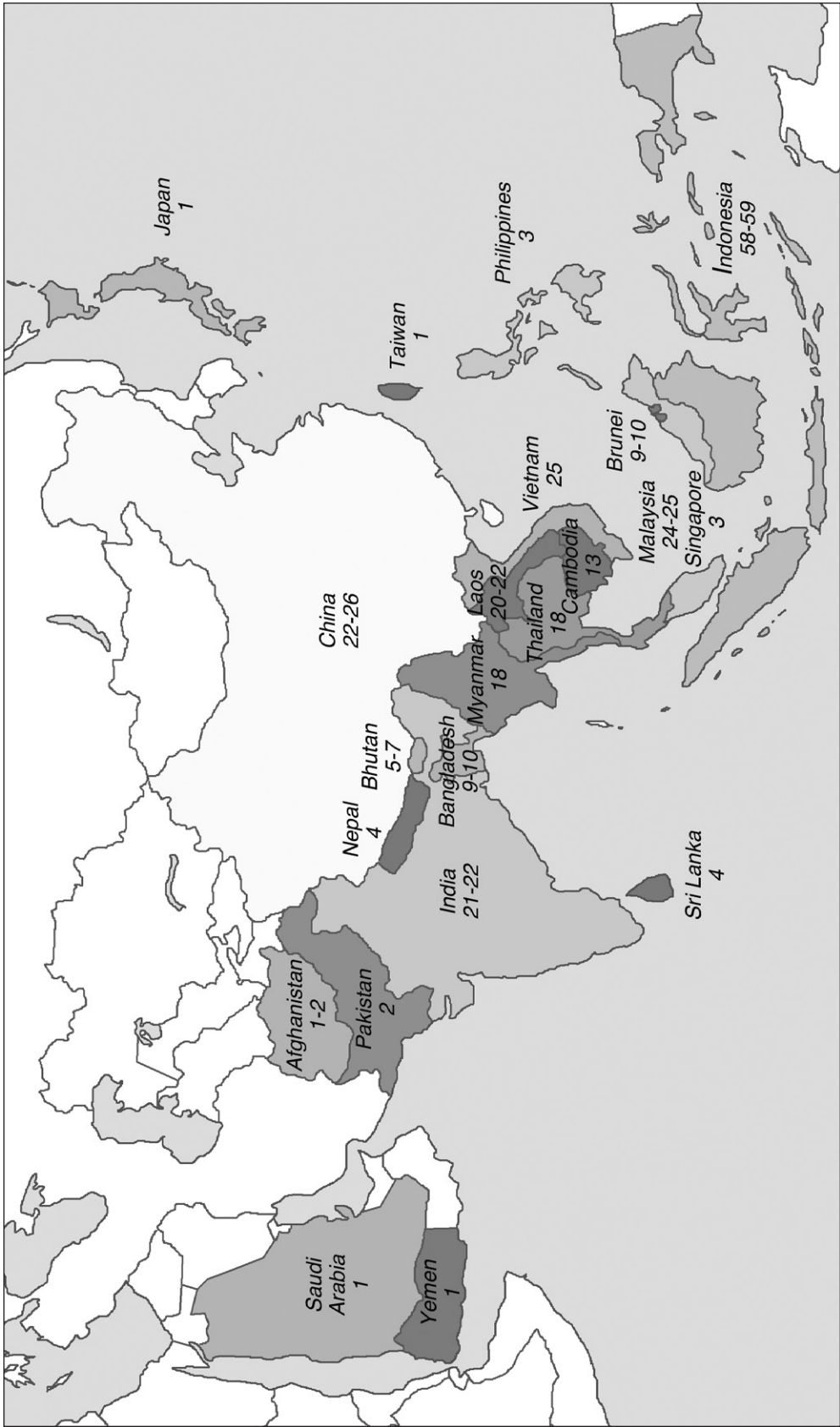


Fig. 1. Asian countries inhabited by non-human primates along with the number of confirmed/unconfirmed species.

Table 1. Asian non-human primates by country

Country	Species
Afghanistan (1–2 species)	<i>Macaca mulatta</i> , (<i>Semnopithecus schistaceus</i>)
Bangladesh (9–10 species)	<i>Nycticebus bengalensis</i> , <i>Macaca leonina</i> , <i>M. assamensis</i> , (<i>M. arctoides</i>), <i>M. fascicularis</i> , <i>M. mulatta</i> , <i>Trachypithecus pileatus</i> , <i>T. phayrei</i> , <i>Semnopithecus entellus</i> , <i>Hoolock hoolock</i>
Bhutan (5–7 species)	<i>Macaca assamensis</i> , (<i>M. munzala</i>), <i>M. mulatta</i> , <i>Trachypithecus geei</i> , <i>T. pileatus</i> , (<i>Semnopithecus hector</i>), <i>S. schistaceus</i>
Brunei (9–10 species)	<i>Nycticebus menagensis</i> , <i>Cephalopachus bancanus</i> , <i>Macaca nemestrina</i> , <i>M. fascicularis</i> , <i>Presbytis chrysomelas</i> , (<i>P. rubicunda</i>), <i>P. hosei</i> , <i>Trachypithecus cristatus</i> , <i>Nasalis larvatus</i> , <i>Hylobates funereus</i>
Cambodia (13 species)	<i>Nycticebus bengalensis</i> , <i>N. pygmaeus</i> , <i>Macaca leonina</i> , <i>M. arctoides</i> , <i>M. fascicularis</i> , <i>Trachypithecus germaini</i> , <i>T. margarita</i> , <i>Pygathrix cinerea</i> , <i>P. nemaus</i> , <i>P. nigripes</i> , <i>Hylobates pileatus</i> , <i>Nomascus annamensis</i> , <i>N. gabriellae</i>
China (22–26 species)	<i>Nycticebus bengalensis</i> , (<i>N. pygmaeus</i>), <i>Macaca leonina</i> , <i>M. assamensis</i> , <i>M. thibetana</i> , (<i>M. munzala</i>), <i>M. arctoides</i> , <i>M. mulatta</i> , <i>Trachypithecus shortridgei</i> , <i>T. phayrei</i> , <i>T. crepusculus</i> , <i>T. francoisi</i> , <i>T. leucocephalus</i> , <i>Semnopithecus schistaceus</i> , (<i>Rhinopithecus avunculus</i>), <i>R. bieti</i> , <i>R. brelichi</i> , <i>R. roxellana</i> , <i>R. strykeri</i> , (<i>Hoolock hoolock</i>), <i>H. leuconedys</i> , <i>Hylobates lar</i> , <i>Nomascus hainanus</i> , <i>N. nasutus</i> , <i>N. concolor</i> , <i>N. leucogenys</i>
India (21–22 species)	<i>Loris tardigradus</i> , <i>L. lydekkerianus</i> , <i>Nycticebus bengalensis</i> , <i>Macaca silenus</i> , <i>M. leonina</i> , <i>M. radiata</i> , <i>M. assamensis</i> , (<i>M. thibetana</i>), <i>M. munzala</i> , <i>M. arctoides</i> , <i>M. mulatta</i> , <i>Trachypithecus geei</i> , <i>T. pileatus</i> , <i>T. phayrei</i> , <i>Semnopithecus entellus</i> , <i>S. ajax</i> , <i>S. hector</i> , <i>S. schistaceus</i> , <i>S. hypoleucos</i> , <i>S. priam</i> , <i>S. johnii</i> , <i>Hoolock hoolock</i> .
Indonesia (58–59 species)	<i>Nycticebus coucang</i> , <i>N. javanicus</i> , <i>N. menagensis</i> , <i>N. bancanus</i> , <i>N. borneanus</i> , <i>N. kayan</i> , <i>Tarsius tarsier</i> , <i>T. fuscus</i> , <i>T. dentatus</i> , <i>T. pelengensis</i> , <i>T. sangirensis</i> , <i>T. tumpara</i> , <i>T. pumilus</i> , <i>T. larian</i> , <i>T. wallacei</i> , <i>Cephalopachus bancanus</i> , <i>Macaca nemestrina</i> , <i>M. siberu</i> , <i>M. pagensis</i> , <i>M. nigra</i> , <i>M. nigrescens</i> , <i>M. tonkeana</i> , <i>M. ochreata</i> , <i>M. hecki</i> , <i>M. maura</i> , <i>M. fascicularis</i> , <i>Presbytis thomasi</i> , <i>P. melalophos</i> , <i>P. sumatrana</i> , <i>P. bicolor</i> , <i>P. mitrata</i> , <i>P. comata</i> , <i>P. potenziani</i> , <i>P. siberu</i> , <i>P. femoralis</i> , <i>P. siamensis</i> , <i>P. natunae</i> , <i>P. chrysomelas</i> , <i>P. rubicunda</i> , <i>P. hosei</i> , <i>P. canicrus</i> , (<i>P. sabana</i>), <i>P. frontata</i> , <i>Trachypithecus auratus</i> , <i>T. mauritius</i> , <i>T. cristatus</i> , <i>Nasalis larvatus</i> , <i>Simias concolor</i> , <i>Hylobates lar</i> , <i>H. agilis</i> , <i>H. albibarbis</i> , <i>H. muelleri</i> , <i>H. abbotti</i> , <i>H. funereus</i> , <i>H. klossii</i> , <i>H. moloch</i> , <i>Symphalangus syndactylus</i> , <i>Pongo abelii</i> , <i>P. pygmaeus</i>
Japan (1 species)	<i>Macaca fuscata</i>
Laos (20–22 species)	<i>Nycticebus bengalensis</i> , <i>N. pygmaeus</i> , <i>Macaca leonina</i> , <i>M. assamensis</i> , <i>M. arctoides</i> , <i>M. fascicularis</i> , <i>M. mulatta</i> , <i>Trachypithecus germaini</i> , <i>T. margarita</i> , <i>T. crepusculus</i> , <i>T. laotum</i> , <i>T. hatinhensis</i> , <i>T. ebenus</i> , (<i>Pygathrix cinerea</i>), <i>P. nemaus</i> , (<i>P. nigripes</i>), <i>Hylobates lar</i> , <i>H. pileatus</i> , <i>Nomascus concolor</i> , <i>N. leucogenys</i> , <i>N. siki</i> , <i>N. annamensis</i>

Country	Species
Malaysia (24–25 species)	<i>(Nycticebus bengalensis)</i> , <i>N. coucang</i> , <i>N. menagensis</i> , <i>N. kayan</i> , <i>Cephalopachus bancanus</i> , <i>Macaca nemestrina</i> , <i>M. arctoides</i> , <i>M. fascicularis</i> , <i>Presbytis femoralis</i> , <i>P. siamensis</i> , <i>P. chrysomelas</i> , <i>P. rubicunda</i> , <i>P. hosei</i> , <i>P. sabana</i> , <i>P. frontata</i> , <i>Trachypithecus cristatus</i> , <i>T. selangorensis</i> , <i>T. obscurus</i> , <i>Nasalis larvatus</i> , <i>Hylobates lar</i> , <i>H. agilis</i> , <i>H. abbotti</i> , <i>H. funereus</i> , <i>Symphalangus syndactylus</i> , <i>Pongo pygmaeus</i>
Myanmar (18 species)	<i>Nycticebus bengalensis</i> , <i>Macaca leonina</i> , <i>M. assamensis</i> , <i>M. arctoides</i> , <i>M. fascicularis</i> , <i>M. mulatta</i> , <i>Presbytis femoralis</i> , <i>Trachypithecus pileatus</i> , <i>T. shortridgei</i> , <i>T. germaini</i> , <i>T. obscurus</i> , <i>T. phayrei</i> , <i>T. barbei</i> , <i>T. crepusculus</i> , <i>Rhinopithecus strykeri</i> , <i>Hoolock hoolock</i> , <i>H. leuconedys</i> , <i>Hylobates lar</i>
Nepal (4 species)	<i>Macaca assamensis</i> , <i>M. mulatta</i> , <i>Semnopithecus hector</i> , <i>S. schistaceus</i>
Pakistan (2 species)	<i>Macaca mulatta</i> , <i>Semnopithecus schistaceus</i>
Philippines (3 species)	<i>Nycticebus menagensis</i> , <i>Carlito syrichta</i> , <i>Macaca fascicularis</i>
Saudi Arabia (1 species)	<i>Papio hamadryas</i>
Singapore (3 species)	<i>Nycticebus coucang</i> , <i>Macaca fascicularis</i> , <i>Presbytis femoralis</i>
Sri Lanka (4 species)	<i>Loris tardigradus</i> , <i>Macaca sinica</i> , <i>Semnopithecus priam</i> , <i>S. vetulus</i>
Taiwan (1 species)	<i>Macaca cyclopis</i>
Thailand (18 species)	<i>Nycticebus bengalensis</i> , <i>N. coucang</i> , <i>Macaca leonina</i> , <i>M. nemestrina</i> , <i>M. assamensis</i> , <i>M. arctoides</i> , <i>M. fascicularis</i> , <i>M. mulatta</i> , <i>Presbytis femoralis</i> , <i>P. siamensis</i> , <i>Trachypithecus germaini</i> , <i>T. obscurus</i> , <i>T. barbei</i> , <i>T. crepusculus</i> , <i>Hylobates pileatus</i> , <i>H. lar</i> , <i>H. agilis</i> , <i>Symphalangus syndactylus</i>
Vietnam (25 species)	<i>Nycticebus bengalensis</i> , <i>N. pygmaeus</i> , <i>Macaca leonina</i> , <i>M. assamensis</i> , <i>M. arctoides</i> , <i>M. fascicularis</i> , <i>M. mulatta</i> , <i>Trachypithecus germaini</i> , <i>T. margarita</i> , <i>T. crepusculus</i> , <i>T. francoisi</i> , <i>T. poliocephalus</i> , <i>T. delacouri</i> , <i>T. hatinhensis</i> , <i>T. ebenus</i> , <i>Rhinopithecus avunculus</i> , <i>Pygathrix cinerea</i> , <i>P. nemaus</i> , <i>P. nigripes</i> , <i>Nomascus nasutus</i> , <i>N. concolor</i> , <i>N. leucogenys</i> , <i>N. siki</i> , <i>N. annamensis</i> , <i>N. gabriellae</i>
Yemen (1 species)	<i>Papio hamadryas</i>

Note: Species records in brackets are those whose presence is unconfirmed

Table 2. IUCN Red List of threatened Asian non-human primates by category

Threatened Status	Species
Critically Endangered (17 species)	<i>Tarsius tumpara</i> , <i>Macaca pagensis</i> , <i>M. nigra</i> , <i>Presbytis potenziani</i> , <i>P. chrysomelas</i> , <i>Trachypithecus poliocephalus</i> , <i>T. leucocephalus</i> , <i>T. delacouri</i> , <i>Rhinopithecus avunculus</i> , <i>R. strykeri</i> , <i>Pygathrix cinerea</i> , <i>Simias concolor</i> , <i>Nomascus hainanus</i> , <i>N. nasutus</i> , <i>N. concolor</i> , <i>N. leucogenys</i> , <i>Pongo abelii</i>
Endangered (45 species)	<i>Loris tardigradus</i> , <i>Nycticebus javanicus</i> , <i>Tarsius pelengensis</i> , <i>T. sangirensis</i> , <i>Macaca silenus</i> , <i>M. maura</i> , <i>M. sinica</i> , <i>M. munzala</i> , <i>Presbytis sumatrana</i> , <i>P. mitrata</i> , <i>P. comata</i> , <i>P. siberu</i> , <i>P. canicrus</i> , <i>P. sabana</i> , <i>Trachypithecus geei</i> , <i>T. shortridgei</i> , <i>T. germaini</i> , <i>T. margarita</i> , <i>T. phayrei</i> , <i>T. crepusculus</i> , <i>T. francoisi</i> , <i>T. hatinhensis</i> , <i>T. ebenus</i> , <i>Semnopithecus ajax</i> , <i>S. vetulus</i> , <i>Rhinopithecus bieti</i> , <i>R. brelichii</i> , <i>R. roxellana</i> , <i>Pygathrix nemaeus</i> , <i>P. nigripes</i> , <i>Nasalis larvatus</i> , <i>Hoolock hoolock</i> , <i>Hylobates pileatus</i> , <i>H. lar</i> , <i>H. agilis</i> , <i>H. albibarbis</i> , <i>H. muelleri</i> , <i>H. abbotti</i> , <i>H. funereus</i> , <i>H. klossii</i> , <i>H. moloch</i> , <i>Nomascus siki</i> , <i>N. gabriellae</i> , <i>Symphalangus syndactylus</i> , <i>Pongo pygmaeus</i>
Vulnerable (25 species)	<i>Nycticebus bengalensis</i> , <i>N. coucang</i> , <i>N. menagensis</i> , <i>N. pygmaeus</i> , <i>Tarsius tarsier</i> , <i>T. dentatus</i> , <i>Cephalopachus bancanus</i> , <i>Macaca leonina</i> , <i>M. nemestrina</i> , <i>M. siberu</i> , <i>M. nigrescens</i> , <i>M. tonkeana</i> , <i>M. ochreata</i> , <i>M. hecki</i> , <i>M. arctoides</i> , <i>Presbytis thomasi</i> , <i>P. natunae</i> , <i>P. frontata</i> , <i>Trachypithecus pileatus</i> , <i>T. auratus</i> , <i>T. mauritius</i> , <i>T. laotum</i> , <i>Semnopithecus hypoleucos</i> , <i>S. johnii</i> , <i>Hoolock leuconedys</i>
Near Threatened (10 species)	<i>Carlito syrichta</i> , <i>Macaca assamensis</i> , <i>M. thibetana</i> , <i>Presbytis melalophos</i> , <i>P. femoralis</i> , <i>P. siamensis</i> , <i>Trachypithecus cristatus</i> , <i>T. obscurus</i> , <i>Semnopithecus hector</i> , <i>S. priam</i>
Least Concern (10 species)	<i>Loris lydekkerianus</i> , <i>Macaca radiata</i> , <i>M. fascicularis</i> , <i>M. mulatta</i> , <i>M. fuscata</i> , <i>M. cyclopis</i> , <i>Papio hamadryas</i> , <i>Presbytis rubicunda</i> , <i>Semnopithecus entellus</i> , <i>S. schistaceus</i>
Data Deficient (6 species)	<i>Tarsius pumilus</i> , <i>T. lariang</i> , <i>T. wallacei</i> , <i>Presbytis bicolor</i> , <i>P. hosei</i> , <i>Trachypithecus barbei</i>
Not Evaluated (6 species)	<i>Nycticebus bancanus</i> , <i>N. borneanus</i> , <i>N. kayan</i> , <i>Tarsius fuscus</i> , <i>Trachypithecus selangorensis</i> , <i>Nomascus annamensis</i>

Table 3. IUCN Red List of threatened Asian non-human primates by family and genus

Family	CR	EN	VU	NT	LC	DD	NE
Lorisidae		2	4		1		3
<i>Loris</i>		1			1		
<i>Nycticebus</i>		1	4				3
Tarsiidae	1	2	3	1		3	1
<i>Tarsius</i>	1	2	2			3	1
<i>Carlito</i>				1			
<i>Cephalopachus</i>			1				
Cercopithecidae	11	27	17	9	9	3	1
<i>Papio</i>					1		
<i>Macaca</i>	2	4	8	2	5		
<i>Presbytis</i>	2	6	3	3	1	2	
<i>Trachypithecus</i>	3	9	4	2		1	1
<i>Semnopithecus</i>		2	2	2	2		
<i>Rhinopithecus</i>	2	3					
<i>Pygathrix</i>	1	2					
<i>Nasalis</i>		1					
<i>Simias</i>	1						
Hylobatidae	4	13	1				1
<i>Hoolock</i>		1	1				
<i>Hylobates</i>		9					
<i>Nomascus</i>	4	2					1
<i>Symphalangus</i>		1					
Hominidae	1	1					
<i>Pongo</i>	1	1					



Plate 1: Genus *Loris* & *Nycticebus*

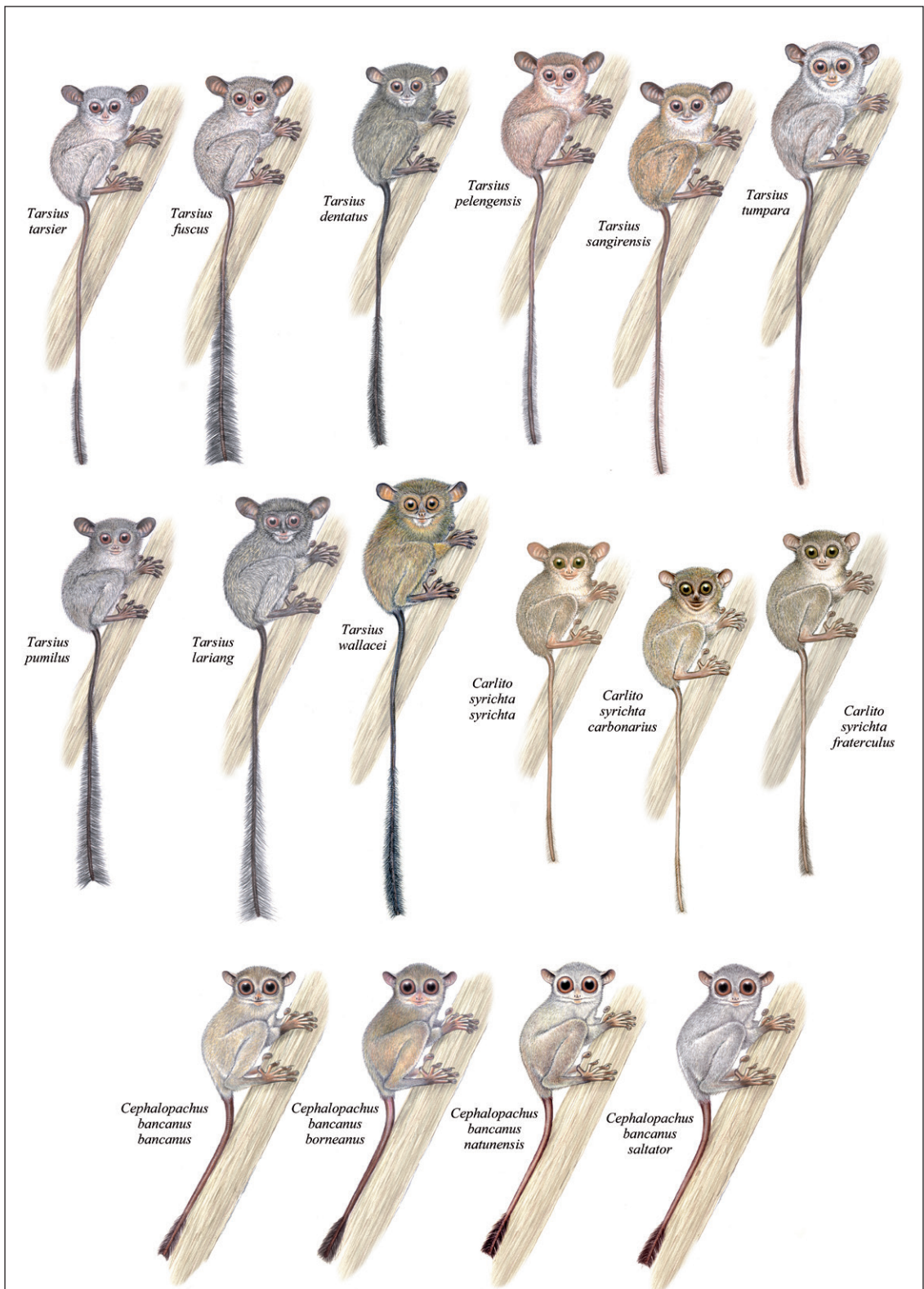


Plate 2: Genus *Tarsius*, *Carlito* & *Cephalopachus*

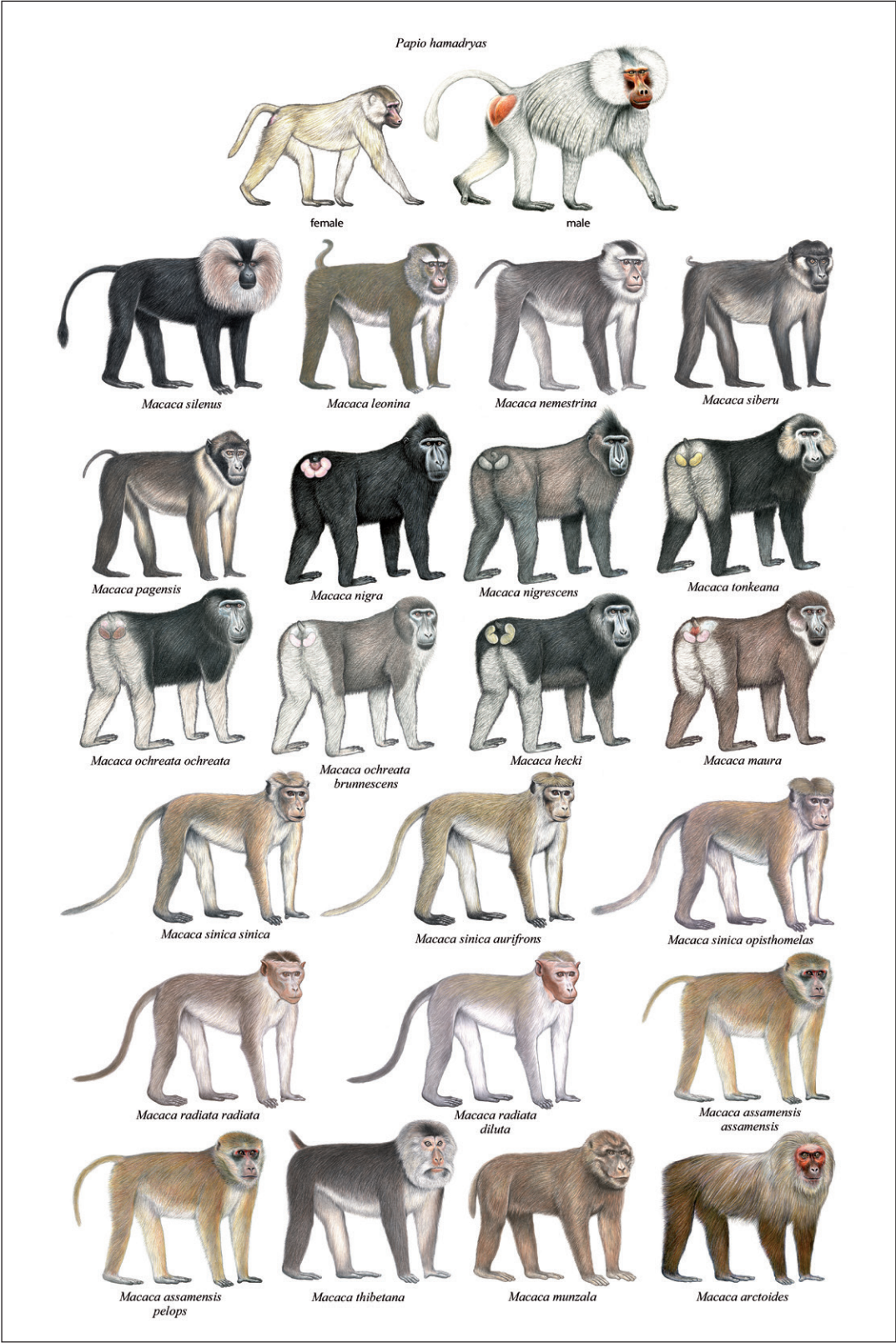


Plate 3: Genus *Papio* & *Macaca*

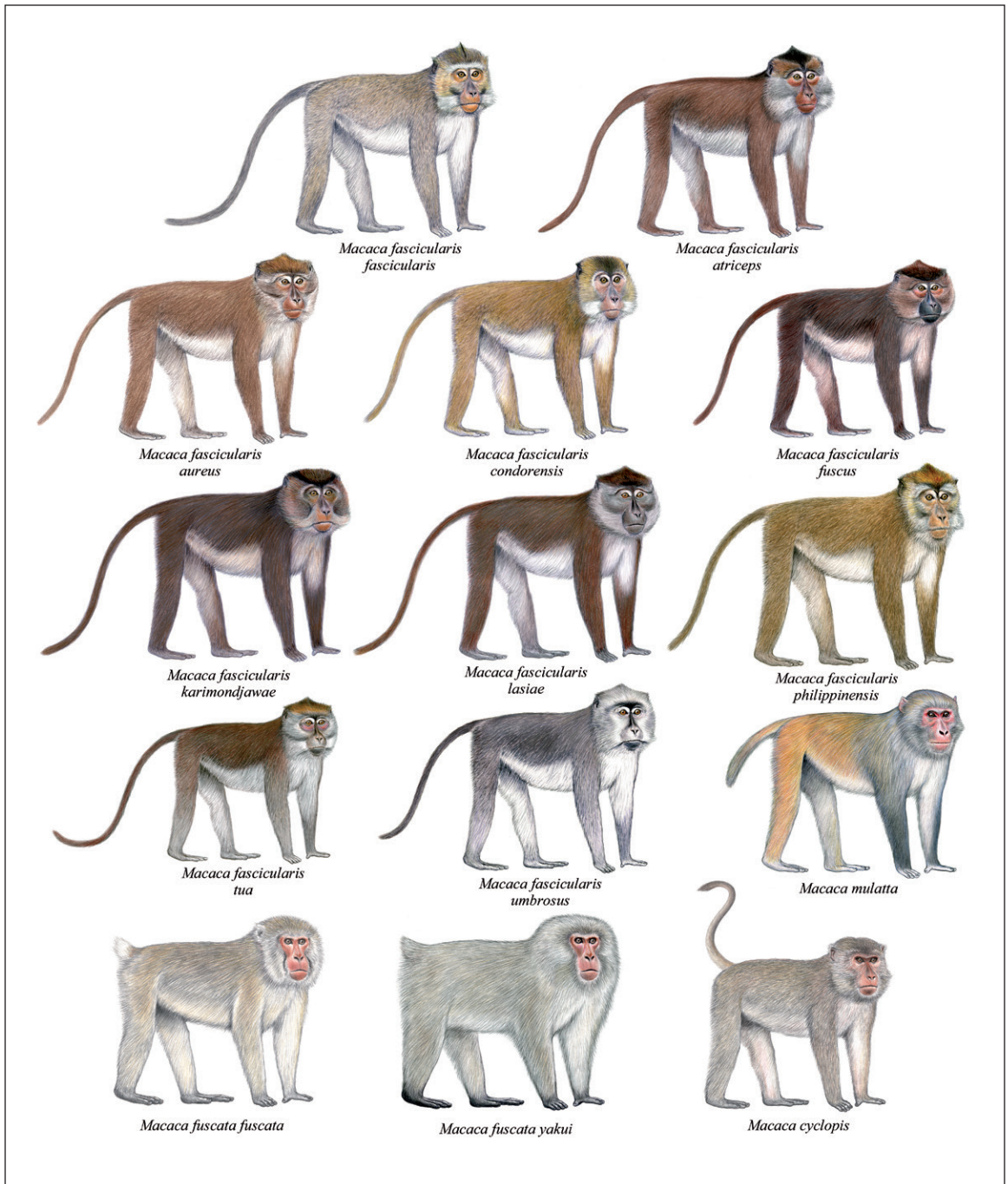


Plate 4: Genus *Macaca*

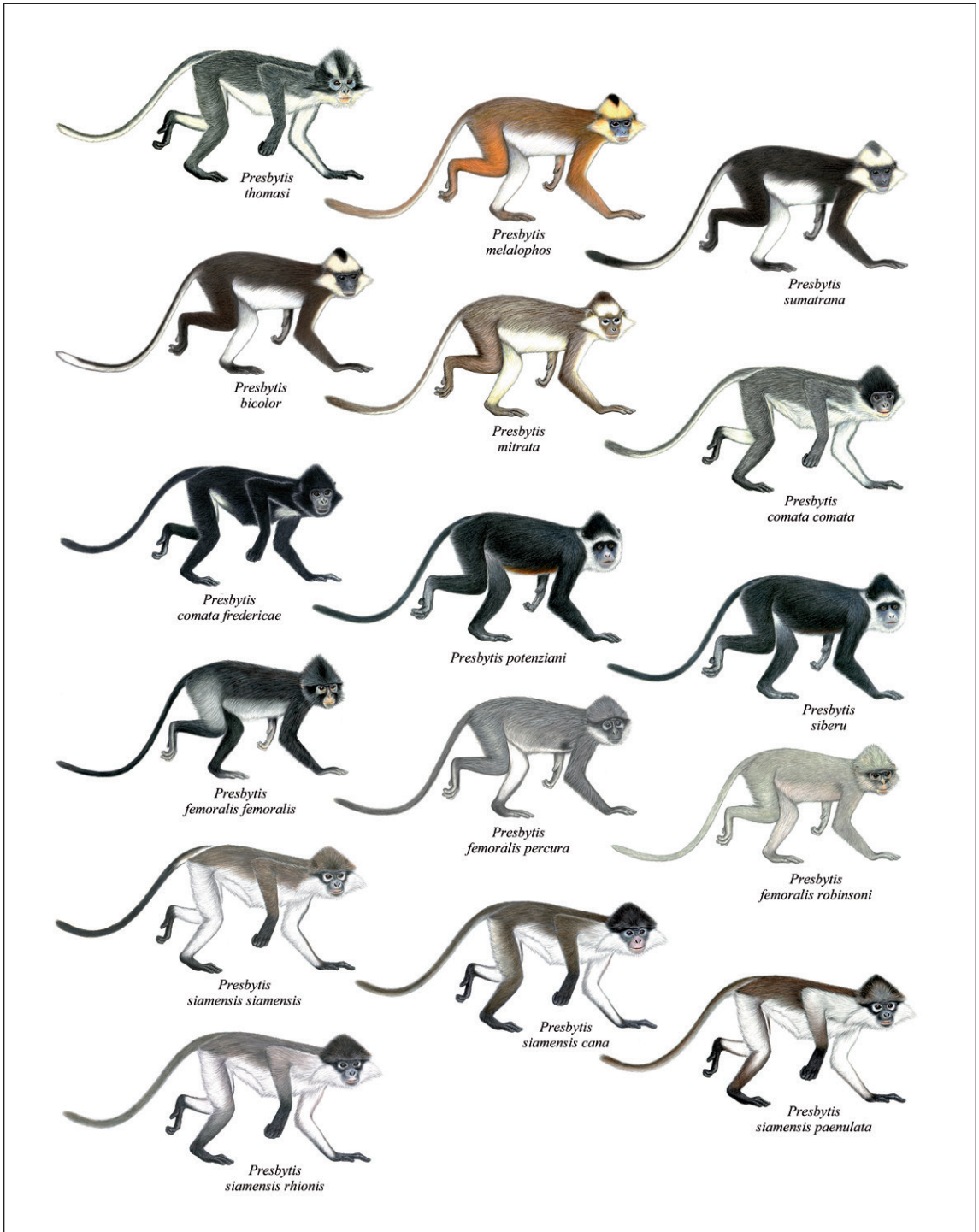


Plate 5: Genus *Presbytis*

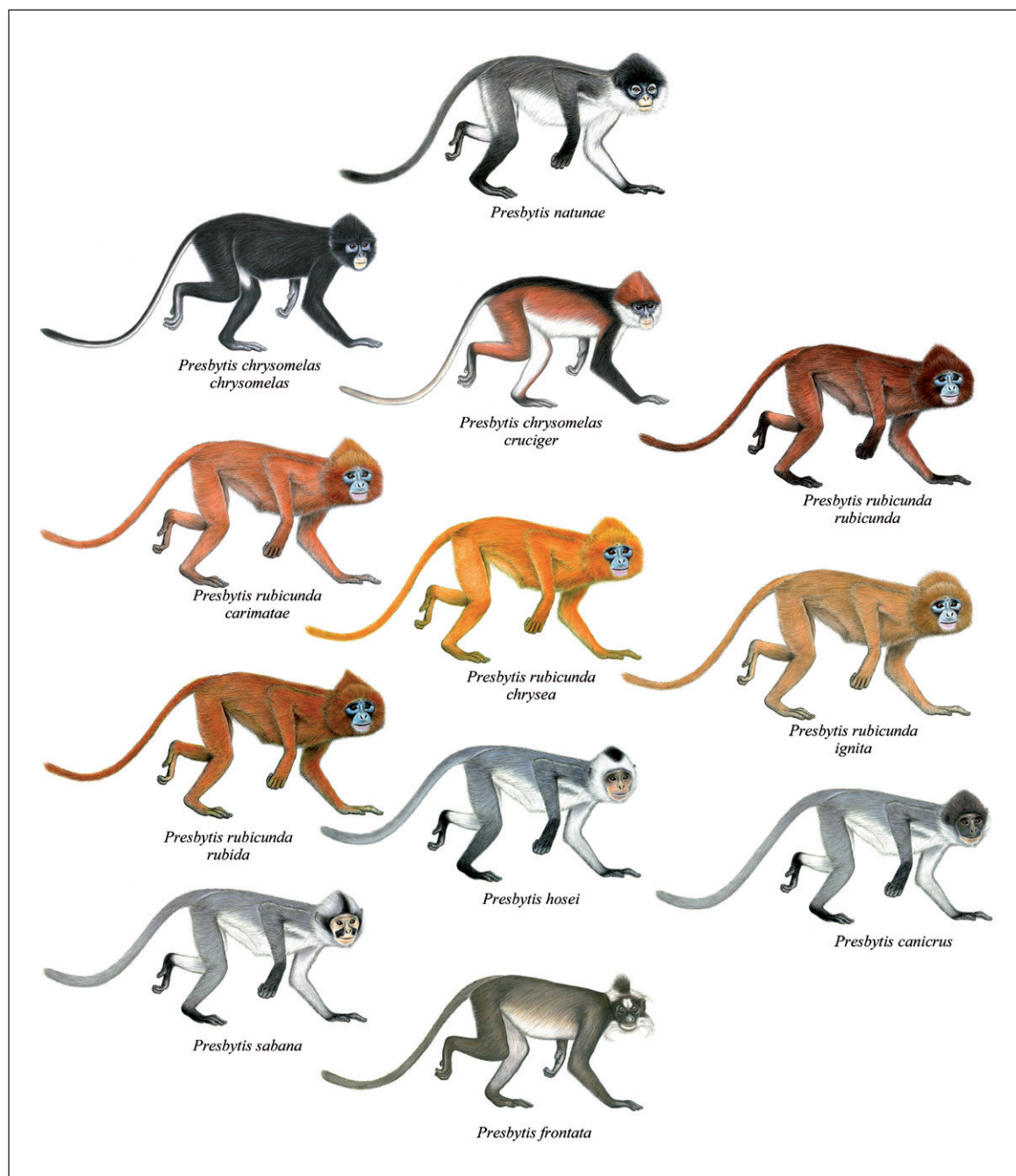


Plate 6: Genus *Presbytis*

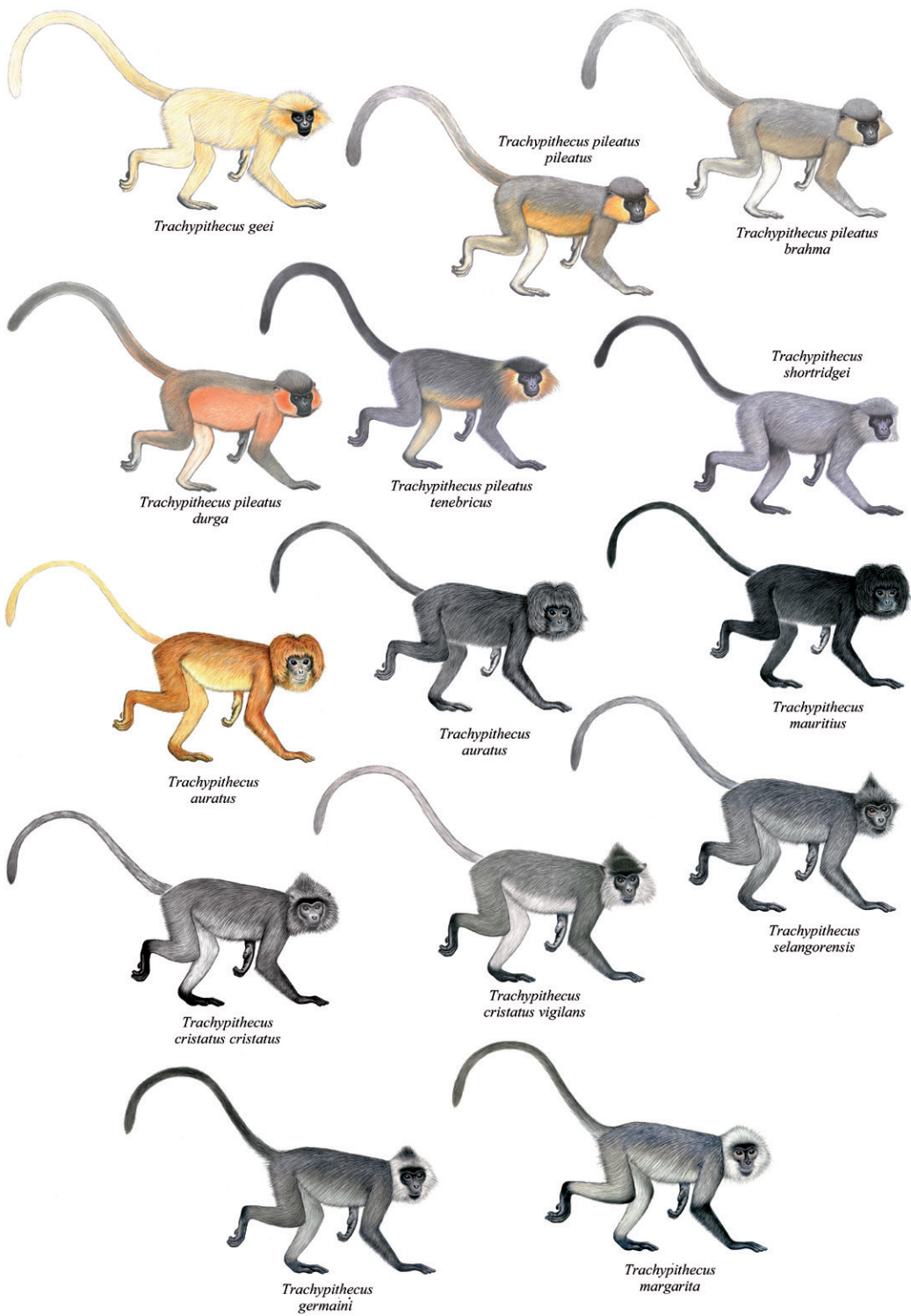
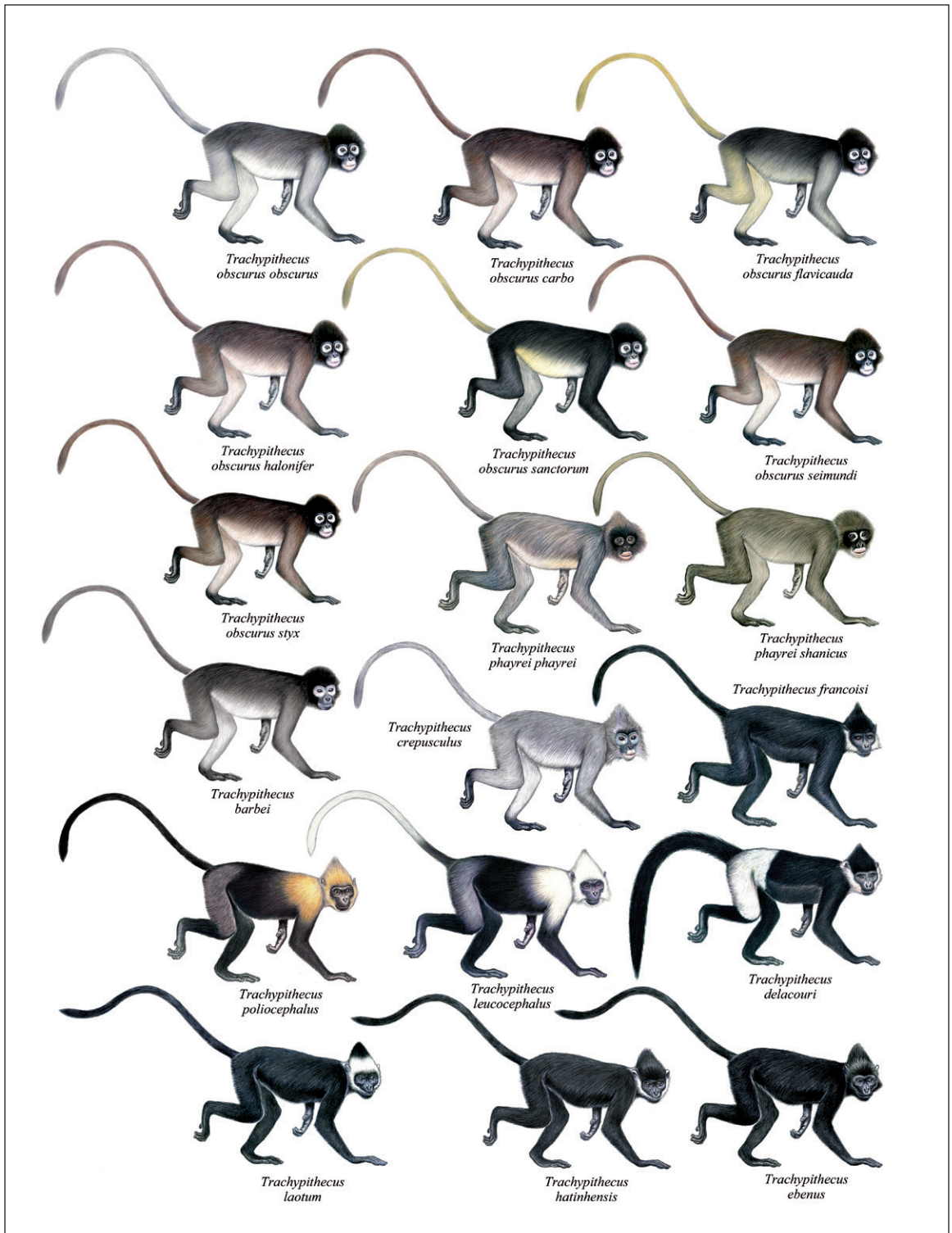


Plate 7: Genus *Trachypithecus*

Plate 8: Genus *Trachypithecus*

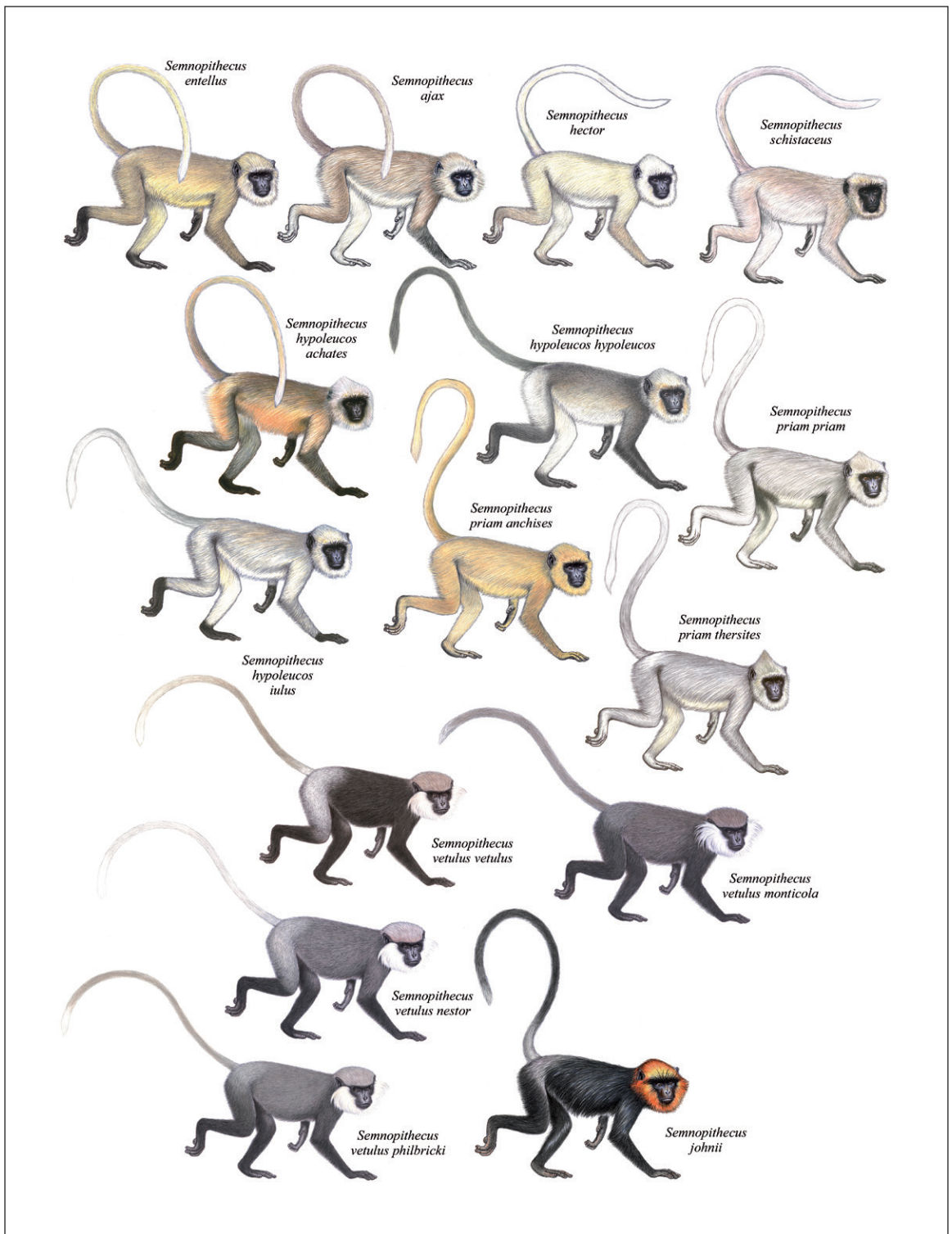


Plate 9: Genus *Semnopithecus*

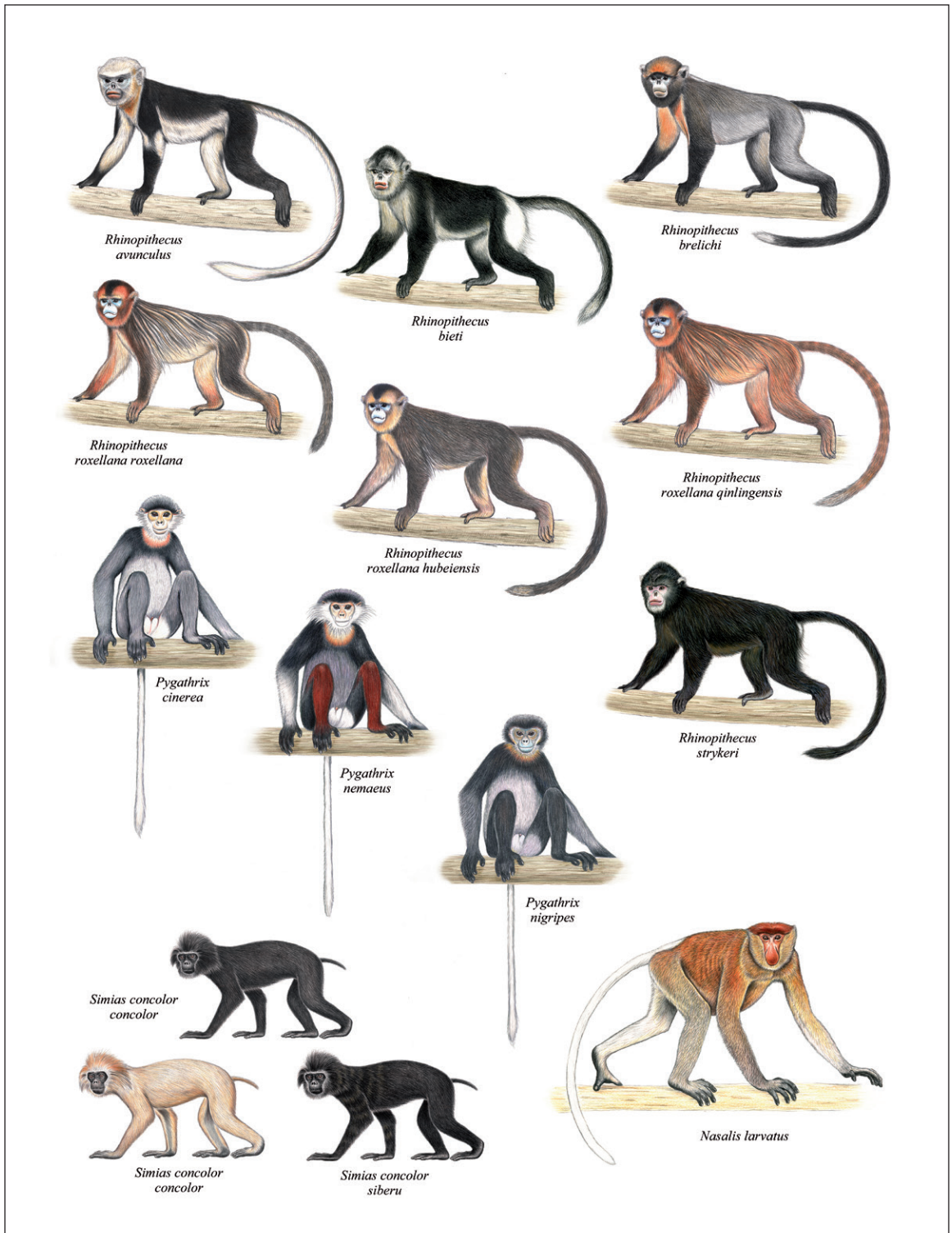


Plate 10: Genus *Rhinopithecus*, *Pygathrix*, *Simias* & *Nasalis*

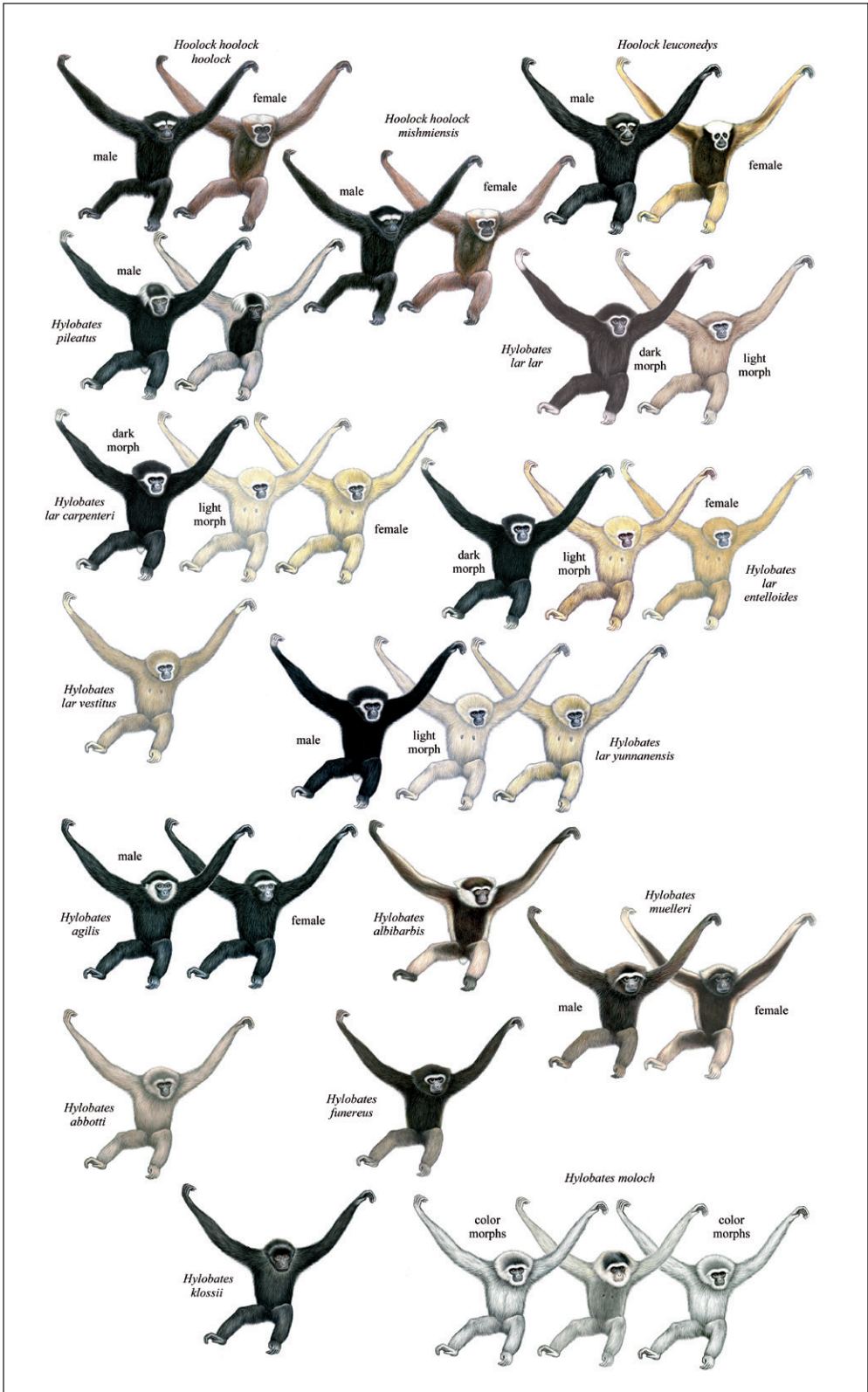


Plate 11: Genus *Hoolock* & *Hylobates*

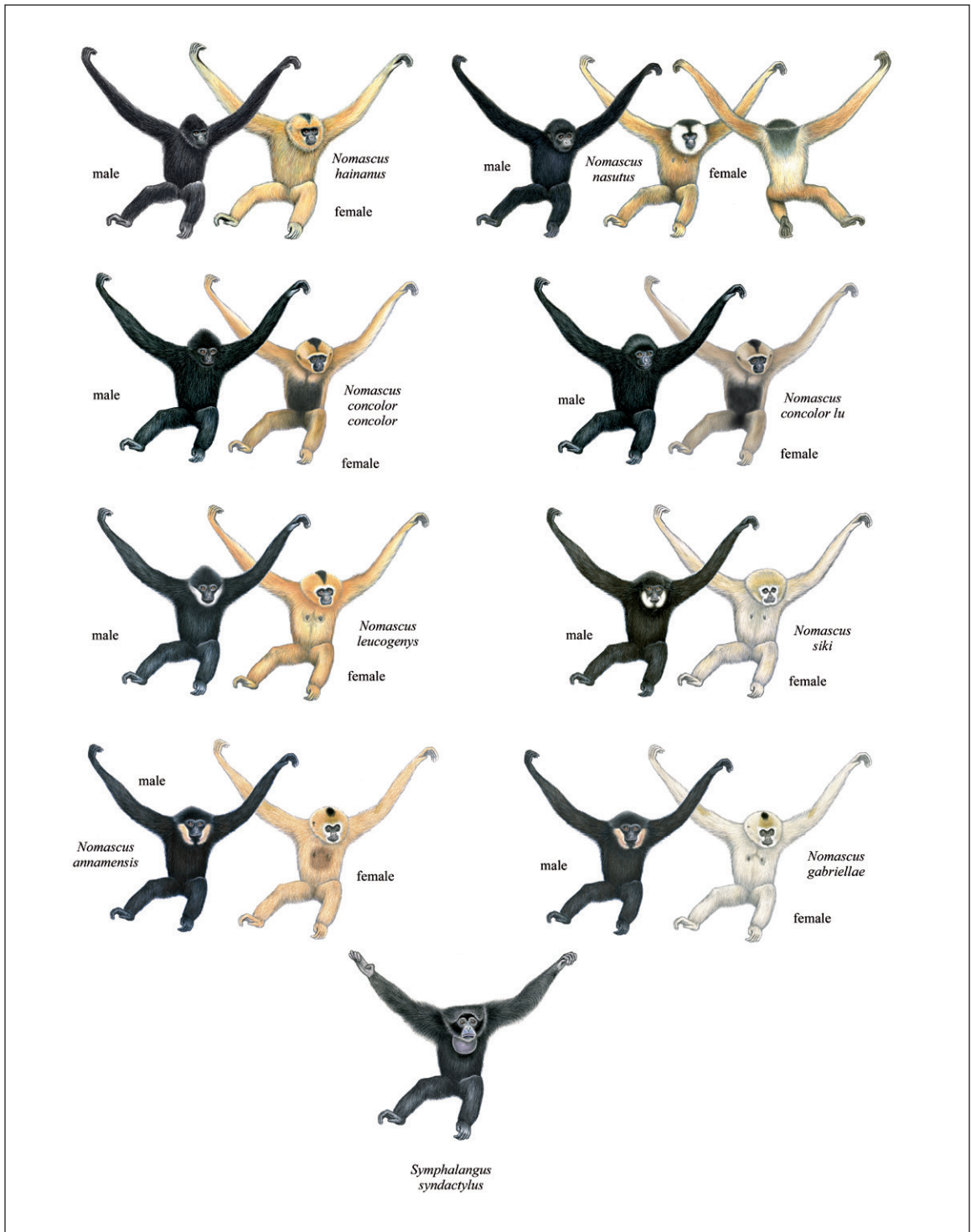


Plate 12: Genus *Nomascus* & *Symphalangus*

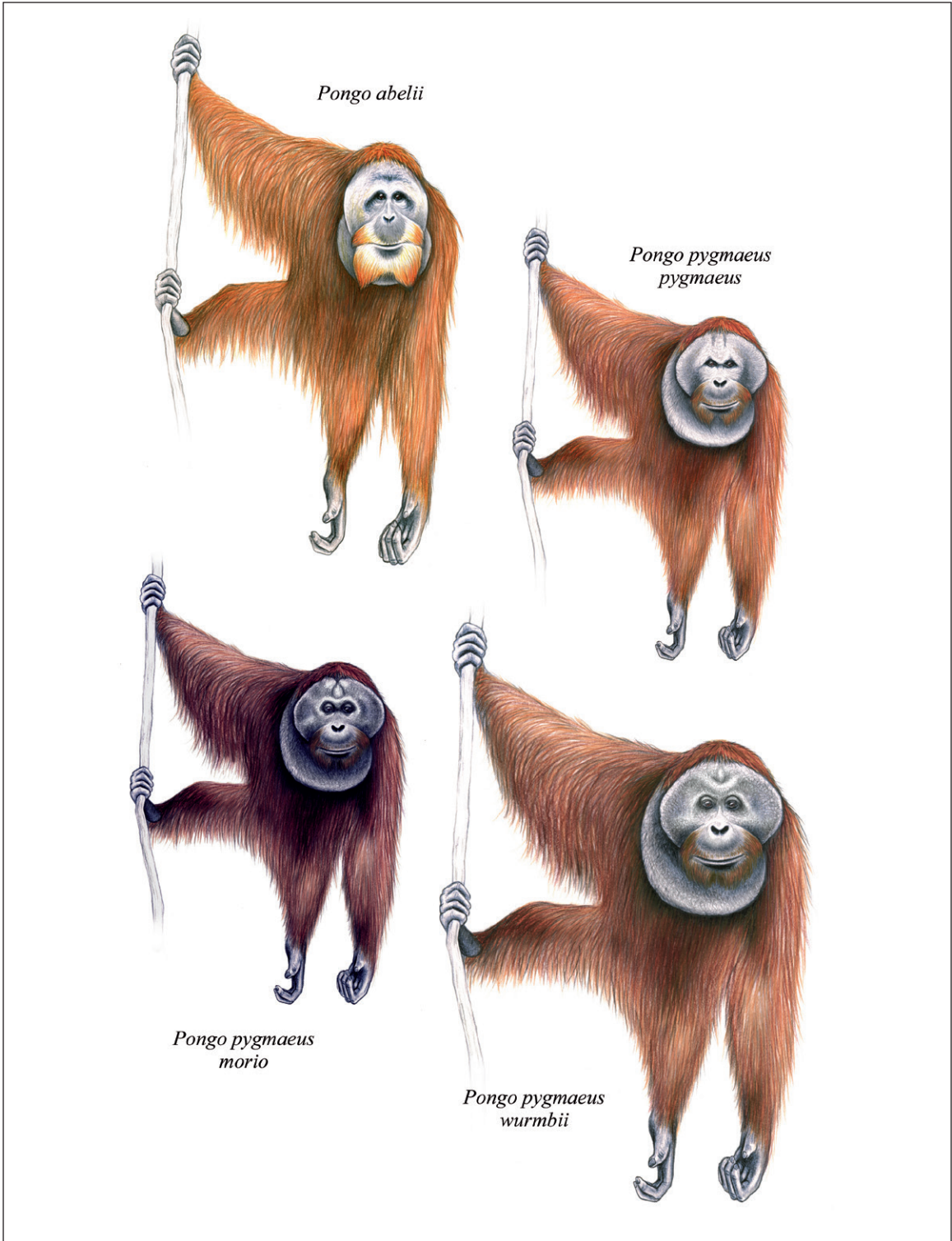


Plate 13: Genus *Pongo*

Instructions to Contributors

Scope

This journal aims to provide information relating to conservation of the primates of Asia. We welcome manuscripts on any relevant subject, including taxonomy and genetics, biogeography and distribution, ecology and behaviour, active threats and primate-human interactions. Submissions may include full articles, short articles and book reviews.

Submissions

Manuscripts and all editorial correspondence should be directed to Dr Ramesh Boonratana (rbz@loxinfo.co.th). Manuscripts are to be submitted to the journal on the understanding that they have not been published previously and are not being considered for publication elsewhere. The corresponding author is responsible for ensuring that the submitted manuscript has been seen and approved by all co-contributors, and the covering letter accompanying it should be signed to this effect. It is also the responsibility of the contributor to ensure that manuscripts emanating from a particular institution are submitted with the approval of the necessary authority. The editors retain the right to modify the style and the length of a contribution and to decide the time of publication; they will endeavour to communicate any changes to the contributors. The full name and address of each contributor should be included. Please avoid the use of unexplained abbreviations and acronyms.

Contributions

Manuscripts should be submitted in UK English. Manuscripts must be in electronic format in MS-Word or a compatible program, double-spaced and left-justified. The first page should include a concise title, up to seven keywords not found in the title, full names and addresses of all authors, current addresses if different, e-mail addresses, and indication to whom queries and proofs should be sent. In-text citations should use comma and ampersand and follow first chronological, then alphabetical, sequence: (Matsuzawa & MacKinnon, 1980; Marsh, 1998; Matsuzawa, 1998a, 1998b). All pages including tables should be numbered. Footnotes should be avoided.

Full articles will be sent out for peer-review and should contain significant new findings. They should not exceed about 20 pages in length (double-spaced), including references. Please include an abstract of no more than 200 words, placing the work in conservation context and summarising what it has contributed, and subheadings (e.g. Introduction, Methods, Results, Discussion, Acknowledgements, References) as appropriate.

Taxonomy

Scientific nomenclature should be used at first mention of any species or subspecies. Nomenclature should include taxonomic authority (at first mention) as currently recognised by IUCN, e.g. Northern Pigtailed Macaque *Macaca leonina* (Blyth) (see www.iucnredlist.org). Authors are referred to The Plant List (www.theplantlist.org) for up-to-date plant nomenclature.

Numbers

Measurements should always be metric, or where this is inappropriate, the metric equivalents given in parentheses. Time should be designated in the 24-hour system (as e.g. 17:30 h) and date in the European system (e.g. 7 December 2011). Summary statistics should include measures of both central tendency and dispersion where appropriate, e.g. means and standard deviations (SD). Reports of all statistical tests should include the name of the statistical test, the name and value of the test statistic, the degrees of freedom, the probability value used to determine significance and the authors' interpretation. Probabilities should be reported as exact values if not significant, otherwise rounded off to either $p < 0.05$, 0.01 or 0.001.

Figures, maps and tables

Articles may include photographs, high-quality figures, high-quality maps and tables. Please keep these to a minimum. We stress the importance of providing maps which are *publishable*, with clear explanation of features shown, scale and orientation. Please number tables and figures (as Table 1, Fig. 1 etc.) and provide clear concise captions.

References

Examples of house style may be found in the latest volume of this journal. Please refer to these examples when listing references:

Journal article

Bynum, E.L., Kohlhaas, A.K. and Pramono, A.H. 1999. Conservation status of Sulawesi macaques. *Tropical Biodiversity* **6**: 123-144.

Chapter in book

Hohmann, G.M. and Fruth, B. 1995. Loud calls in great apes: sex differences and social correlates. **In:** *Current Topics in Primate Vocal Communication*, E. Zimmerman, J.D. Newman and U. Juergens (eds.), pp. 161-184. Plenum Press, New York, USA.

Book

Niemitz, C. 1984. *The Biology of Tarsiers*. Gustav Fischer, Stuttgart, Germany.

Thesis/Dissertation

Barrett, E. 1984. *The Ecology of some Nocturnal, Arboreal Mammals in the Rainforests of Peninsular Malaysia*. PhD dissertation, Cambridge University, UK.

Report

Eudey, A.A. 1987. *Action Plan for Asian Primate Conservation: 1987-1991*. IUCN/SSC (Species Survival Commission) Primate Specialist Group, Gland, Switzerland.

Electronic Database

Nadler, T., Timmins, R.J. and Richardson, M. 2008. *Trachypithecus germaini*. **In:** IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2. <www.iucnredlist.org>. Downloaded on 1 June 2012.

Asian Primates Journal

A Journal of the Southeast Asia, South Asia and China Sections of the IUCN SSC
Primate Specialist Group

Volume 4

Number 1

2014

FOREWORD

1

ARTICLES

AN UPDATED TAXONOMY AND CONSERVATION STATUS REVIEW OF ASIAN PRIMATES

Christian Roos, Ramesh Boonratana, Jatna Supriatna, John R. Fellowes,

Colin P. Groves, Stephen D. Nash, Anthony B. Rylands, and Russell A. Mittermeier

2