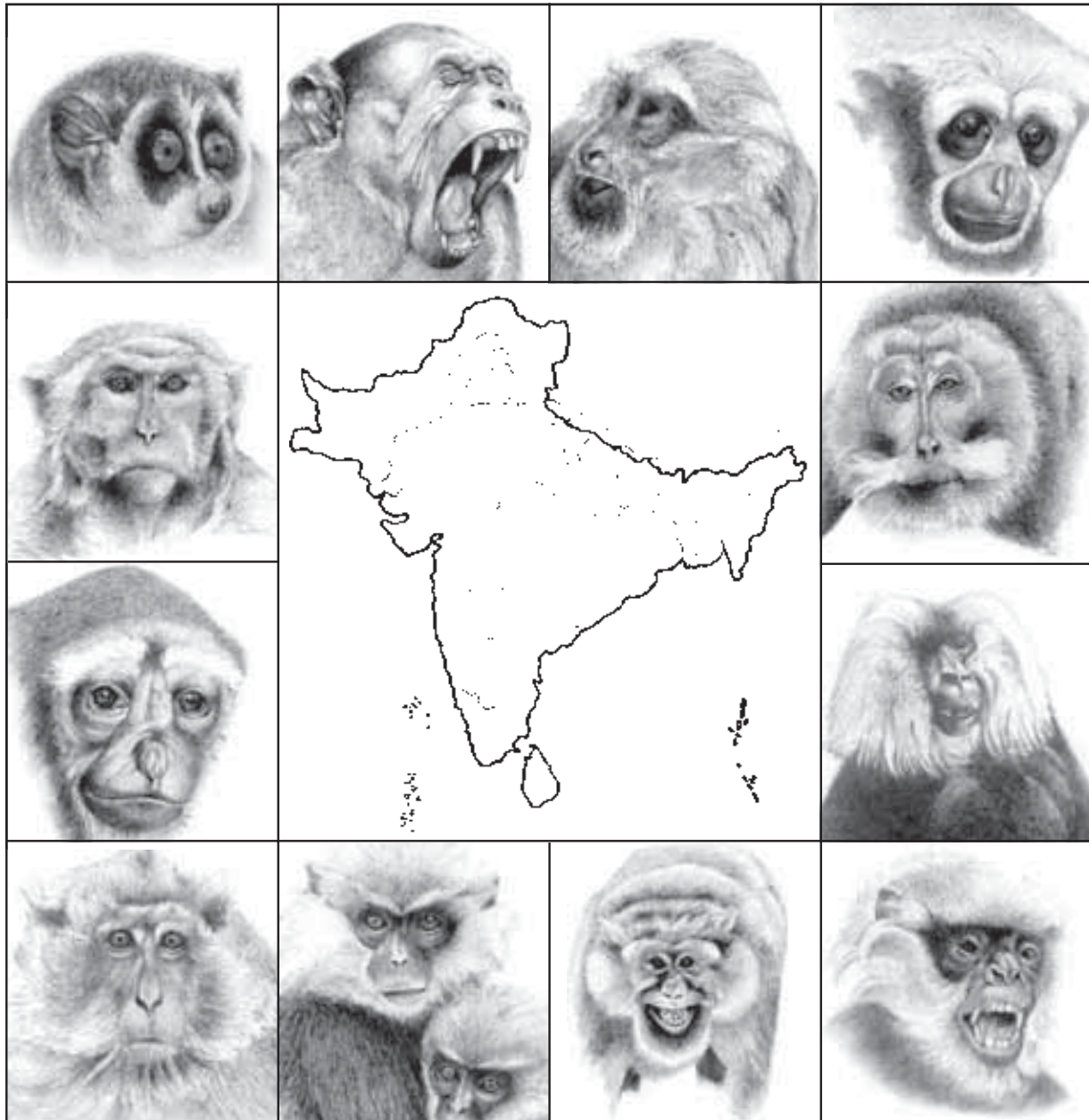


Status of South Asian Primates



Conservation Assessment and Management Plan (C.A.M.P.) Workshop Report, 2003

Conservation Breeding Specialist Group, South Asia
IUCN SSC Primate Specialist Group



Status of South Asian Primates

C.A.M.P.
Workshop
Report

2003


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iv	Hoolock Gibbon	Unknown
v	Lion-tailed Macaque	Unknown
vi	Rhesus Macaque	S.H. Prater 1971. Plate 10
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Luigi Boitani & Stefania Bartoli. 1983. *The Macdonald Encyclopedia of Mammals*. Macdonald & Co., London, 512pp.
S.H. Prater. 1971. *The Book of Indian Animals*. Bombay Natural History Society & Oxford University Press, Bombay, 324pp.
Noel Rowe. 1996. *The Pictorial Guide to the Living Primates*. Pogonias Press, Rhode Island, USA, 263pp.

Status of South Asian Primates
Conservation Assessment and Management Plan (C.A.M.P.)
Workshop Report, 2003



Slender Loris
(*Loris lydekkerianus*)

Editors

Sanjay Molur, Douglas Brandon-Jones, Wolfgang Dittus, Ardith Eudey, Ajith Kumar,
Mewa Singh, M.M. Feeroz, Mukesh Chalise, Padma Priya, Sally Walker

Authors

Participants of the C.A.M.P. Workshop

**Organised by Zoo Outreach Organisation
and IUCN SSC Primate Specialist Group**

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Hosted by State Forest Service College, Coimbatore

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Report No. 22. (2003). Zoo Outreach Organisation / Conservation Breeding Specialist Group, South Asia,
PB 1683, 29/1 Bharathi Colony, Peelamedu, Coimbatore, Tamil Nadu 641004, India
Ph. +91 422 2561087, 2561743; Fax: +91 422 2563269
Email: zooreach@vsnl.com / herpinvert@vsnl.com / zoo_office@vsnl.net
Website: www.zooreach.org

**Status of South Asian Primates
Conservation Assessment and Management Plan (C.A.M.P.) Workshop Report, 2002**

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Capped Langur
(*Trachypithecus pileatus*)

South Asian Primate C.A.M.P. Workshop, 2002
Participants / Authors

Dr. Rauf Ali

Andaman Nicobar Environment
Team (ANET)
North Wandoor, Andamans, INDIA
Tel: +91 3192 80081

Mr. Harry Andrews

Madras Crocodile Bank Trust,
PB 4, Mammalapuram,
Tamil Nadu 603104, INDIA
Tel: +91 411 4466332 / 098410 31256
Email: mcibtindia@vsnl.net

Dr. H.R. Bhat

107 Awanti Apartments, Opp.
Kamala Nehru Park, Erandwana,
Pune, Maharashtra 411004, INDIA
Tel: +91 20 5673581

Mr. Jihosuo Biswas

Animal Ecology and Wildlife
Biology Lab, Department of
Zoology, Guwahati University
Guwahati, Assam 781014, INDIA
Tel: +91 0361 570294; Fax: 570133
Email: jihosuo@yahoo.com

Mr. Joydeep Bose

Field Officer, Wildlife Trust of India,
New Delhi, INDIA
Email: jbose@satyam.net.in ;
jbose100@hotmail.com

Dr. Mukesh K. Chalise

Reg. Secretary for Asia / IPS
Natural History Society of Nepal
GPO Box 8402, Kathmandu, NEPAL
Tel: +977 1 526893; Fax: 493854
Email: mukeshjanak@hotmail.com

Mr. Bipul Chakravarthy

Central Zoo Authority
Bikenar House, Annexe – 6,
New Delhi 110011, INDIA
Tel: +91 11 3073072; Fax: 3386012
Email: bichakru@yahoo.com

Mr. K.N. Changappa

'Kakaeada' Begoor,
Ponampet 571249
Tel: +91 08274 43361

Mr. Dilip Chetry

Animal Ecology & WL Biology Lab
Department of Zoology,
Guwahati University,
Guwahati, Assam 781014, INDIA
Tel: +91 361 570294; Fax: 570133
Email: chetryd@rediffmail.com

Mr. Jayanta Das

Animal Ecology & Wildlife Biology
Lab, Department of Zoology
Guwahati University
Guwahati, Assam 781014, INDIA
Tel: +91 361 570294; Fax: 570133
gibbonconservation@yahoo.com

Dr. Jinie Dela

Freelance Consultant
45/1 Gunatilleke Mawatha,
Etambagoda, Panadura, SRI LANKA
Fax: +94 75 590241
Email: shirindra@itmin.com

Dr. Wolfgang Dittus

140/12, Mapana Watura Road
Kandy, SRI LANKA
Tel: +94 8 223248 Fax: 223248
Email: dittus@sri.lanka.net

Dr. Ardith Eudey

164 Dayton Street
Upland, CA 91756-3120, USA
Tel & Fax: +1 909 982 9832
Email: Eudey@aol.com

Dr. M. M. Feeroz

Associate Professor
Department of Zoology
Jahangirnagar University
Savar, Dhaka, BANGLADESH
Tel: +88 11 832965
Email: feeroz@juniv.edu

Mr. Suresh Ganapathiappan

17/2, Nanda Nagar Road, Singanallur
Coimbatore, Tamil Nadu 641005, INDIA
Tel: +91 98430 22410
Email: sureshgana@hotmail.com

Dr. Suvas Chandra Ghimire

Kathmandu Model College,
Bagbazar, GPO Box 4447,
Kathmandu, NEPAL
Tel: +977 1 242121
Email: kmc@infoclub.com.np

Mr. Minesh Kumar Ghimire

Natural History Society of Nepal
Kathmandu, NEPAL
Email: nahson@vishnu.ccsil.com.np

Mr. Sunil Gunatilake

1/71 Nissanka Mala Place,
Jaya Mawatha, New Town,
Polonnaruwa, SRI LANKA
Fax: +94 8 223248
Email: (c/o) dittus@sri.lanka.net

Dr. Douglas Brandon-Jones

32 A, Back lane, Richmond TW10 7LF
UNITED KINGDOM
Tel: +44 20 8940 1495
Email: brandonjones@lineone.net

Mr. Gigi K. Joseph

Nature Education Officer,
Periyar Tiger Reserve,
Thekkady, Kerala, INDIA
Email: tiger@md5.vsnl.net.in

Mr. Jhamak B. Karki

C/O Dept. of Natl. Parks & WL
Conservation, Babar Mahal, P.O.
Box 860, Kathmandu, NEPAL
Phone: +977 1 220912; Fax: 226675
Email: jhamakkarki@hotmail.com

Mr. Nilantha Kumarasiri

Kodithuwakku
Smithsonian Field Camp, New town,
Polonnaruwa, SRI LANKA
Fax: 094 2723721
Email: primate@sri.lanka.net

Dr. R. Krishnamani

SACON, Anaikatty
Coimbatore, Tamil Nadu 641108, INDIA
Email: liontailmac@hotmail.com

Dr. Ajith Kumar

SACON, Anaikatty
Coimbatore, Tamil Nadu 641108, INDIA
Fax: +91 422 857088
Email: kuma666@eth.net

Mr. Hemanth R. Kumar

formerly Regl. Dy. Director (WLP)
South Zone and Assistant
Management Authority CITES
C-2A, Rajaji Bhavan, Basanth Nagar,
Chennai, Tamil Nadu 600090, INDIA
Email: hravivarapu@yahoo.com

Mr. Awadesh Kumar

Research Scholar, Dept. of Applied
Science (Forestry), N.E. Reg.
Institute of S&T Nirjuli, Itanagar,
Arunachal Pradesh 791109, INDIA
Tel: +91 360 257749; Fax: 257872
Email: primates077@rediffmail.com

Mr. K.R. Liyanage

Smithsonian Field Camp, New town,
Polonnaruwa, SRI LANKA
Fax: +94 27 23721
Email: primate@sri.lanka.net

Dr. N.S. Manoharan

Zoo Director, VOC Park Zoo,
Coimbatore, Tamil Nadu, INDIA
Tel: +91 422 303613; 318462

Ms. Rekha Medhi

Animal Ecology and WL Biol. Lab
Dept of Zoology, Guwahati Univ.
Guwahati, Assam 781014, INDIA
Tel: +91 361 570294; Fax: 570133
Email: medhirekha@rediffmail.com

Mr. Manoj K. Misra

7-A, OCS Apartment, Mayur Vihar I,
New Delhi 110091, INDIA
Tel: +91 11 2715182
Email: misramk@del3.vsnl.net.in

Dr. Sangita Mitra

32A, Hara Mohan Ghosh Lane
Kolkata, West Bengal 700085, INDIA
Tel: +91 33 3532090; Fax: 3531433
Email: monkinct@rediffmail.com

Dr. P.O. Nameer

Assistant Professor, College of
Forestry, Kerala Agricultural University,
Thrissur 680656, Kerala, INDIA
Email: nameer@vsnl.com

Dr. K.S. Neelakantan

Dean, Forest College and Research
Institute, TNAU, Mettupalayam,
Tamil Nadu 641301, INDIA
Tel: +91 4254 222010; Fax: 225064
Email: deanf@eth.net

Dr. M.S. Pradhan

Zoological Survey of India, WRS,
Rawet Road, Sector No. 29, CNIDA,
Pune, Maharashtra 411030, INDIA
Tel: +91 20 7655213; Fax: 7652564

Mr. Kumar Pushkar, I.F.S.

Executive Director, Zoo Authority of
Karnataka, Mysore Zoo,
Mysore, Karnataka 570010, INDIA
Tel: +91 821 440752; Fax: 562494

Ms. Sunita Ram

Old No. 42, New No.12,
Pelathope, Mylapore
Chennai, Tamil Nadu 600 004, INDIA
Tel: +91 44 4959546
Email: ram@fordham.edn

Dr. K.K. Ramachandran

Scientist E, Wildlife Biology Division
KFRI, Peechi, Thrissur, Kerala, INDIA
Tel: +91 487 282537; Fax: 282249
Email: ramachandran@kfri.org

Mr. V. Ramakantha

Principal, SFS College
P.O. Box 1130, Coimbatore, Tamil
Nadu 641002, INDIA
Fax: +91 422 450439
Email: v_ramakantha@hotmail.com

Dr. G. Ramaswamy

Reader in Zoology, A.V.C. College,
Mannampandal, Mayiladuthurai,
Tamil Nadu 609305, INDIA
Tel: +91 4364 229911 (O); 225634 (R)
Email: prof_gr@hotmail.com

Dr. Santhosh Kumar Sahoo

Chairman, 'Conservation Himalayas'
P.O. Box #3, Summer Hill, Simla,
Himachal Pradesh 171005, INDIA
Tel: +91 177 480316
Email: chimalayas@yahoo.com

Mr. Anantha Krishna Sharma

Dept. of Psychology
University of Mysore, Manasagangotri
Mysore, Karnataka 570006, INDIA
Email: sharma27272@yahoo.com

Dr. Mewa Singh

Professor of Psychology
University of Mysore, Manasagangotri
Mysore, Karnataka 570006, INDIA
Tel.: +91 821 518772; Fax: 514239
Email: mewasingh@sancharnet.in

Dr. G.S. Solanki

Department of Applied Science
(Forestry), N.E. Reg Institute of S&T
Nirjuli, Itanagar,
Arunachal Pradesh 791109, INDIA
Tel: +91 360 257749; Fax: 257872
Email: gs@nerist.ernet.in

Mr. Ruchira Kumara Somaweera

43C, George E. De Silva Mawatha,
Kandy, SRI LANKA
Tel: +94 8 228687
Email: ruchitck@hotmail.com

Mr. P. Srivatsava

Maharashtra Forest Department
DCF(Wildlife, CFRC Campus
Chandrepur Maharashtra, INDIA
Tel: +91 7172 55980, 55380, 56079
Email: praneensri@rediffmail.com

Dr. P.C. Tyagi, I.F.S.

Director, Arignar Anna Zool. Park
Vandalur, Chennai, Tamil Nadu
600048, INDIA
Tel: +91 44 2376089; Fax: 2376741

Ms. Anjali Watson

130 Reid Avenue, Colombo 4
SRI LANKA
Tel: +94 1 589468; Fax: 582193
Email: aalamka@sltnet.lk

Mr. A.N. Weerasinghe

No. 194/1, Pallemulla, Halloluwa
Kandy, SRI LANKA
Fax: +94 2 722552
Email: primate@srilanka.net

Mr. S. Wijeyamohan

Dept. of Biological Sciences
Vayuniya Campus, U. of Jaffna
Vayuniya, SRI LANKA
Tel: +94 24 20179; Fax: 22265
Email: abhirhamy@hotmail.com

**Participants from Zoo Outreach Organisation ZOO and
Wildlife Information & Liaison Development WILD**

29/1, Bharathi Colony, Peelamedu, Coimbatore 641004, Tamil Nadu
Tel: +91 422 2561087; Fax: 2563269; Email: zoo_office@vsnl.net

Facilitators & Organisers

Ms. Sally Walker

Founder/Hon. Director, ZOO
zooreach@vsnl.com

Mr. Sanjay Molur

Deputy Director, ZOO
Founder/Secretary, WILD
herpinvert@vsnl.com

Recorders

Dr. B.A. Daniel

Entomologist
icinsa@vsnl.net

Ms. A.R. Binu Priya

Research Assistant
zoo_office@vsnl.net

Ms. K. Padma Priya

Research Assistant
zoo_office@vsnl.net

Mrs. Latha G. Ravikumar

Senior Manager / Finance Manager
zoo_office@vsnl.net

Workshop Assistants

Ms. J. Sheela

Office Supervisor
zoo_office@vsnl.net

Mr. B. Ravichandran

Office Assistant
zoo_office@vsnl.net

Ms. Sonali Lahiri

Visioner
sonali_lahiri@yahoo.co.uk

Hoolock Gibbon
(*Bunopithecus hoolock*)

Participating Institutions

Andaman & Nicobar Environment Team (A.N.E.T.), Andamans, A&N Islands, India
Arignar Anna Zoological Park, Vandalur, Chennai, Tamil Nadu, India
A.V.C. College, Department of Zoology, Mayiladuthurai, Tamil Nadu, India
Central Zoo Authority, New Delhi, India
Conservation Himalayas, Simla, Himachal Pradesh, India
Gauhati University, Animal Ecology & Wildlife Biology Lab, Dept of Zoology, Guwahati, Assam
IUCN SSC Primate Specialist Group
IUCN Sri Lanka, Biodiversity Field Research Team, Colombo, Sri Lanka
Forest College and Research Institute, TNAU, Mettupalayam, Tamil Nadu, India
Jahangirnagar University, Department of Zoology, Dhaka, Bangladesh
Kathmandu Model College, Kathmandu, Nepal
Kerala Agricultural University, College of Forestry, Thrissur, Kerala, India
Kerala Forest Research Institute, Wildlife Biology Division, Peechi, Kerala, India
Madras Crocodile Bank Trust, Mammalapuram, Tamil Nadu, India
Maharashtra Forest Department, Chandrapur, Maharashtra, India
Natural History Society of Nepal, Kathmandu, Nepal
North Eastern Regional Institute of Science and Technology, Itanagar, Arunachal Pradesh, India
Periyar Tiger Reserve, Thekkady, Kerala, India
Salim Ali Centre for Ornithology and Natural History, Coimbatore, Tamil Nadu, India
Smithsonian Institution & Institute of Fundamental Studies, Polannaruwa, Sri Lanka
State Forest Service College, Coimbatore, Tamil Nadu, India
University of Jaffna, Dept.of Biological Sciences, Faculty of Applied Sciences, Vayuniya, Sri Lanka
University of Mysore, Department of Psychology, Mysore, Karnataka, India
VOC Park Zoo, Coimbatore, Tamil Nadu, India
Wildlife Information & Liaison Development Society, Coimbatore, Tamil Nadu, India
Wildlife Trust of India, New Delhi, India
Zoo Authority of Karnataka, Sri Chamarajendra Zoological Gardens, Mysore, Karnataka, India
Zoo Outreach Organisation/CBSG, South Asia Coimbatore, Tamil Nadu, India
Zoological Survey of India, WRS, Pune, Maharashtra, India

Lion-tailed Macaque
(*Macaca silenus*)

Credits

Sponsors

Conservation International
Margot Marsh Biodiversity Foundation
Appenheul Primate Park
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Fauna and Flora International
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North Carolina Zoological Park
Lincoln Park Zoo
Thrigby Hall Wildlife Gardens
Primate Society of Great Britain
European Association of Zoos and Aquaria
Oklahoma City Zoo

Host

State Forest Service College, Coimbatore

Organisers

Conservation Breeding Specialist Group, South Asia (CBSG, SA)
Zoo Outreach Organisation (ZOO)
Wildlife Information & Liaison Development Society (WILD)

Collaborators

IUCN SSC Conservation Breeding Specialist Group (CBSG)
IUCN SSC Primate Specialist Group (PSG)

Rhesus Macaque
(*Macaca mulatta*)



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A Conservation Assessment and Management Plan Workshop or C.A.M.P. is a truly amazing event. The three stages of this exercise – planning, implementation and follow-up are all exercises in chaotic activity and soul-destroying work. The people who see it through: planners, participants, and promoters deserve a special thanks. It takes immense collaboration and cooperation of a many people to initiate, execute and insure its utility in the long term.

Preparation

Preparation for a C.A.M.P. primarily involves putting together three important lists: 1) a list of potential participants; 2) a list of taxa, the target species; and last but certainly not least - 3) a list of potential donors. Assembling a list of participants for just any workshop may not be so difficult but for a C.A.M.P. one wants people who have genuine information – field biologists, taxonomists, foresters who have studied the target taxa and/or its habitat. There are few readymade lists of these people, so hunting them down demands painstaking work. For this, we thank Ardith Eudey for sending her list of primate specialists, Ajith Kumar, Mewa Singh, Atul Gupta and Wolfgang Dittus who provided us with names of specialists, who in turn provided more names.

Even the list of taxa is not straightforward in South Asia and this requires collecting species lists from many sources and verifying each species and subspecies with recently published references. It also requires tracking down all synonyms and common names and recent taxonomic modifications. Preparation also requires collecting as many published sources of field surveys, sightings and identifications as possible for reference in the workshop. It takes months! For this we acknowledge the IUCN Red List 2000, the IUCN SSC Primate Specialist Group for permitting us to use an unpublished report from their Primate Taxonomy workshop, and particularly Dr. Douglas Brandon-Jones who provided us with names of species and subspecies of primates right up to a few weeks before this report was brought out ! We thank Colin Groves for much advice and for sending a copy of his new book Primate Taxonomy. T. Wangchuk and C. Shafique deserve a special mention for being on call on email for days to give information about primates in Bhutan and in Pakistan. Kudos to participants who have not complained about the lateness of this Report while we waited for Doug to put the last touches on the list of species and subspecies used in this Report. Russ Mittermier's sage advice to forget about names and assess distinct populations stood us in good stead before, during and after the workshop.

The list of potential donors was very long as this was a very costly workshop, with people brought from 7 countries and the length and breadth of India. We will thank our donors later but should acknowledge Ardith Eudey, Russ Mittermier and Onnie Byers, each of whom helped raise and transmit the funds in their own way.

Implementation

When the C.A.M.P. workshop begins, no matter how much you tell the participants to be prepared for hard work, nobody can quite believe what this actually entails. Filling out 8-page Taxon Data Sheets with information that you might have come across in the field years ago, arguing with other participants, facilitators, learning the brain-boggling IUCN Red List Criteria takes its toll. The first night that you work till 9 or 10 p.m. is kind of fun – something different for a workshop – but by the third and fourth days (and nights) of filling in the ubiquitous sheets, participants are wondering what kind of monsters invented the C.A.M.P. Workshop! By the last day when everyone thinks they can't part with another piece of information, suddenly it's over – there is a list of species which have been carefully assessed and categorized using IUCN's Red List Criteria and Categories and more information on some of them than has ever been compiled before. Participants are not the only ones to suffer. C.A.M.P. Recorders, who come from CBSG, South Asia, also sit up late at night with strained eyes and aching backs to record information in a computerized database. This makes it possible for participants to take home a draft report right from the workshop.

Follow-up

As if it was not enough to ask participants to sit and work so hard for five days, we also request them to go through the Draft Taxon Data Sheets and mark mistakes, provide information that they could not access at the workshop,

and send them back to us. We should acknowledge those who did so, e.g. Rauf Ali , Joydeep Bose, Douglas Brandon-Jones, Mukesh Chalise, Dilip Chetry, Wolfgang Dittus, Ardith Eudey, Gigi K. Joseph, Ajith Kumar, Rekha Medhi, Sangita Mitra, M.S. Pradhan, Anantha Krishna Sharma, Mewa Singh, G.S. Solanki, Santhosh Kumar Sahoo and well as those who read the Draft of this Report and corrected, commented and criticized. Ardith deserves special mention for her cruel contribution of corrections of all manner of errors of grammar, spelling, usage, repetition, and fact.

We had circulated a C.A.M.P. questionnaire on protected areas to all protected area managers to record presence of primates. We thank all the twenty-two forest officers who responded to the questionnaire individually: S.D. Badgaiyan, Mrigen Barua, A.D. Baruah, S.S. Chandiramani, Gigi K. Joseph, Nitin H. Kakodkar, Chukhu Loma, S. Mahadev, W.G. Momin, Rashid Y. Naqash, M.A. Parsa, B.J. Pathak , B.P. Pati, M.M. Raheem, Parashuram Ram, Sada Ram, S.P. Samant, Gumin Santha, B. Srinivas, P. Srivastava, C. Sudhakar Rao, T.U. Uthup.

Many field biologists responded to the Biological Information Sheet circulated before the workshop. The information from most of these sheets enhanced the output at the workshop for areas not represented by individuals. We wish to thank all those who responded to this call, irrespective of their attendance at the workshop, individually: H.R. Bhat, P.S. Bhatnagar, Jihosou Biswas, Joydeep Bose, Akshay Kumar Chakravarthy, Mukesh Kumar Chalise, Anil Kumar Chhangani, Jayantha Das, Dilip Chetry, Wolfgang Dittus, M.M. Feeroz, Ekwil Imam, Ajith Kumar, H.N. Kumara, Rekha Medhi, Sangita Mitra, Lal Singh Rajpurohit, Sunita Ram, Santhosh Kumar Sahoo, Prabal Sarkar, J.P. Sati, Tej Kumar Shrestha, Ruchira Somaweera, Charles C. Southwick, C. Srinivasulu, C. Sudhakar Rao, S. Umapathy, S. Wijeyamohan.

Douglas Brandon-Jones, our mad taxonomist, stuck like a leech to the sticky langur issues until he ran out of reasons to change the names, again and again. This is only temporary – he is coming to India again very soon, to find more ! We are working against time to publish this Report before that, or it will never see the light of day.

Finally we acknowledge the immense work done by our staff: K. Padma Priya, Research Associate coordinated all lists of people and animals, briefing material, sources, invitations, schedules and travel, and, often assisted by AR. Binu Priya, coordinated and typeset material for the Report. Hanneke de Boer and Manju Siliwal also contributed to the preparation.

There were many, many late nights and frayed nerves, with some learning a new computer programme so they could input data directly during the C.A.M.P. and others designing and printing bat masks so we could break the tension with a bit of fun. We thank our staff Latha G. Ravi Kumar, AR. Binu Priya, K. Padma Priya and B.A. Daniel for their hours of research and recording as well. J. Sheela and B. Ravichandran assisted much with hospitality, administration and running about as well as A. Jyoti Maler, S. Saroja, Geetha Kannan, S. Sudha, K. Krishnaveni, Sonali Lahiri and Arul Jegadeesh, who assisted with many and at various stages of the workshop.

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Now the Report is out, all of us must utilize it to the maximum to ensure the survival of all species of Primates of South Asia.

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*Sally Walker and Sanjay Molur, Facilitators and Organizers
Conservation Assessment and Management Plan Workshop for South Asian Primates*

Status of South Asian Primates

1. Executive Summary

Assamese Macaque
(*Macaca assamensis*)

Status of South Asian Primates

Executive Summary

Introduction

A Conservation Assessment and Management Plan (C.A.M.P.) Workshop for South Asian Non-Human Primates was held from 5-9 March 2002 at the State Forest Service College (SFSC) in Coimbatore, India. More than 50 field biologists from all over South Asia participated along with four Indian zoo personnel. The IUCN SSC Primate Specialist Group was well-represented with members from South Asia, UK and USA, including the PSG Vice Chair for Asia. The workshop could take advantage of new information from the Indo-US Primate Project (MoEF/USFWS) in India, the University of Mysore Loris study in southern India and the Primate Biology Programme (Smithsonian Institution) in Sri Lanka and several other smaller projects.

The South Asian Primate C.A.M.P. was endorsed by the IUCN SSC Primate Specialist Group, the IUCN SSC Conservation Breeding Specialist Group, the IUCN Regional Biodiversity Programme (RBP), Asia and the Indo-US Primate Project. Conservation International, Primate Conservation, Inc., Chester Zoo, North Carolina Zoological Park, Lincoln Park Zoo, Oklahoma City Zoo, Toronto Zoo, the European Association of Zoos and Aquaria, and Appenheul Primate Park provided funds for the workshop.

The C.A.M.P. Process

The C.A.M.P. Process was developed by the IUCN SSC Conservation Breeding Specialist Group (CBSG). It includes assembling experts such as wildlife managers, SSC Specialist Group members, representatives of the academic community or private sector, researchers, captive managers and other stakeholders who provide the most current information in order to a) assign species and subspecies to IUCN Categories of Threat; b) formulate broad-based management recommendations, and c) develop more comprehensive management and recovery programs *in situ* and/or *ex situ*. Extensive review is carried out by participants who desire to do so before the final Report is compiled and finalised.

The 2001 IUCN Red List Criteria (Version 3.1)

C.A.M.P. workshops use the most recent version of the IUCN Red List Criteria and Categories and, where appropriate, the IUCN SSC Guidelines for Application of IUCN Red List Criteria at Regional Levels, as tools in assessing the status of a group of taxa. In the last decade IUCN has improved the method of assessing taxa by incorporating numerical values attached to the different criteria for threat categories. The 2001 version of the Red List Criteria and Categories use a set of five criteria (population reduction; restricted distribution, continuing decline and fluctuation; restricted population and continuing decline; very small population; and probability of extinction) to determine the threatened categories, which are Critically Endangered (CR), Endangered (EN) and Vulnerable (VU). Other categories are Extinct (EX), Extinct in the Wild (EW), Near Threatened (NT), Least Concern (LC), Data Deficient (DD) and Not Evaluated (NE).

The Workshop

Six South Asian countries were represented at the workshop: India, Nepal, Sri Lanka, Bangladesh with participants present, and Bhutan and Pakistan *via* email throughout the exercise. C.A.M.P. workshops use working group sessions alternating with review in several plenary sessions. In this workshop the groups were organised by region into a Southern India Group, a North-East Alliance Group, a North-Central Group, and a Sri Lanka Group.

One of the important issues that had been addressed in the workshop concerned the revisions in primate taxonomy. Participants were given access to an unpublished manuscript authored by Brandon-Jones *et al.* that incorporated changes resulting from a Primate Specialist Group (PSG) workshop in 2000, to published revisions by Colin Groves (2001) and other refinements. Primates are relatively well-studied in some South Asian countries, so a separate spreadsheet for listing the extensive locality data was provided. This very detailed locality data, coordinated with maps, and the presence of an experienced taxonomist, made it possible for participants to correctly identify the subspecies surveyed and assess them.

With the added advantage of having many working field biologists from the range of these taxa, there were many more species and subspecies assigned to threatened categories than in the 2000 Red List of Threatened Animals, which used the revised PSG workshop taxonomy available then. In the C.A.M.P. workshop, 31 of the 43 primate taxa were categorized as threatened.

A Draft Report containing Taxon Data Sheets for all 43 taxa was given to participants at the end of the workshop thanks to the C.A.M.P. Data Entry Programme and hard work by recorders. This report reflects the corrections and comments that were returned on the draft Taxon Data Sheets. The output from the workshop has been submitted to the PSG Vice Chair for Asia for inclusion in 2003 IUCN Red List of Threatened Species. This is an appropriate utilisation of information from local field biologists and primate students from South Asia, and a credit to their work.

There are at present 164 recognized zoos in India, which includes Large, Medium, Small and Mini Zoos / Deer Parks. As per current information (CZA, 2003) 52 of the Large, Medium and Small zoos in India, hold primates of various species. The status of some is uncertain because of recent taxonomic changes. The number in the 112 Mini-zoos and Deer Parks has not been updated by C.Z.A, but it is "considerable". In the remaining South Asian countries there are 14 major zoos, all of which hold from 1-9 species of primates (Appendix 1). The C.A.M.P. workshop provided a forum and source of information for the Central Zoo Authority and the Indian zoo community to address ongoing revisions in primate taxonomy and nomenclature with reference to captive collections. The Conservation Breeding Working Group recommended that zoos with species and subspecies of uncertain taxonomies refrain from breeding them until they could be correctly identified to avoid unwanted propagation of hybrids.

Recommendations

A series of recommendations for research and management of South Asian primates was derived from Taxon Data Sheets filled out by participants in the workshop. Key recommendations for research were taxonomic studies, surveys and life history studies; and for management included habitat management, public education and monitoring. Participants also drew up individual species action plans for nearly all taxa. Special issue working groups were formed on the following subjects: urban monkey problems; funding field studies; education and species conservation action, and conservation breeding.

Table 1: Status of South Asian Primates

Category	Endemics	Non-endemics	Total
Critically Endangered (CR)	2	2	4
Endangered (EN)	20	5	25
Vulnerable (VU)	2	0	2
Near Threatened (NT)	5	1	6
Least Concern (LC)	3	1	4
Data Deficient (DD)	1	1	2
Not Evaluated (NE)	0	0	0
	33	10	43

Table 2: Status of Endemic and Non-endemic taxa in detail

Status	Endemics		Status	Non-endemics	
CR	2		CR	2	
EN	20		EN	5	
VU	2		VU	0	
NT	5		NT	1	
LC	3		LC	1	
DD	1		DD	1	
	33			10	

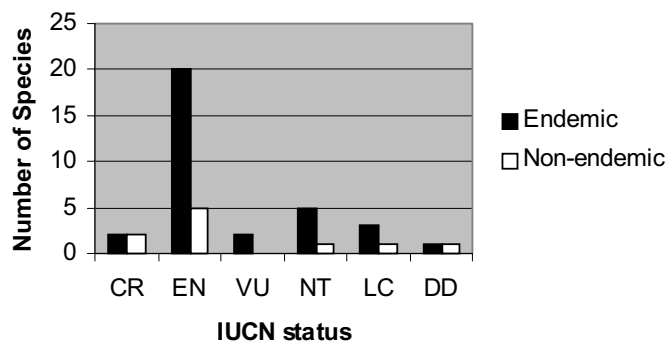


Figure 1: Endemic and Non-endemic primate taxa

List of South Asian Primates, C.A.M.P., Coimbatore, India, March, 2002
Scientific Name, Common Name and Status (R-Regional Assessment for South Asia*)

Loridae

1. <i>Loris lydekkerianus lydekkerianus</i>	Mysore Slender Loris	NT
2. <i>Loris lydekkerianus malabaricus</i>	Malabar Slender Loris	NT
3. <i>Loris tardigradus grandis</i>	Highland Slender Loris	EN
4. <i>Loris tardigradus nordicus</i>	Dry Zone Slender Loris	EN
5. <i>Loris tardigradus nycticeboides</i>	Highland Slender Loris	EN
6. <i>Loris tardigradus tardigradus</i>	Red Slender Loris	EN
7. <i>Nycticebus bengalensis</i>	Slow Loris	DD (R)

Cercopithecidae

8. <i>Macaca arctoides</i>	Stump-tailed Macaque	CR (R)
9. <i>Macaca assamensis assamensis</i>	Eastern Assamese Macaque	EN (R)
10. <i>Macaca assamensis</i> , Nepal population	Assamese Macaque	EN
11. <i>Macaca assamensis pelops</i>	Western Assamese Macaque	EN
12. <i>Macaca fascicularis aurea</i>	Long-tailed Macaque	CR (R)
13. <i>Macaca fascicularis umbrosa</i>	Nicobar Long-tailed Macaque	NT
14. <i>Macaca leonina</i>	Northern Pig-tailed Macaque	EN (R)
15. <i>Macaca mulatta mulatta</i>	Indian Rhesus Macaque	LC (R)
16. <i>Macaca radiata diluta</i>	Pale-bellied Bonnet Macaque	LC
17. <i>Macaca radiata radiata</i>	Dark-bellied Bonnet Macaque	LC
18. <i>Macaca silenus</i>	Lion-tailed Macaque	EN
19. <i>Macaca sinica aurifrons</i>	Wetzone Toque Macaque	EN
20. <i>Macaca sinica opisthomelas</i>	Hill Zone Toque Macaque	EN
21. <i>Macaca sinica sinica</i>	Dryzone Toque Macaque	EN
22. <i>Semnopithecus (Trachypithecus) johnii johnii</i>	Nilgiri Langur	VU
23. <i>Semnopithecus entellus achates</i>	Western Hanuman Langur	LC
24. <i>Semnopithecus entellus ajax</i>	Himalayan Grey Langur	CR
25. <i>Semnopithecus entellus anchises</i>	Deccan Hanuman Langur	NT
26. <i>Semnopithecus entellus entellus</i>	Bengal Hanuman Langur	NT
27. <i>Semnopithecus entellus hector</i>	Lesser Hill Langur	EN
28. <i>Semnopithecus entellus hypoleucos</i>	Dark-legged Malabar Langur	EN
29. <i>Semnopithecus entellus schistaceus</i>	Central Himalayan Langur	NT (R)
30. <i>Semnopithecus priam priam</i>	Coromandel Grey Langur	VU
31. <i>Semnopithecus priam thersites</i> ¹	Grey Langur	EN
32. <i>Semnopithecus priam thersites</i> ²	Grey Langur	EN
33. <i>Trachypithecus geei</i>	Golden Langur	EN
34. <i>Trachypithecus obscurus phayrei</i>	Phayre's Langur	EN (R)
35. <i>Trachypithecus pileatus brahma</i>	Buff-bellied Langur	DD
36. <i>Trachypithecus pileatus durga</i>	Orange-bellied Capped Leaf Monkey	EN
37. <i>Trachypithecus pileatus pileatus</i>	Blonde-bellied Capped Leaf Monkey	EN (R)
38. <i>Trachypithecus pileatus tenebricus</i>	Tenebrous Capped Leaf Monkey	CR
39. <i>Trachypithecus vetulus monticola</i>	Montane Purple-faced Langur	EN
40. <i>Trachypithecus vetulus nestor</i>	Western Purple-faced Langur	CR
41. <i>Trachypithecus vetulus philbricki</i>	Dry Zone Purple-faced Langur	EN
42. <i>Trachypithecus vetulus vetulus</i>	Southern Lowland Wetzone Purple-faced langur	EN

Hylobatidae

43. <i>Bunopithecus hoolock hoolock</i>	Hoolock Gibbon	EN (R)
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* Regional Assessment for South Asia (R); the remaining species have been assessed globally

¹ Indian population; ² Sri Lanka population

Status of South Asian Primates

2. Background Material

The Conservation Assessment and Management Plan (C.A.M.P.) Process

The Conservation Assessment and Management Plan (C.A.M.P.) Workshop is a “process” which was designed and developed by the Late Dr. Ulysses S. Seal, then Chairman of the IUCN SSC Conservation Breeding Specialist Group (CBSG) and Dr. Thomas J. Foose, initially to assist zoos to prioritise species for conservation breeding. Over the years, and as a result of the careful manner in which the workshops have been planned and conducted, C.A.M.P. workshops have evolved and many improvements from workshops conducted all over the world incorporated into the process. Now C.A.M.P.s are increasingly used as a means of assisting regional and national biodiversity planning and for contributing far greater numbers of species to the Red List of Threatened Species. During this time C.A.M.P.s have continued to evolve, encompassing more recent scientific methodologies related to the requirements of the Convention on Biodiversity. C.A.M.P. Workshop Reports make available the most current information from the most recent fieldwork, and thus provide crucial direction for strategic management of threatened taxa in larger taxonomic groups.

Because the output of C.A.M.P. workshops affects wildlife policy and management through the IUCN Red List and wildlife legislation which takes its cue from the Red List, the social and scientific principles and methods established by the Conservation Breeding Specialist Group, and which are in a continuous process of evolution and improvement, should be followed meticulously. C.A.M.P. workshops have been designed to collect the knowledge of many stakeholders and to reflect the result of their combined experience and opinion after discussion. The IUCN Red List Criteria developed by IUCN SSC is an elegant system for assessing species across taxonomic orders but it is only as good as the rigour and information used to apply the Criteria and thus derive a Category.

Thus, the Taxon Data Sheet, which organises and summarises information needed to derive a status, provides a logical framework for discussion, thus providing a uniform standard and maintaining scientific integrity.

A C.A.M.P. Workshop brings together a broad spectrum of experts and stakeholders consisting of wildlife managers, biologists, representatives of the academic community or private sector, researchers, government officials and captive managers to pull together all pertinent information necessary to:

- a. evaluate the current status of populations and habitats in the wild and in captivity;
- b. assess the degree of threat using IUCN Red List Criteria;
- c. make recommendations for intensive management action; and
- d. make recommendations for specific conservation-oriented research and education.

A C.A.M.P. Workshop is intensive and interactive which facilitates objective and systematic discussion of research and management actions needed for species conservation, both *in situ* and *ex situ*. Workshop participants assess the risks to the target group of taxa and formulate recommendations for action using a Taxon Data Sheet. The Taxon Data Sheet serves as a compendium of the data collected on the status of population and its habitat in the wild as well as recommendations for intensive conservation action. Taxon Data Sheets also provide documentation of the reasoning behind recommendations, of the criteria used for deriving a status, as well as details of other species-pertinent information.

Information gathering is focused on the most recent available data, estimates, informed guesses and identification of needed knowledge that allow:

1. assignment to IUCN categories of threat;
2. broad-based management recommendations;
3. specific conservation-oriented research recommendations useful to generate the knowledge needed to develop more comprehensive management and recovery programs *in situ* and/or *ex situ*.

On the last day of a C.A.M.P. workshop, participants form Special Issue Working Groups to discuss problems of conservation and management that emerged in the workshop, making recommendations for their solution using information and assessments generated in the C.A.M.P. If time permits there is also a session for personal commitments related to the recommendations.

The results of the initial C.A.M.P. workshops are reviewed by distribution to the following:

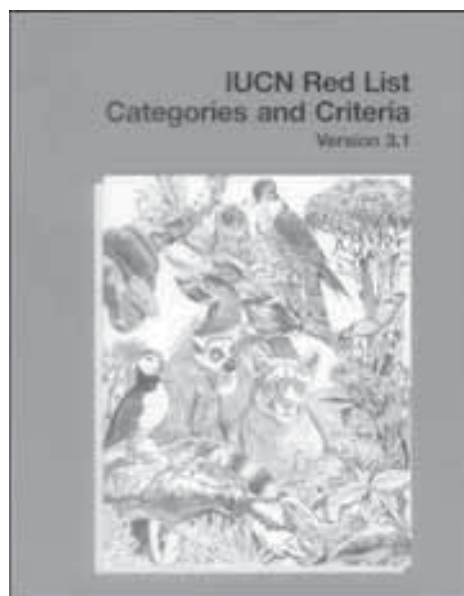
1. as a draft to workshop participants immediately following the workshop
2. as a draft after corrections to a few senior biologists who were participants in the workshop.
3. as a Report to experts and other users of the information in the greater conservation community

A C.A.M.P. workshop is defined as a “process” because it is a part of a continuing and evolving development of creating and improving conservation and recovery plans for the taxa involved. The C.A.M.P. review process facilitates dissemination of information from experts locally and internationally. The “process” presumes that conditions will change for the populations and habitat and a follow-up workshop will be required to reconsider issues in greater depth, or on a regional basis, or incorporate the inevitable changes. This “process” provides a system of monitoring of the population status over time as well as of the implementation and effectiveness of the earlier workshop recommendations.

The C.A.M.P. process is unique in its ability to prioritize intensive management action for species conservation in the wild and in captivity, if required. C.A.M.P. documents are used as guidelines by national and regional wildlife agencies, NGO’s, and zoos as they develop their own action plans. C.A.M.P. reports, with their dependence on methodology that is participatory, objective and scientific have proved to be acceptable to states and nations as well as institutions for developing biodiversity strategies. C.A.M.P. workshops contribute to the wise worldwide use of limited resources for species conservation.

The 2001 IUCN Red List Criteria (Version 3.1)

The C.A.M.P. workshop process employs the IUCN Red List Criteria as a tool in assessing species status in a group of taxa. The IUCN Red List Criteria were revised in 1994 and these objective criteria were revised again in 2000 and ratified by the IUCN for use in threat categorisation at the global level (IUCN, 2001). The structure of the categories includes extinct, threatened, non-threatened, data deficient and not evaluated divisions; the first three divisions are further split into subcategories (Figure 1). Since 1991, the old Red Data Book categories have undergone successive changes to accommodate general guidelines for across taxonomic groups. To make application of the Criteria more universal, numerical values were attached to the different criteria for threat categories. The 2001 version (version 3.1) also includes a purely quantitative criterion, which involves computation of the probability of extinction (such as in a population viability analysis) over a time frame for a taxon. The 2001 version of the Red List threatened categories are derived through a set of 5 criteria based on which the threatened category is assigned. The term “threatened” according to the 2001 IUCN categories means Critically Endangered, Endangered or Vulnerable. The 5 criteria for threat categories (IUCN, 2001) are:



- (A) Population reduction
- (B) Restricted distribution, continuing decline and fluctuation
- (C) Restricted population and continuing decline
- (D) Very small population
- (E) Probability of extinction

For a taxon to be categorised as threatened, it needs to qualify for any one of the above 5 criteria only. Not qualifying for any of the above criteria could mean that a taxon is either not threatened or is data deficient.

With the popularisation of the 1994 IUCN Red List Criteria and its application around the world, various specialists and scientists of taxonomic groups suggested a more serious look at the criteria. The IUCN formed a Red List Review Committee in 1998 to suggest changes to the 1994 Criteria and after nearly 2 years of workshops and deliberations, the 2001 IUCN Red List Criteria were drafted and accepted in October 2000. All assessments from 2001 are based on the latest version (3.1) of the Red List Criteria, including the current Conservation Assessment and Management Plan (C.A.M.P.) Workshop for Primates of South Asia (2002). The changes in the Criteria can be referred in IUCN (2001) (Appendix I of this report) but the overall structure of the Categories is shown in figure 1. The changes in the structure of the categories from the 1994 iteration include the upgrading of Lower Risk near threatened and least concern to full categories Near Threatened and Least Concern. The subcategory of Lower Risk conservation dependant was removed completely from the new structure.

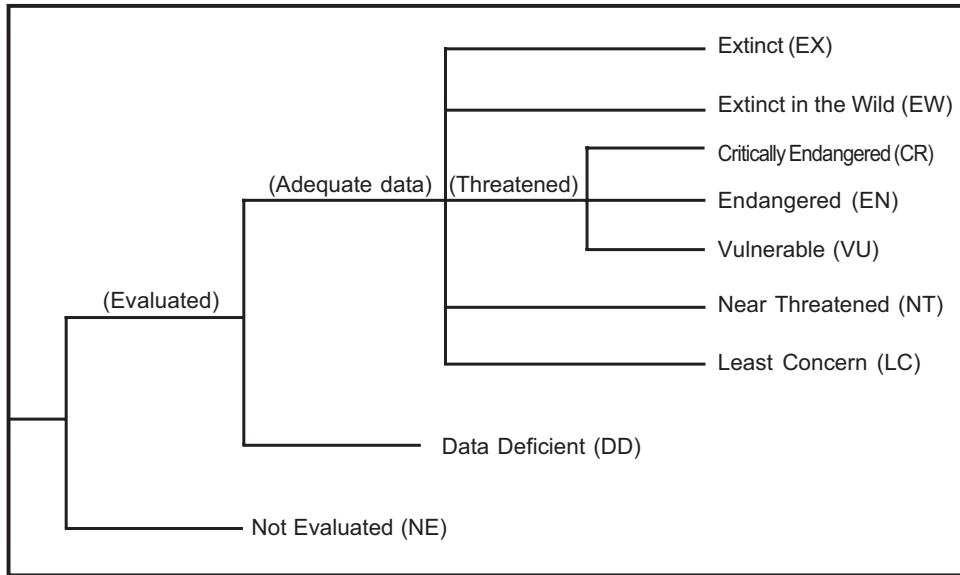


Figure 1: Structure of the 2001 IUCN Categories

IUCN Red List Categories and Criteria Version 3.1

Prepared by the IUCN Species Survival Commission
As approved by the 51st meeting of the IUCN Council Gland, Switzerland
9 February 2000, IUCN – The World Conservation Union, 2001

The Red List Categories and Criteria, Version 3.1 are available at:
<http://www.iucn.org/themes/ssc/red-lists.html>

THE CATEGORIES A representation of the relationships between the categories is shown in Figure 1 of the Report.

EXTINCT (EX)

A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

EXTINCT IN THE WILD (EW)

A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

CRITICALLY ENDANGERED (CR)

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Section V), and it is therefore considered to be facing an extremely high risk of extinction in the wild.

ENDANGERED (EN)

A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (see Section V), and it is therefore considered to be facing a very high risk of extinction in the wild.

VULNERABLE (VU)

A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (Sec. V), and it is therefore considered to be facing a high risk of extinction in the wild.

Note: As in previous IUCN categories, the abbreviation of each category (in parenthesis) follows the English denominations when translated into other languages (see Annex 2).

NEAR THREATENED (NT)

A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.

LEAST CONCERN (LC)

A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.

DATA DEFICIENT (DD)

A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available.

In many cases great care should be exercised in choosing between DD and a threatened status. If the range of a taxon is suspected to be relatively circumscribed, and a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.

NOT EVALUATED (NE)

A taxon is Not Evaluated when it has not yet been evaluated against the criteria.

THE IUCN RED LIST CRITERIA

CRITICALLY ENDANGERED (CR)

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing an extremely high risk of extinction in the wild:

A. Reduction in population size based on any of the following:

1. An observed, estimated, inferred or suspected population size reduction of $>$ or $=90\%$ over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are clearly reversible AND understood AND ceased, based on (and specifying) any of the following:

- (a) direct observation
- (b) an index of abundance appropriate to the taxon
- (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
- (d) actual or potential levels of exploitation
- (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.

2. An observed, estimated, inferred or suspected population size reduction of $>$ or $=80\%$ over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

3. A population size reduction of $>$ or $=80\%$, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1.

4. An observed, estimated, inferred, projected or suspected population size reduction of $>$ or $=80\%$ over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

B. Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both:

- 1. Extent of occurrence estimated to be less than 100 km², and estimates indicating at least two of a–c:
 - a. Severely fragmented or known to exist at only a single location.
 - b. Continuing decline, observed, inferred or projected, in

any of the following:

- (i) extent of occurrence
- (ii) area of occupancy
- (iii) area, extent and/or quality of habitat
- (iv) number of locations or subpopulations
- (v) number of mature individuals.

c. Extreme fluctuations in any of the following:

- (i) extent of occurrence
- (ii) area of occupancy
- (iii) number of locations or subpopulations
- (iv) number of mature individuals.

2. Area of occupancy estimated to be less than 10 km², and estimates indicating at least two of a–c:

a. Severely fragmented or known to exist at only a single location.

b. Continuing decline, observed, inferred or projected, in any of the following:

- (i) extent of occurrence
- (ii) area of occupancy
- (iii) area, extent and/or quality of habitat
- (iv) number of locations or subpopulations
- (v) number of mature individuals.

c. Extreme fluctuations in any of the following:

- (i) extent of occurrence
- (ii) area of occupancy
- (iii) number of locations or subpopulations
- (iv) number of mature individuals.

C. Population size estimated to number fewer than 250 mature individuals and either:

- 1. An estimated continuing decline of at least 25% within three years or one generation, whichever is longer, (up to a maximum of 100 years in the future) OR
- 2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a–b):

a. Population structure in the form of one of the following:

- (i) no subpopulation estimated to contain more than 50 mature individuals, OR
- (ii) at least 90% of mature individuals in one subpopulation.

b. Extreme fluctuations in number of mature individuals.

D. Population size estimated to number fewer than 50 mature individuals.

E. Quantitative analysis showing the probability of extinction in the wild is at least 50% within 10 years or three generations, whichever is the longer (up to a maximum of 100 years).

ENDANGERED(EN)

A taxon is Endangered when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing a very high risk of extinction in the wild:

A. Reduction in population size based on any of the following:

1. An observed, estimated, inferred or suspected population size reduction of $>$ or $=$ 70% over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are clearly reversible AND understood AND ceased, based on (and specifying) any of the following:

- (a) direct observation
- (b) an index of abundance appropriate to the taxon
- (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
- (d) actual or potential levels of exploitation
- (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.

2. An observed, estimated, inferred or suspected population size reduction of $>$ or $=$ 50% over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

3. A population size reduction of $>$ or $=$ 50%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1.

4. An observed, estimated, inferred, projected or suspected population size reduction of $>$ or $=$ 50% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

B. Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both:

1. Extent of occurrence estimated to be less than 5000 km², and estimates indicating at least two of a–c:

a. Severely fragmented or known to exist at no more than five locations.

b. Continuing decline, observed, inferred or projected, in any of the following:

(i) extent of occurrence

(ii) area of occupancy

(iii) area, extent and/or quality of habitat (iv) number of locations or subpopulations

(v) number of mature individuals.

c. Extreme fluctuations in any of the following:

(i) extent of occurrence

(ii) area of occupancy

(iii) number of locations or subpopulations

(iv) number of mature individuals.

2. Area of occupancy estimated to be less than 500 km², and estimates indicating at least two of a–c:

a. Severely fragmented or known to exist at no more than five locations.

b. Continuing decline, observed, inferred or projected, in any of the following:

(i) extent of occurrence

(ii) area of occupancy

(iii) area, extent and/or quality of habitat

(iv) number of locations or subpopulations

(v) number of mature individuals.

c. Extreme fluctuations in any of the following:

(i) extent of occurrence

(ii) area of occupancy

(iii) number of locations or subpopulations

(iv) number of mature individuals.

C. Population size estimated to number fewer than 2500 mature individuals and either:

1. An estimated continuing decline of at least 20% within five years or two generations, whichever is longer, (up to a maximum of 100 years in the future) OR

2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a–b):

a. Population structure in the form of one of the following:

(i) no subpopulation estimated to contain more than 250 mature individuals, OR

(ii) at least 95% of mature individuals in one subpopulation.

b. Extreme fluctuations in number of mature individuals.

D. Population size estimated to number fewer than 250 mature individuals.

E. Quantitative analysis showing the probability of extinction in the wild is at least 20% within 20 years or five generations, whichever is the longer (up to a maximum of 100 years).

VULNERABLE (VU)

A taxon is Vulnerable when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing a high risk of extinction in the wild:

A. Reduction in population size based on any of the following:

1. An observed, estimated, inferred or suspected population size reduction of $>$ or $=$ 50% over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are: clearly reversible AND understood AND ceased, based on (and specifying) any of the following:

- (a) direct observation
- (b) an index of abundance appropriate to the taxon
- (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
- (d) actual or potential levels of exploitation
- (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.

2. An observed, estimated, inferred or suspected population size reduction of $>$ or $=$ 30% over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

3. A population size reduction of $>$ or $=$ 30%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1.

4. An observed, estimated, inferred, projected or suspected population size reduction of $>$ or $=$ 30% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

B. Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both:

1. Extent of occurrence estimated to be less than 20,000 km², and estimates indicating at least two of a–c:

a. Severely fragmented or known to exist at no more than 10 locations. b. Continuing decline, observed, inferred or projected, in any of the following:

- (i) extent of occurrence
- (ii) area of occupancy
- (iii) area, extent and/or quality of habitat

(iv) number of locations or subpopulations

(v) number of mature individuals.

c. Extreme fluctuations in any of the following:

- (i) extent of occurrence
- (ii) area of occupancy
- (iii) number of locations or subpopulations
- (iv) number of mature individuals.

2. Area of occupancy estimated to be less than 2000 km², and estimates indicating at least two of a–c:

a. Severely fragmented or known to exist at no more than 10 locations.

b. Continuing decline, observed, inferred or projected, in any of the following:

- (i) extent of occurrence
- (ii) area of occupancy
- (iii) area, extent and/or quality of habitat
- (iv) number of locations or subpopulations
- (v) number of mature individuals.

c. Extreme fluctuations in any of the following:

- (i) extent of occurrence
- (ii) area of occupancy
- (iii) number of locations or subpopulations
- (iv) number of mature individuals.

C. Population size estimated to number fewer than 10,000 mature individuals and either:

1. An estimated continuing decline of at least 10% within 10 years or three generations, whichever is longer, (up to a maximum of 100 years in the future) OR

2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a–b): a. Population structure in the form of one of the following:

(i) no subpopulation estimated to contain more than 1000 mature individuals, OR

(ii) all mature individuals are in one subpopulation.

b. Extreme fluctuations in number of mature individuals.

D. Population very small or restricted in the form of either of the following:

1. Population size estimated to number fewer than 1000 mature individuals.

2. Population with a very restricted area of occupancy (typically less than 20 km²) or number of locations (typically five or fewer) such that it is prone to the effects of human activities or stochastic events within a very short time period in an uncertain future, and is thus capable of becoming Critically Endangered or even Extinct in a very short time period.

E. Quantitative analysis showing the probability of extinction in the wild is at least 10% within 100 years.

Table 1: Status of South Asian primates with IUCN categories and criteria

Scientific taxon name	Status, 2002	Criteria
Loridae		
1. <i>Loris lydekkerianus lydekkerianus</i>	Near Threatened	-
2. <i>Loris lydekkerianus malabaricus</i>	Near Threatened	-
3. <i>Loris tardigradus grandis</i>	Endangered	A2cd+4cd; B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)
4. <i>Loris tardigradus nordicus</i>	Endangered	A2cd+4cd
5. <i>Loris tardigradus nycticeboides</i>	Endangered	A2cd+4cd; B1ab(i,ii,iii,iv,v)
6. <i>Loris tardigradus tardigradus</i>	Endangered	A2cd+4cd
7. <i>Nycticebus bengalensis</i>	Data Deficient in SA	-
Cercopithecidae		
8. <i>Macaca arctoides</i>	Critically Endangered in SA	C2a(i)
9. <i>Macaca assamensis assamensis</i>	Endangered in SA	C2a(i)
10. <i>Macaca assamensis</i> Nepal population	Endangered	B1a+b(i,ii,iii,v); C2a(i)
11. <i>Macaca assamensis pelops</i>	Endangered	B1ab(i,ii,iii)+2ab(i,ii,iii); C2a(i)
12. <i>Macaca fascicularis aurea</i>	Critically Endangered in SA	A2c+3c+4c; B2ab(i,ii,iii,iv,v);D
13. <i>Macaca fascicularis umbrosa</i>	Near Threatened	-
14. <i>Macaca leonina</i>	Endangered in SA	B2ab(ii,iii,iv,v); C2a(i)
15. <i>Macaca mulatta mulatta</i>	Least Concern in SA	-
16. <i>Macaca radiata diluta</i>	Least Concern	-
17. <i>Macaca radiata radiata</i>	Least Concern	-
18. <i>Macaca silenus</i>	Endangered	C2a(i)
19. <i>Macaca sinica aurifrons</i>	Endangered	A2cd+4cd
20. <i>Macaca sinica opisthomelas</i>	Endangered	A2cd+4cd; B1ab(i,ii,iii,iv,v) +2ab(i,ii,iii,iv,v)
21. <i>Macaca sinica sinica</i>	Endangered	A2cd+4cd
22. <i>Semnopithecus (T.) johnii johnii</i>	Vulnerable	C2a(i)
23. <i>Semnopithecus entellus achates</i>	Least Concern	-
24. <i>Semnopithecus entellus ajax</i>	Critically Endangered	B1ab(iii,v)+2ab(iii,v)
25. <i>Semnopithecus entellus anchises</i>	Near Threatened	-
26. <i>Semnopithecus entellus entellus</i>	Near Threatened	-
27. <i>Semnopithecus entellus hector</i>	Endangered	B2ab(i,ii,iii,iv,v)
28. <i>Semnopithecus entellus hypoleucos</i>	Endangered	B2ab(ii,iii)
29. <i>Semnopithecus entellus schistaceus</i>	Near Threatened in SA	-
30. <i>Semnopithecus priam priam</i>	Vulnerable	B2ab(i,ii,iii,iv,v)
31. <i>Semnopithecus priam thersites</i> (India)	Endangered	B2ab(i,ii,iii,iv,v)
32. <i>Semnopithecus priam thersites</i> (Sri Lanka)	Endangered	A2cd+4cd
33. <i>Trachypithecus geei</i>	Endangered	B1ab(i,ii,iii,iv,v)
34. <i>Trachypithecus obscurus phayrei</i>	Endangered in SA	C1+2a(i)
35. <i>Trachypithecus pileatus brahma</i>	Data Deficient	-
36. <i>Trachypithecus pileatus durga</i>	Endangered	C1+2a(i)
37. <i>Trachypithecus pileatus pileatus</i>	Endangered in SA	C1+2a(i); D
38. <i>Trachypithecus pileatus tenebricus</i>	Critically Endangered	C2a(i)
39. <i>Trachypithecus vetulus monticola</i>	Endangered	A2cd+4cd; B1ab(ii,iii,iv,v)
40. <i>Trachypithecus vetulus nestor</i>	Critically Endangered	A2cd+3cd+4cd
41. <i>Trachypithecus vetulus philbricki</i>	Endangered	A2cd+4cd
42. <i>Trachypithecus vetulus vetulus</i>	Endangered	A2cd+4cd
Hylobatidae		
43. <i>Bunopithecus hoolock hoolock</i>	Endangered in SA	A2abcd+3bcd; C1+2a(i)

Status of South Asian Primates

3. Report

Status of South Asian Primates

Report

Introduction

The South Asian region (once called the Indian subcontinent) consists of seven countries (Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka), which constitutes an area of very high biodiversity. This is attested by the fact that Mittermeier, *et al.* (1999) have identified two mainland “hotspots” within the region, e.g. Western Ghats and Eastern Himalaya. The region’s biodiversity is threatened by developmental enthusiasm adopted by South Asian governments, and also by intermittent ethnic and political clashes. Primates, among other taxa, are facing varying degrees of extinction threats in the region. South Asia can claim 43 primate taxa, of which 2 are endemic species, 28 are endemic subspecies, 3 are endemic populations, 3 are non-endemic species and 7 are non-endemic subspecies.

In 1997, a C.A.M.P. Workshop for Indian Mammals, including 15 primate species which occur in India, was conducted as part of a larger project for India, the Biodiversity Conservation Prioritisation Project (BCPP). These assessments of endemic Indian primates were accepted by the IUCN SSC Primate Specialist Group (PSG) which sent it to IUCN SSC to be included in the 2000 IUCN Red List. The mammal workshop, of necessity, could include only a few primate specialists, as more than 400 mammals of India from all mammal groups had to be assessed. Therefore, five years later it was decided to conduct an entirely primate-focused C.A.M.P. Review of the 1997 assessments of Indian primates and a regional assessment of all primates of South Asia.

Primates form an integral part of biodiversity and a cognizable link between humans and nature. In South Asia several Hindu epics and plays of ancient times feature primates as integral to the philosophy of these works. This bond of kinship still exists between primates and humans in the region, which can be used to benefit biodiversity conservation by focusing on primates as flagship species. In addition, assessing the status of primates in this Workshop has not only provided conservation focus for this important taxonomic group regionally, but will also assist participating nations with a national assessment of primates for their country’s biodiversity strategy.

Extensive efforts were made to contact all primate field biologists, and to collect information from other sources both published and unpublished. Primate field biologists from the range countries were prioritised for inclusion in the workshop. A complete list of participants and their affiliations appear at the beginning of the report.

The Workshop

A Conservation Assessment and Management Plan Workshop for South Asian Non-human Primates was held during 5-9 March 2002 at the State Forest Service College (SFSC) in Coimbatore, India. About 50 participants including field biologists and taxonomists from all over South Asia participated along with four Indian zoo personnel and two members of the IUCN SSC Primate Specialist Group from USA and UK. The workshop could take advantage of new information from the Indo-US Primate Project in India (USFWS/MoEF), the Primate Biology Program (Smithsonian Institution) in Sri

Lanka and several other, smaller projects.

The South Asian Primate C.A.M.P. was endorsed by the IUCN SSC Primate Specialist Group, the IUCN SSC Conservation Breeding Specialist Group, the IUCN SSC Regional Biodiversity Programme (RBP), Asia and the Indo-US Primate Project. Sponsors of the workshop were Conservation International, Primate Conservation Inc., Chester Zoo, North Carolina Zoological Park, Lincoln Park Zoo, Oklahoma City Zoo, Toronto Zoo, the European Association of Zoos and Aquaria, and Appenheul Primate Park.

The primary focus of the workshop was endemic primate taxa of South Asia which number 33 in 2 Families, e.g. Cercopithecidae (25 taxa) and Loridae (7 taxa). These taxa were prioritised for first attention. Non-endemic primates were also covered, using the Regional Guidelines for Application of IUCN Red List Criteria at sub-global level. National assessments for species with distribution in more than one country were done.

The draft manuscript of the most recent taxonomic revisions by Brandon-Jones *et al.* as well as Colin Groves (2001) publication, stimulated intensive discussion at the workshop. The problem with both taxonomic systems was that some taxa, which had been considered as one species for some years and surveyed as such, had been split into several species (in the case of Groves) and subspecies (in the case of Brandon-Jones) and, on the other hand, some known subspecies had been ignored. It was decided to use the most recent draft of the Brandon-Jones *et al.* work with a few modifications as the workshop taxa list. Agreement on the final workshop species and subspecies list was the result of a consensus among taxonomists and a broad spectrum of field biologists that actually lived and worked in these species' ranges and were familiar, in many cases through close study, with the primates under consideration.

A selection of zoo directors were exposed to the revised taxonomy for the first time and deliberated on the effect of these revisions on their conservation strategy. The first steps toward a Primate Captive Action Plan for the whole of South Asia was initiated.

Workshop objectives

The objectives of the workshop included:

- Networking of all South Asian primatologists – academics, government agencies, non-governmental organizations and institutions, zoos, selected individuals and other stakeholders.
- Providing an opportunity for all stakeholders, particularly those native to South Asia, to actively participate in a process that results in the derivation of the conservation status of primate taxa of the region using the IUCN Red List Criteria and Categories.
- Deriving an accurate IUCN category for all South Asian primate taxa based on available information – published or unpublished – as a rapid assessment providing adequate documentation as required by the IUCN Red List protocol.
- Drafting specific taxon-based and habitat-based action plans for the protection of the primates and their habitat.

- Establishing research and management priorities for future action.
- Identifying immediate needs for practical conservation-oriented steps for follow-up.

Workshop participants

The Workshop drew upon the collective expertise of local primate researchers gathered in a large group, perhaps the most representative ever for the South Asian Region. The primary objective of the workshop was to assess the conservation status of endemic and non-endemic primates of South Asia, giving priority to those thought to be under heavy threat. The “regional” focus, in which field biologists from at least four of the South Asian countries were brought together, had the real advantage of permitting discussion on trans-national issues of taxa ranging between countries. It created a bond between primatologists in the region who worked together very intensively for five days to produce a written product on the primates of their country and region that now can be used by policy makers, politicians, press and the public for conservation action.

Output

Based on the data readily available in 2000, many primate taxa in the region (species and subspecies, endemic and non-endemic) already were identified as EN (19) and VU (11). The assessment in 2000 and in the earlier C.A.M.P. in 1997 did not, however, include much of the unpublished data that had been accumulated as the result of recent field studies, including those of doctoral candidates working under the auspices of the Indo-US Primate Project or the Smithsonian Primate Project. The output from the workshop was submitted to the PSG Vice Chair for Asia for submission to IUCN Red List of Threatened Species 2003. This is a valuable practical application of data from local field biologists and primate students from South Asia and a credit to their work.

Special issues

Participants also drew up individual Species Action Plans for nearly all species. “Special Issue” Working Groups were formed on the following subjects: Urban monkey problems; Funding Field Studies; Education and Species Conservation Action; and Conservation Breeding.

Special issues such as taxonomy were discussed along with basic information relevant to the conservation of each taxon (including population numbers, distribution, number of mature individuals, threats, trade, etc.) and ultimately an IUCN category was derived from the combined information from participants. Research and management recommendations were made on the basis of information collected on the status of the taxa. This Report and a summary of the Report will be widely circulated to workshop participants, wildlife agency personnel, conservation NGOs, policy makers, academic institutions and other individuals in order to aid primate conservation.

Methods for assessment

Primates are relatively well-studied in some South Asian countries so an innovation in this C.A.M.P. was to provide a separate spread sheet for listing all known localities, instead of a few lines as normally is provided in the Taxon Data Sheets. For some species such as Hoolock Gibbon, Golden Langur, Rhesus and Bonnet Macaques, and all Sri Lankan primates, participants filled more than three long pages with locality data. This very detailed locality data, which was coordinated with maps, made it

possible for participants to correctly identify subspecies surveyed and assess them. Participants completed this demanding task before filling out their Taxon Data Sheets.

Data forms called “Biological Information Sheets” were distributed to all invitees and many who were not in a position to attend in person returned these forms with current information. Information from all sources was recorded in the C.A.M.P. Data Entry Programme for review by participants.

In a C.A.M.P., most of the work is done in working groups and reviewed in several plenary sessions. In this workshop the groups were organised by region with a South India Group, a North-East Alliance (including northeastern India, Nepal and Bangladesh), a North-Central Group (also included Nepal), and a Sri Lanka Group.

Taxon Data Sheets and assessment logic

The Taxon Data Sheet used at the workshop was divided into various sections, *viz.*:

1. Part one

General information including taxonomy, habit, habitat, distribution, locality information, threats, populations, trade, field studies, data quality, qualifier and uncertainty.

2. Part two

Status assessment as per information provided in Part One based on the 2001 IUCN Red List Criteria, CITES listing, national wildlife laws, presence in protected areas and previous assessments.

3. Part three

Uncertainty issues related to data quality, qualifiers and group dynamics with respect to assessments.

4. Part four

Recommendations for research, monitoring, captive breeding, education, population and habitat viability assessment and comments on the species.

5. Part five

Information on migration between adjacent populations across international boundaries, threats, colonization effects, etc. to do with assessing species at the national level.

6. Part six

Compilers of primary working group, reviewers of the data and sources referred to in deriving literature and other unpublished information.

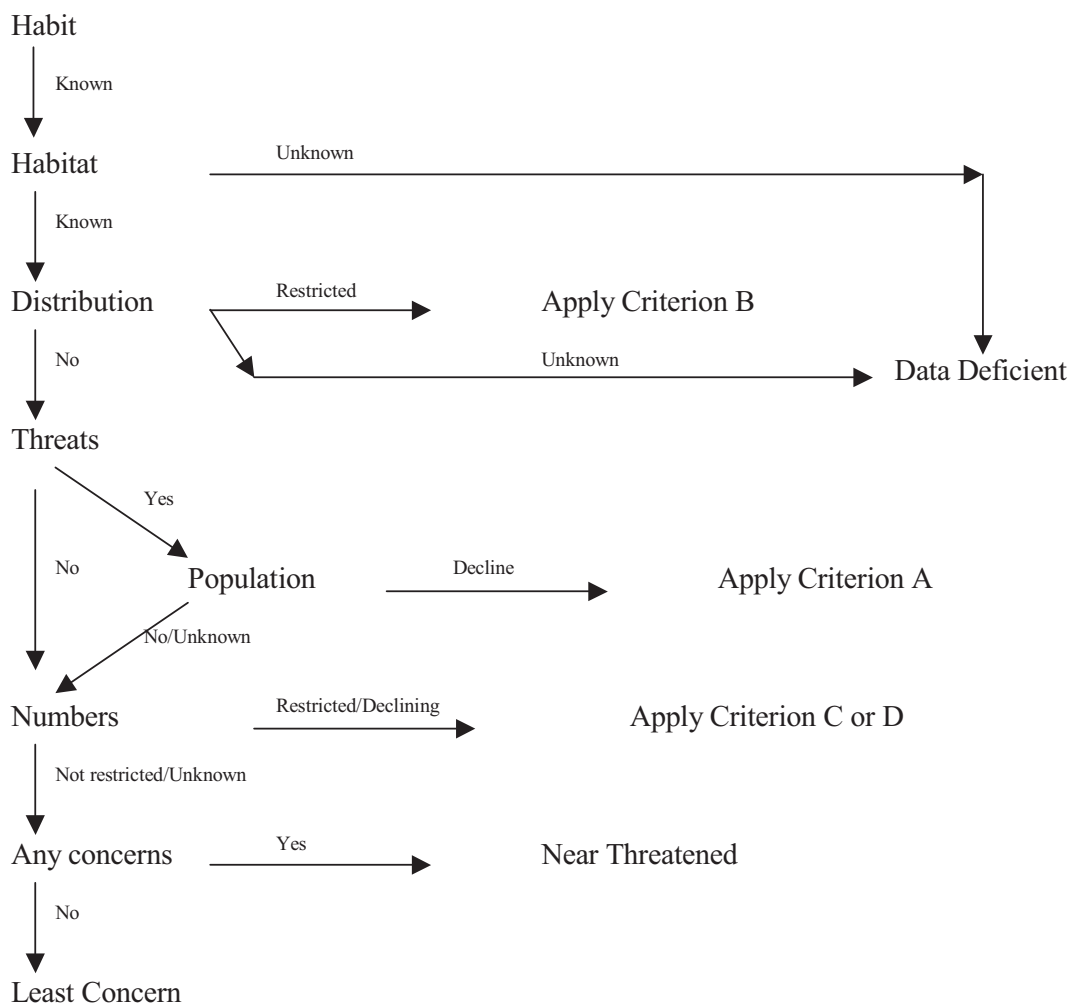
Information was gathered in this 8-page Taxon Data Sheet and also electronically recorded in the C.A.M.P. Data Entry Programme developed by the Conservation Breeding Specialist Group. National assessment for primates within South Asia was attempted at the workshop after assessments of all endemic taxa were completed. For some taxa with problems, information on the overall distribution was gathered and an agreement made by participants that the status would be derived after the workshop after sorting out the taxonomy. All assessments were ratified by participants in plenary

sessions with much discussion, which ultimately led to consensus within the workshop.

The Taxon Data Sheets are included in a separate section of this report. A synopsis of information compiled for the species and data interpretation is given in the following pages for better understanding of the process and status assessments.

The information compiled using the Taxon Data Sheets was used in a logical deduction of the status first using the global IUCN Red List Categories and Criteria (2001) in the case of endemics. In the case of non-endemics, the taxon distribution within the region was assessed using the global criteria, followed by the regional guidelines. National assessments were carried out in a similar manner using the regional guidelines. The following flowchart interprets the use of information and the criteria in deriving the status.

Figure 2. Flowchart to explain the process of assessments for primates in South Asia*



Interpretation and data source

The primate C.A.M.P. workshop was much enhanced by the presence of participants from the Indo-US Primate Project, a fact reflected in the amount of detailed distribution, population and status information on primates in different parts of the country. Primates are one of the better-studied mammal groups in the region, may be next only to large felids and pachyderms. The depth of study, however, follows a descending order of detail starting with macaques, langurs, gibbon and finally lorises. During the last 5 years the Indo-US Primate Project has helped with studies on the relatively neglected primate – gibbons in northeastern India; and University of Mysore has helped with the study on the Slender Lorises of southern India. The once rare Slender Loris has been found in many places in Tamil Nadu, Karnataka and Andhra Pradesh and this report includes information from those studies. Although some studies on gibbons were done in the past, the northeastern team of the Indo-US project studied all the habitats in which gibbons are found and the results like-wise are incorporated in this report. The same depth of knowledge for gibbons in Bangladesh can be attributed to one group of primatologists from Dhaka and Jehangirnagar universities who have been studying them in different localities in the country. The degree of knowledge about primates is reflected in the details provided by the field biologists at the workshop. For the region, the most studies appear to have been conducted on Indian primates. To date, a few studies have been conducted in Bhutan; Tashi Wangchuk provided information and literature by email. Pakistan biologists were not present at the workshop, so the information for that country was obtained through the literature and by email with C. Shafique before and during the workshop proceedings.

Distribution

Thanks to the extensive studies conducted by primatologists of the region, primate distribution was recorded by the participants at the workshop without much difficulty. For some better-studied taxa, distribution information was available to very minute details including the range or beat within a forested area. For the non-controversial taxa the distribution data fit into taxon data sheets easily as compared to the controversial taxa, viz., the *Semnopithecus entellus* group. The primatologists of the region were not very comfortable in distinguishing subspecies and therefore provided information for this group on the species level. They were able to separate the locality information according to Brandon-Jones' advice for subspecific distribution as per his study of museum specimens and their data. It was understood at the workshop that Brandon-Jones would work on the distribution further and reassign the ranges after a thorough study of museum specimens and their localities at the Bombay Natural History Society. The distribution ranges for the *Semnopithecus entellus* group presented in this report are based on the studies conducted after the workshop and with the agreement of all the workshop participants.

In the case of Sri Lankan primates, information on distribution of taxa is on a broader scale. The northern parts of Sri Lanka, subject to many years of war, had fewer up-to-date observations of primate distribution than parts of the island that had fewer travel restrictions. Where taxonomic difficulties arose (one subspecies of loris and one toque macaque) observations of geographic distribution relied on the nomenclature of earlier published works specific to Sri Lanka.

Range, Area and population numbers

Since most taxa have very good information on the extent of occurrence and area of occupancy, more

accurate estimates were made at the workshop for primates on the mainland, thanks to the various focused primate studies. Unfortunately, for Sri Lanka this information was not available and only broad estimates were made for most taxa. There were no population estimates for lorises in South Asia.

Data Quality

Much of the information provided was based on direct observations in recent field studies. Some comparative data from older studies was used to assess population and habitat declines. Indirect information from hunting of and trade in primates was used to derive threats and thereby status. As for taxonomy, it was decided to let taxonomists (mainly the PSG) sort out the information provided in the workshop. For all macaques, gibbon and langurs (except pileated langur in northeastern India), information on their distribution, threats and status was based on direct observation and some indirect evidence. For lorises in India and Sri Lanka, much of the distribution information was through direct observation but for other areas distribution was inferred from indirect sources and extrapolated from information from one or two locations.

Uncertainty

Taxonomy produced the most uncertainty; participants were uncertain about the distribution of taxa, especially lorises and the *Semnopithecus entellus* group. However, this was sorted out with the experts providing information for the species and the taxonomists resolving the distribution of the subspecies.

South Asian primate taxonomy

Contrary to popular belief, higher primate taxonomy remains unsettled and debatable and extensive basic taxonomic research is still required. In the Asian Colobinae, for example, the number of genera and their species composition are disputed. Dissent over generic status influences the output of a C.A.M.P. workshop only in deciding the generic nomenclature adopted. Dissonance at lower taxonomic levels directly dictates the number of populations assessed and their geographic distribution. The workshop was not convened to resolve these taxonomic issues, but many of the participants possessed information which could clarify some of the problems.

Brandon-Jones recommended selecting one available classification as the basis for the taxonomy followed by the workshop, so that the adopted generic arrangement is apparent, and assessed taxa can readily be identified without including in the report a precise definition of each taxon. Where the workshop felt obliged to digress in any respect from the selected classification, this is specified and explained later in the report.

The objective of the C.A.M.P. workshop was not merely to assess the conservation status of primate species, but also that of the smallest primate populations considered potentially recognizable as taxa. Such populations are usually termed subspecies, but where their status is more equivocal, the term “evolutionary significant unit” or “ESU” has been used. To facilitate this objective, it was appropriate to select a work which included an Asian primate subspecific classification. This unfortunately eliminated two major works: Corbet and Hill (1992) and Groves (1993), which otherwise would have suited as widely known, recently published, reasonably consensual classifications. Ellerman and Morrison-Scott (1966) does include a subspecific classification, but its generic, specific and subspecific arrangement has been largely superseded by more recent research and therefore to employ it would have involved a considerable amount of documented modification, effectively creating a new classification. The only remaining options seemed to be to follow Groves (2001) or the species and subspecies list adopted by the C.A.M.P. participants based on Brandon-Jones *et al.* draft and some older literature (like Hill, 1934).

Workshop participants decided to follow the work of Brandon-Jones *et al.* (2003; unpublished when the C.A.M.P. was conducted) because two of the authors involved in the compilation of that report (“Primate Taxonomy for the New Millennium”, held at the Disney Institute, Orlando, Florida, USA, from 25-29 February 2000), Douglas Brandon-Jones and Ardith Eudey, were participants at the C.A.M.P. workshop and were able to respond to questions about this compilation. This classification had the added advantage of already having been adopted by the IUCN/SSC Primate Specialist Group as the basis for the 2001 Asian Primate Red List, and will be followed in the forthcoming primate taxonomy paper. Unlike Groves (2001), the Orlando workshop also made a concerted effort to identify all populations potentially recognizable as taxa, bringing it more in line with the objectives of the C.A.M.P. workshop.

Concern was expressed over the adoption of the generic name *Semnopithecus* for the Indian langurs. Some participants seemed to feel that, as there is still controversy over whether *Trachypithecus* is generically separable from *Semnopithecus*, the safer option would be to retain *Presbytis*, the generic name employed until recently. Brandon-Jones assured the workshop that, although a consensus might

eventually decide to retain *Trachypithecus* in *Semnopithecus*, there is no longer any likelihood that *Semnopithecus* will remain in *Presbytis*. *Presbytis* is now firmly established as the generic name denoting a distinct group of species, including *Presbytis melalophos*, restricted to the Malay Peninsula and archipelago.

The absence of taxonomic clarity related in particular to the Hanuman Langur, for example, apart from explaining the motivation behind the Orlando report, and providing general advice on Asian primate taxonomy, the chief task for Brandon-Jones was to overcome skepticism at the recognizability of *Semnopithecus entellus* subspecies. Most participants seemed unaware that the official tally, as sanctioned by Ellerman and Morrison-Scott (1966), is fifteen subspecies.

Some participants evidently doubted the existence of more than one subspecies, and were under the misapprehension that recognized subspecies are of recent inception. The reverse is actually the case and both Groves (2001) and the Orlando workshop have reduced the number of recognized Indian langur taxa. Groves (2001) recognized seven, the Orlando workshop recognized ten. No subspecies have been described since 1928 and at present there is no indication that any more remain to be described. Those that exist are distinct. Their recognition by Groves (2001) as seven species is not unreasonable. There is no question that the conservation status of each one should be separately assessed, and zoos should make efforts to avoid hybridizing them. Brandon-Jones had inadequate time to prepare a detailed report on Indian langur subspecies before the C.A.M.P. workshop, but discussion with participants, field observations and a stop-over at Mumbai, allowing an examination of the Bombay Natural History Society Asian colobine collection, enabled him to combine this with other information already in his possession and a literature survey to produce a review of the subspecies submitted for publication in *Zoos' Print Journal*. This will be the subspecific classification followed by both the Orlando and the C.A.M.P. report.

Recent field studies

The report includes most of the recent field studies conducted on primate taxa in South Asia. This is available as part of the Taxon Data Sheet as also in the distribution tables.

Results

From the previous figure of 15 taxa recognized in India (Molur *et al.*, 1998), the current number of primate taxa stand at 43. The 2002 IUCN Red List of Threatened Species lists almost the same number of taxa of primates as assessed in this workshop. However, the assessments differ due to better and more current information available at the CAMP. The overall status of primates as a group in South Asia is that 31 of the 43 taxa (72%) are threatened! Two of the 12 non-threatened species lack any information for a meaningful status assessment and therefore are classified as Data Deficient. A summary of primate status in South Asia is provided in Table 1 along with the criteria for assessing the threatened taxa.

Thirty-three (77%) of the 43 primates are endemic to South Asia. Their representation in different countries within the region is indicated in table 2. India tops the list with 13 endemic taxa followed by Sri Lanka with 12 endemic primate subspecies. Nepal has one endemic primate population, while 8 primate taxa are distributed in more than one country within South Asia. India and Sri Lanka have one

common subspecies of *Semnopithecus priam thersites*, but are assessed separately as 2 endemic populations. Comparing the status of endemics within India and Sri Lanka, all primates in Sri Lanka are threatened while 59% of the Indian primate taxa are threatened. In all 24 of the 33 endemic South Asian primates are threatened (73%). Restricted distribution and rapid habitat degradation are the main reasons for threatened endemic primate taxa in Sri Lanka, while in other countries of South Asia, endemic primates are mainly threatened due to restricted distribution.

Non-endemic primates taxa (10) were assessed for only the South Asian region. Regional guidelines of the IUCN Red List Criteria were applied as per Gärdenfors, *et al.* (2001). Mainly distributed in the northeastern part of India and Bangladesh, these taxa have a range extending into southeastern Asia. *Bunopithecus hoolock* (previously called *Hylobates hoolock*) has a distribution extending beyond Myanmar into Thailand. The nominate subspecies found in South Asia (Bangladesh, Bhutan and India) also extends into Myanmar, but only up to the western banks of Chindwin River. Similarly, *Nycticebus bengalensis*, 5 *Macaca* taxa, 2 *Trachypithecus* subspecies and 1 *Semnopithecus* subspecies occur beyond South Asia. Since in most cases the distribution of the taxa is fragmented due to various reasons, the status in South Asia was derived using the regional guidelines, which either retained the global status for the taxa or increased the level of threat category in case of the South Asia population being a sink.

Table 1: Status of South Asian primates with IUCN categories and criteria.

Scientific taxon name	Status, 2002	Criteria
Loridae		
1. <i>Loris lydekkerianus lydekkerianus</i>	Near Threatened	-
2. <i>Loris lydekkerianus malabaricus</i>	Near Threatened	-
3. <i>Loris tardigradus grandis</i>	Endangered	A2cd+4cd; B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)
4. <i>Loris tardigradus nordicus</i>	Endangered	A2cd+4cd
5. <i>Loris tardigradus nycticeboides</i>	Endangered	A2cd+4cd; B1ab(i,ii,iii,iv,v)
6. <i>Loris tardigradus tardigradus</i>	Endangered	A2cd+4cd
7. <i>Nycticebus bengalensis</i>	Data Deficient in SA	-
Cercopithecidae		
8. <i>Macaca arctoides</i>	Critically Endangered in SA	C2a(i)
9. <i>Macaca assamensis assamensis</i>	Endangered in SA	C2a(i)
10. <i>Macaca assamensis</i> Nepal population	Endangered	B1a+b(i,ii,iii,v); C2a(i)
11. <i>Macaca assamensis pelops</i>	Endangered	B1ab(i,ii,iii)+2ab(i,ii,iii); C2a(i)
12. <i>Macaca fascicularis aurea</i>	Critically Endangered in SA	A2c+3c+4c; B2ab(i,ii,iii,iv,v);D
13. <i>Macaca fascicularis umbrosa</i>	Near Threatened	-
14. <i>Macaca leonina</i>	Endangered in SA	C2a(i)
15. <i>Macaca mulatta mulatta</i>	Least Concern in SA	-
16. <i>Macaca radiata diluta</i>	Least Concern	-
17. <i>Macaca radiata radiata</i>	Least Concern	-
18. <i>Macaca silenus</i>	Endangered	C2a(i)
19. <i>Macaca sinica aurifrons</i>	Endangered	A2cd+4cd
20. <i>Macaca sinica opisthomelas</i>	Endangered	A2cd+4cd; B1ab(i,ii,iii,iv,v) +2ab(i,ii,iii,iv,v)
21. <i>Macaca sinica sinica</i>	Endangered	A2cd+4cd
22. <i>Semnopithecus (T.) johnii johnii</i>	Vulnerable	C2a(i)
23. <i>Semnopithecus entellus achates</i>	Least Concern	-
24. <i>Semnopithecus entellus ajax</i>	Critically Endangered	B1ab(iii,v)+2ab(iii,v)
25. <i>Semnopithecus entellus anchises</i>	Near Threatened	-
26. <i>Semnopithecus entellus entellus</i>	Near Threatened	-
27. <i>Semnopithecus entellus hector</i>	Endangered	B2ab(i,ii,iii,iv,v)
28. <i>Semnopithecus entellus hypoleucos</i>	Endangered	B2ab(ii,iii)
29. <i>Semnopithecus entellus schistaceus</i>	Near Threatened in SA	-
30. <i>Semnopithecus priam priam</i>	Vulnerable	B2ab(i,ii,iii,iv,v)
31. <i>Semnopithecus priam thersites</i> (India)	Endangered	B2ab(i,ii,iii,iv,v)
32. <i>Semnopithecus priam thersites</i> (Sri Lanka)	Endangered	A2cd+4cd
33. <i>Trachypithecus geei</i>	Endangered	B1ab(i,ii,iii,iv,v); C1+2a
34. <i>Trachypithecus obscurus phayrei</i>	Endangered in SA	C1+2a(i)
35. <i>Trachypithecus pileatus brahma</i>	Data Deficient	-
36. <i>Trachypithecus pileatus durga</i>	Endangered	C1+2a(i)
37. <i>Trachypithecus pileatus pileatus</i>	Endangered in SA	C1+2a(i); D
38. <i>Trachypithecus pileatus tenebricus</i>	Critically Endangered	C2a(i)
39. <i>Trachypithecus vetulus monticola</i>	Endangered	A2cd+4cd; B1ab(ii,iii,iv,v)
40. <i>Trachypithecus vetulus nestor</i>	Critically Endangered	A2cd+3cd+4cd
41. <i>Trachypithecus vetulus philbricki</i>	Endangered	A2cd+4cd
42. <i>Trachypithecus vetulus vetulus</i>	Endangered	A2cd+4cd
Hylobatidae		
43. <i>Bunopithecus hoolock hoolock</i>	Endangered in SA	A2abcd+3bcd; C1+2a(i)

Table 2: Distribution of primates in South Asia indicating presence in countries within.

Scientific name	SA	Ba	Bh	I	M	N	Pk	SL	E
Loridae									
1. <i>Loris lydekkerianus lydekkerianus</i>	NT			✓					E
2. <i>Loris lydekkerianus malabaricus</i>	NT			✓					E
3. <i>Loris tardigradus grandis</i>	EN							✓	E
4. <i>Loris tardigradus nordicus</i>	EN							✓	E
5. <i>Loris tardigradus nycticeboides</i>	EN							✓	E
6. <i>Loris tardigradus tardigradus</i>	EN							✓	E
7. <i>Nycticebus bengalensis</i>	DD	✓		✓					No
Cercopithecidae									
8. <i>Macaca arctoides</i>	CR	?		✓					No
9. <i>Macaca assamensis assamensis</i>	EN	✓		✓					No
10. <i>Macaca assamensis</i> ¹	EN					✓			E
11. <i>Macaca assamensis pelops</i>	EN		✓	✓					E
12. <i>Macaca fascicularis aurea</i>	CR	✓							No
13. <i>Macaca fascicularis umbrosa</i>	NT			✓					E
14. <i>Macaca leonina</i>	EN	✓		✓					No
15. <i>Macaca mulatta mulatta</i>	LC	✓	✓	✓		✓	✓		No
16. <i>Macaca radiata diluta</i>	LC			✓					E
17. <i>Macaca radiata radiata</i>	LC			✓					E
18. <i>Macaca silenus</i>	EN			✓					E
19. <i>Macaca sinica aurifrons</i>	EN							✓	E
20. <i>Macaca sinica opisthomelas</i>	EN							✓	E
21. <i>Macaca sinica sinica</i>	EN							✓	E
22. <i>Semnopithecus (Trachypithecus) johnii johnii</i>	VU			✓					E
23. <i>Semnopithecus entellus achates</i>	LC			✓					E
24. <i>Semnopithecus entellus ajax</i>	CR			✓		✓			E
25. <i>Semnopithecus entellus anchises</i>	NT			✓					E
26. <i>Semnopithecus entellus entellus</i>	NT	✓		✓					E
27. <i>Semnopithecus entellus hector</i>	EN			✓		✓			E
28. <i>Semnopithecus entellus hypoleucos</i>	EN			✓					E
29. <i>Semnopithecus entellus schistaceus</i>	NT		✓	✓		✓	✓		No
30. <i>Semnopithecus priam priam</i>	VU			✓					E
31. <i>Semnopithecus priam thersites</i> ²	EN						✓		E
32. <i>Semnopithecus priam thersites</i> ³	EN			✓					E
33. <i>Trachypithecus geei</i>	EN		✓	✓					E
34. <i>Trachypithecus obscurus phayrei</i>	EN	✓		✓					No
35. <i>Trachypithecus pileatus brahma</i>	DD			✓					E
36. <i>Trachypithecus pileatus durga</i>	EN	✓		✓					E
37. <i>Trachypithecus pileatus pileatus</i>	EN			✓					No
38. <i>Trachypithecus pileatus tenebricus</i>	CR		✓	✓					E
39. <i>Trachypithecus vetulus monticola</i>	EN							✓	E
40. <i>Trachypithecus vetulus nestor</i>	CR							✓	E
41. <i>Trachypithecus vetulus philbricki</i>	EN							✓	E
42. <i>Trachypithecus vetulus vetulus</i>	EN							✓	E
Hylobatidae									
43. <i>Bunopithecus hoolock hoolock</i>	EN	✓		✓					No
		10	5	29	0	5	2	12	33

SA - South Asia; Ba - Bangladesh; Bh - Bhutan; I - India; M - Maldives; N - Nepal; Pk - Pakistan; SL - Sri Lanka; E - Endemic to South Asia, ¹ Nepal population, ² India population, ³ Sri Lanka population

Threats

No primate in South Asia is beyond threat. All the Critically Endangered, Endangered and Vulnerable taxa are under severe pressure due to different threats acting on them, while the non-threatened taxa still face threats of some kind. Table 3 lists all threats identified for the taxa at the workshop. The list for most taxa is similar with the exception of site-specific threats. Habitat loss is one major threat that affects primates throughout the region.

Habitat loss due to various reasons such as logging, agriculture, development, habitation, industry, commerce and fragmentation has resulted in many taxa being threatened beyond hope. Figure 3 summarises the threats for primates in South Asia. Seventy-six percent of the threats are habitat related and 24% are population related. Primates are under tremendous pressure because of continuing decline in habitat, which is more obvious in certain regions than others. Northeastern India and Bangladesh face a continuing crisis with loss of habitat for primates due to such factors as illegal encroachments, clear-felling for human settlements, logging for firewood and mining. This has resulted in many forested areas becoming fragmented, discontinuous and inhospitable for primate migration. In various cases, the degree of threat to the habitat is reflected in very small population counts in restricted areas of specialized primates such as Hoolock Gibbons. Primates inherently are shy and require a fair component of the habitat including canopy trees and food trees for maintaining a healthy group size and for dispersal. Lack of continuous forests as in the northeast has disturbed the population dynamics and is now a major threat.

Habitat loss in the past has resulted in reduced numbers of primates at present. Sri Lanka lost nearly half its forests in 40 years – forests that used to be home for primates. This amount of loss has been

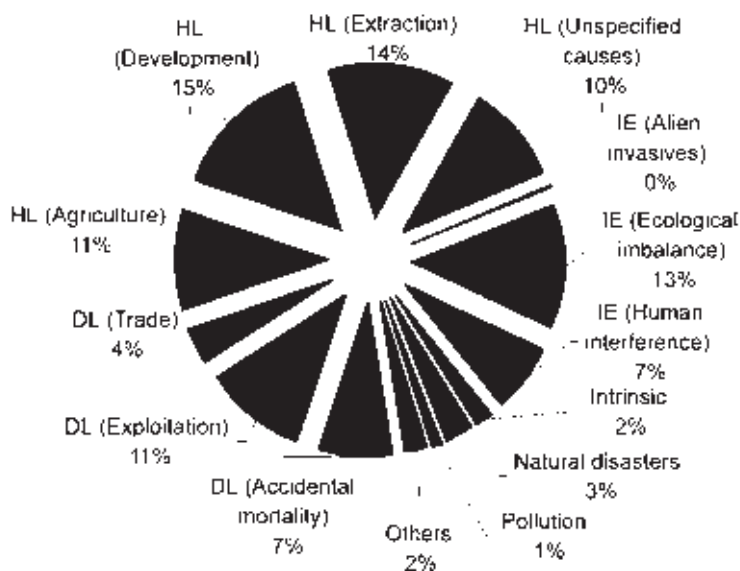


Figure 3. Summary of threats for South Asian primates.

used as a basis to calculate population declines among primates there, which means that most of Sri Lankan primate taxa are threatened, usually Endangered.

Loss of habitat quality is another major threat identified for almost all primate taxa, although the effects of change in quality is not reflected in threat perception of a taxon. Man-made fires, minor forest produce collections, eco-tourism, human settlements in and around forest, among other activities, can cause changes to the quality of habitat, which in turn have a negative effect on many primate taxa.

Population declines were of concern with respect to all Sri Lankan primates and a number of mainland primates in South Asia. Due to loss of habitat over many years in the past, population trends were assessed based on correlations with habitat trends. Although no statistical interpretation was carried out to correlate the two, an understanding of the extent of habitat available in the past to that in the present gives an indication of the population trends.

Other threats to primates in the region are mainly from trade, accidental mortality, hunting/harvest. Primates are hunted for meat, medicine and in case of lorises particularly, as bad omen in different regions, a common significant threat to all primates. Reasons for hunting vary by region. Primates in the northeast are hunted mainly for food and for medicinal purposes, while in other regions they are hunted for reasons such as crop protection or as a taboo. Already impoverished populations of primates suffer from hunting, which could eventually lead to early local extinctions. Trade is an issue for only a few taxa, which may be taken for biomedical research or the pet trade. Table 4 summarises primates hunted and in trade.

Table 3: Threats affecting primates in South Asia.

Taxon	Threats
Loridae <i>Loris lydekkerianus lydekkerianus</i>	Hunting, traditional medicine, road kills, biomedical research, habitat loss and as bad omen.
<i>Loris lydekkerianus malabaricus</i>	Hunting for trade, as bad omen, biomedical and laboratory research, habitat loss
<i>Loris tardigradus grandis</i>	Clear-cutting, deliberate fires, trade, habitat loss by use of chemicals in agriculture. Koslanda, Thangamalai and Kotmale locations are heavily clearcut for timber and for other plantations. Increasing visitor pressure
<i>Loris tardigradus nordicus</i>	Hunting for folk medicine and habitat loss
<i>Loris tardigradus nycticeboides</i>	Land and water pollution, habitat loss due to agriculture, dairy husbandry, and vegetable cultivation
<i>Loris tardigradus tardigradus</i>	Deforestation due to urbanisation
<i>Nycticebus bengalensis</i>	Fisheries, habitat loss due to building roads, dams, power lines, fragmentation, soil loss/erosion, deliberate fires, hunting and trade for food, traditional medicine, and sport, accidental mortality, trapping, human interference, predators
Cercopithecidae <i>Macaca arctoides</i>	Selective logging, timber and firewood collection for charcoal, fisheries, building roads, dams, power lines, deliberate fires, fragmentation, soil loss/erosion, hunting and trade for food, sport and traditional medicine, accidental mortality due to trapping.
<i>Macaca assamensis assamensis</i>	Selective logging, timber collection and firewood for charcoal production, fisheries, building roads, dams, power lines, deliberate fires, fragmentation, soil loss / erosion, hunting for sport, hunting and trade for food and traditional medicine, accidental mortality by trapping, alien invasive species, predators, hybridization.
<i>Macaca assamensis</i> Nepal population	Past threats: Grazing, shifting agriculture, firewood and charcoal production, selective logging, habitat loss, jhuming Present threats: Fodder collection, landslide
<i>Macaca assamensis pelops</i>	Past threats: Hunting, human settlement, habitat shrinkage, jhuming Present and future threats: Agriculture, firewood and charcoal production, selective logging, intentional poisoning (control), accidental mortality, road kills, trapping, landslide, changing human attitudes, man-animal conflict
<i>Macaca fascicularis aurea</i>	Aquaculture, agriculture, mangrove removal, human settlement, deforestation. Teknaf Peninsula population is completely decimated due to development activities (ship-building).
<i>Macaca fascicularis umbrosa</i>	Past threats: Human settlement, habitat loss Present and future threats: Construction of roads on Katchal island and Great Nicobar island, hunting.
<i>Macaca leonina</i>	Selective logging, firewood and charcoal production, fisheries, timber extraction, building roads, dams, power lines, forest fragmentation, soil loss / erosion, deliberate fires, hunting and trade for sport, food and medicine cultural use,

Taxon	Threats
	accidental mortality, deliberate fires, predators, habitat loss, jhuming, encroachment
<i>Macaca mulatta mulatta</i>	Past threats: Hunting, trade, accidental mortality, road kills, trapping, ecological imbalance (changes in native species dynamics), habitat loss, forest fire Present and future threats: Poisoning in Himachal Pradesh, human-animal conflict, wildfire, human settlement in Nepal terai
<i>Macaca radiata diluta</i>	Past threats: Hunting, trade, research, habitat loss Present threats: Road kills Future threats: Human interference
<i>Macaca radiata radiata</i>	Past threats: Agriculture, hunting, trade, road kills Present and future threats: Infrastructure, road kills, research, pathogens / parasites, storms/flooding
<i>Macaca silenus</i>	Roads, dams, power lines, deforestation, fragmentation, crop plantations, agriculture, mining, hunting for food, trapping, habitat loss, changes in native species dynamics, pathogens/parasites, delayed sexual maturity and long inter-birth interval, inbreeding. Landslide is a future threat. In private forests and plantations, change in land use is a problem for the species.
<i>Macaca sinica aurifrons</i>	Deforestation and habitat loss (large plantations and estates, that might have harboured some pocketed populations, are being reduced into smaller holdings unsuitable to support macaque groups or populations), shooting, snaring and poisoning as this animal is considered a pest.
<i>Macaca sinica opisthomelas</i>	Habitat loss due to agriculture (Coffee and tea plantation) in the past, fuel wood collection, vegetable plantations, encroachment, animal husbandry
<i>Macaca sinica sinica</i>	Mortality by poisoning and habitat loss.
<i>Semnopithecus (Trachypithecus) johnii johnii</i>	Past threats: Crop plantations, mining, dams, fragmentation, traditional medicine Present and future threats: Human settlement, hunting, road kills, deliberate fires, habitat loss, storms/flooding, landslide
<i>Semnopithecus entellus achates</i>	Agriculture, habitat loss, man-animal conflict
<i>Semnopithecus entellus ajax</i>	Past threats: Overgrazing, building roads through forests, lopping, deforestation, agriculture, fire Present and future threats: Agriculture and development
<i>Semnopithecus entellus anchises</i>	Agriculture, habitat loss, man-animal conflict, wildfires
<i>Semnopithecus entellus entellus</i>	Agriculture, habitat loss, man-animal conflict in Bangladesh
<i>Semnopithecus entellus hector</i>	Mining, stone mining, firewood and charcoal collection production, timber collection, land distribution (resettlement) for landless people.
<i>Semnopithecus entellus hypoleucos</i>	Past threat: Timber plantations Present and future threats: Agriculture, human settlement, fragmentation, habitat loss, mining, deforestation, hunting, deliberate fires.
<i>Semnopithecus entellus schistaceus</i>	Timber, firewood and charcoal production, habitat loss

Taxon	Threats
<i>Semnopithecus priam priam</i>	Hunting, habitat loss
<i>Semnopithecus priam thersites</i> India population	Power lines, roads, human settlement, accidental mortality, habitat loss
<i>Semnopithecus priam thersites</i> Sri Lanka population	Hunting for food, poisoning, trade, habitat loss, habitat fragmentation, loss of ecologically important species, increased human animal conflict.
<i>Trachypithecus geei</i>	Crop plantations, grazing, harvesting non-woody vegetation for firewood and charcoal production, selective logging, timber collection, human settlement, deforestation, fragmentation, trade, killed by domestic dogs, habitat loss, high juvenile mortality, inbreeding
<i>Trachypithecus obscurus phayrei</i>	Timber plantations, livestock ranching, shifting agriculture, firewood collection and charcoal production, infrastructure, human settlement, deforestation, fragmentation, collecting, illegal hunting for food, habitat loss, pesticides / chemical pollution, industrial pollution, inbreeding
<i>Trachypithecus pileatus brahma</i>	Not known
<i>Trachypithecus pileatus durga</i>	Crop plantations, timber, selective logging, firewood and charcoal production, human settlement, building roads, dams, power lines, deliberate fires, soil loss / erosion, fragmentation, hunting for sport, meat and traditional medicine, trapping, human interference, predators
<i>Trachypithecus pileatus pileatus</i>	Shifting agriculture, grazing, plantations, agriculture, timber, selective logging, firewood and charcoal production, human settlement, building roads, dams, power lines, deliberate fires, soil loss / erosion, forest fragmentation, hunting for sport, food and traditional medicine, accidental mortality, trapping, human interference, predators, habitat loss, poor reproduction
<i>Trachypithecus pileatus tenebricus</i>	Crop plantations, grazing, shifting agriculture, timber, roads, soil loss / erosion, deforestation, hunting for traditional medicine and food, poisoning, hooking, human interference, habitat loss.
<i>Trachypithecus vetulus monticola</i>	Deforestation, fragmentation and habitat loss (crop plantation, development, human settlement) and hunting subsistence or small scale cash.
<i>Trachypithecus vetulus nestor</i>	Crop plantations, development (infrastructure, industry), human settlement, deforestation, fragmentation, illegal trade for food, pylon collision, habitat loss
<i>Trachypithecus vetulus philbricki</i>	Shifting agriculture, deforestation, human settlement, development, hunting for food, habitat loss, occasional cyclones in far northeastern areas of range.
<i>Trachypithecus vetulus vetulus</i>	Selective logging (wet zone forests in 1970s), human settlement, habitat loss (encroachment for agriculture/plantation/human habitation). Ill-conceived government organised translocation schemes of langur groups coming into conflict with man, pose a threat to taxon survival and overall biodiversity.
Hylobatidae <i>Bunopithecus hoolock hoolock</i>	Selective logging, firewood and timber collection, charcoal production, human settlement, roads, dams, powerlines, fragmentation, soil loss / erosion, deliberate fires, cultural use, hunting for food, sport and traditional medicine, trapping (accidental mortality), unplanned tourism, predators (alien invasive species), habitat loss, poor reproduction.

Table 4: Primates hunted and in trade in South Asia.

Taxon	Hunting as a threat	Trade
Loridae <i>Loris lydekkerianus</i> <i>lydekkerianus</i>	Hunting, traditional medicine	Local and commercial trade for eyes and as live animals for medicine, pet, zoos, road shows and research. Trade for medicine is a major threat.
<i>Loris lydekkerianus</i> <i>malabaricus</i>	Hunting as a taboo, for trade, biomedical and laboratory research	Local, commercial and domestic trade for eyes, fur / skin, for medicinal purposes and live animal trade as pets, for zoos and for road shows
<i>Loris tardigradus grandis</i>	Trade	Local (commercial) trade for eyes for folk medicine and meat for food.
<i>Loris tardigradus nordicus</i>	Hunting for folk medicine	Local and commercial trade for eyes and meat for food and as an aphrodisiac.
<i>Loris tardigradus nycticeboides</i>	Trade	Local and commercial trade for eyes and meat by tea plantation workers. Possible village level trade for folk medicine.
<i>Loris tardigradus tardigradus</i>	Trade	Local, domestic, commercial trade for meat
<i>Nycticebus bengalensis</i>	Hunting and trade for food, traditional medicine, and sport	Local trade for meat, food and medicine and live animal as pets.
Cercopithecidae <i>Macaca arctoides</i>	Hunting and trade for food	Local trade for bones, meat for food and live animal as pets
<i>Macaca assamensis assamensis</i>	Hunting for sport, hunting and trade for food and traditional medicine	Local trade for bones, meat for food and live animal as pets.
<i>Macaca assamensis</i> Nepal population	--	Not in trade
<i>Macaca assamensis pelops</i>	Hunting	Local trade as pets, domestic trade in bushmeat
<i>Macaca fascicularis aurea</i>	--	Not in trade
<i>Macaca fascicularis umbrosa</i>	Not known	Not known
<i>Macaca leonina</i>	Hunting and trade for sport, food and medicine, cultural use	Local trade for bones, meat for food and medicine, and live animal as pets and for zoos.
<i>Macaca mulatta mulatta</i>	Hunting, trade	Local trade for meat for food and whole animal for pets and road shows. Hunted for sustenance
<i>Macaca radiata diluta</i>	Hunting	Local trade in live animals for research and road shows

Taxon	Hunting as a threat	Trade
<i>Macaca radiata radiata</i>	Hunting, trade	Domestic and commercial trade for research and road shows
<i>Macaca silenus</i>	Hunting for food	Local trade for whole animal for pets. The taxon is hunted for sustenance for food near Amarambalam. There are reports of LTM used in medicine also.
<i>Macaca sinica aurifrons</i>	--	Not in trade
<i>Macaca sinica opisthomelas</i>	--	Probably not in trade for meat
<i>Macaca sinica sinica</i>	--	Highly localised
<i>Semnopithecus (Trachypithecus) j. johnii</i>	Hunting	Local trade for live animal for pets and meat for food and medicine.
<i>Semnopithecus entellus achates</i>	--	Not in trade
<i>Semnopithecus entellus ajax</i>	--	Not in trade
<i>Semnopithecus entellus anchises</i>	--	Not in trade
<i>Semnopithecus entellus entellus</i>	--	Not in trade
<i>Semnopithecus entellus hector</i>	--	Not in trade
<i>Semnopithecus entellus hypoleucos</i>	Hunting	Local trade for live animal and meat for food and medicine
<i>Semnopithecus entellus schistaceus</i>	--	Not in trade
<i>Semnopithecus priam priam</i>	Hunting	Local trade in meat and in live animal.
<i>Semnopithecus priam thersites</i> (in India)	--	Not in trade
<i>Semnopithecus priam thersites</i> (in Sri Lanka)	Hunting for food, trade	Local and commercial trade for meat. Taxon hunted for sustenance/subsistence living for food, threat has recently increased through commercial trade in meat.
<i>Trachypithecus geei</i>	Trade (insignificant)	Local trade in live animals as pets and in road shows.
<i>Trachypithecus obscurus phayrei</i>	Illegal hunting for food	Local trade in live animal for zoos and meat for food
<i>Trachypithecus pileatus brahma</i>	Not known	Not known

Taxon	Hunting as a threat	Trade
<i>Trachypithecus pileatus durga</i>	Hunting for sport, meat and traditional medicine	Local trade for meat, tail for food, skin for knife covers and for fur; live animal as pets
<i>Trachypithecus pileatus pileatus</i>	Hunting for sport, food and traditional medicine	Local, domestic and international trade for fur, meat; tail for food and live animals for zoos.
<i>Trachypithecus pileatus tenebricus</i>	Hunting for traditional medicine and food	Local trade for fur, meat, tail for food and medicine and live animal for pets and zoos.
<i>Trachypithecus vetulus monticola</i>	Hunting subsistence or small scale cash.	Local and domestic trade for meat and skin. Locally pocketed and isolated groups are prone to extinction owed to village-level subsistence exploitation.
<i>Trachypithecus vetulus nestor</i>	Illegal trade for food	Local trade at village level for meat but not significant
<i>Trachypithecus vetulus philbricki</i>	Hunting for food	Local trade for meat and skin. Hunted mainly for subsistence living and trade at local village level. Skin in some areas are used to make drums.
<i>Trachypithecus vetulus vetulus</i>	Hunting and trade	Local trade for meat for food and pelage for making drums at village level for subsistence.
Hylobatidae <i>Bunopithecus hoolock hoolock</i>	Hunting for food, sport, traditional medicine and cultural use	Local, commercial and domestic trade for blood, bones, fur, meat and phalanges for food and medicine. Live animals are in trade for zoos and as pets.

Data quality and uncertainty

Since most primates in South Asia are well studied, assessments were based primarily on field observations. For most primates in India and Bangladesh, the assessments were based on census and monitoring, thanks to the primate projects. However, other forms of data quality sometimes were utilized to assess status and these included indirect information, especially from trade and from habitat trends, from museum studies to ascertain taxonomy and distribution ranges, from literature for distribution and from inferences with respect to population trends. The overall assessment strategy involved bits of different degrees of data quality, but most of it reliable.

The groups reached a consensus in most cases, but in instances where the members of a group had a disagreement, information was clarified in the draft reports after the workshop. The strategy at the workshop was to utilize all available information in deriving a status for the taxa, but also to provide additional information later during the review of the draft report. It was also decided at the workshop that based on new information available, or on a thorough reexamination of all the information provided, the assessments would be made conforming to the IUCN Red List Criteria.

Assessments

Status assessments were made using the best available information in the literature and expertise available at the workshop. Since most of the primate experts of the region were present, the information may be considered the best compiled up to now. A quick comparison of the assessments done previously with those at the workshop indicates the differences due to the differences in information availability. The 2002 IUCN Red List of Threatened Species (Hilton-Taylor, 2002) lists the status assessments at both the species and subspecific levels. At this workshop, species level assessments were not considered if there were recognized subspecies. The 2002 IUCN assessment is based on the 1994 Red List Criteria, while the assessments at this workshop were based on the 2001 IUCN Red List Criteria. A total of 26 taxa differ in their assessments as summarized in Table 5.

Assessments at the population level

Two taxa have been assessed at the population level, viz., *Macaca assamensis* and *Semnopithecus priam thersites*. *Macaca assamensis* is represented by two described subspecies – *M. a. assamensis* and *M. a. pelops*. At the workshop a third population distinct from the two subspecies was identified in Nepal and assessed as *Macaca assamensis* Nepal Population since there is no formal description of taxon. The Nepal population is classified as Endangered due to restricted distribution and few numbers of mature individuals in a few locations.

Semnopithecus priam thersites is known to occur in the southern tip of the Indian mainland and the Eastern and Northern provinces of Sri Lanka. Although the taxon is common, it is disjunct and the chances of the populations mixing naturally are remote. This taxon was therefore assessed separately for the two countries: in the Indian population was categorized as Endangered due to restricted area of occupancy, while the Sri Lanka population was categorized as Endangered due to continuing decline in population.

Categorising taxa at the population level is important from a conservation point of view. Irrespective of whether a taxon is described formally or not, the value of identifying populations that are restricted and

Table 5: A comparison between the assessments of primates in the 2002 IUCN Red List of Threatened Species (using 1994 criteria) and the 2002 South Asian Primate C.A.M.P. workshop (using 2001 criteria)

2002 IUCN Red List of Threatened Animals (1994 criteria) Scientific name	IUCN Status	Current assessments of South Asian primates 2003 C.A.M.P. (2001 criteria) Scientific name	Status
Loridae			
--	--	<i>Loris lydekkerianus</i>	NT
<i>Loris tardigradus lydekkerianus</i>	DD	<i>Loris lydekkerianus lydekkerianus</i>	NT
<i>Loris tardigradus malabaricus</i>	DD	<i>Loris lydekkerianus malabaricus</i>	NT
<i>Loris tardigradus</i>	VUA1cd	<i>Loris tardigradus</i>	EN A2cd+4cd
--	--	<i>Loris tardigradus grandis</i>	EN A2cd+4cd, B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)
<i>Loris tardigradus nordicus</i>	EN A1c	<i>Loris tardigradus nordicus</i>	EN A2cd+4cd
<i>Loris tardigradus nyctocebooides</i>	EN A1c	<i>Loris tardigradus nycticebooides</i>	EN A2cd+4cd; B1ab(i,ii,iii,iv,v)
<i>Loris tardigradus tardigradus</i>	EN A1c	<i>Loris tardigradus tardigradus</i>	EN A2cd+4cd
<i>Nycticebus bengalensis</i>	DD	<i>Nycticebus bengalensis</i>	DD*
Cercopitheciidae			
<i>Macaca arctoides</i>	VUA1cd	<i>Macaca arctoides</i>	CR C2a(i)*
<i>Macaca assamensis</i>	VUA1cd	<i>Macaca assamensis</i>	VU C2a(i)*
<i>Macaca assamensis assamensis</i>	VUA1cd	<i>Macaca assamensis assamensis</i>	EN C2a(i)*
--	--	<i>Macaca assamensis Nepal population</i>	EN B1ab(i,ii,iii,v); C2a(i)
<i>Macaca assamensis pelops</i>	VUA1cd	<i>Macaca assamensis pelops</i>	B1ab(i,ii,iii)+2ab(i,ii,iii); C2a(i)
<i>Macaca fascicularis</i>	LR/nt	<i>Macaca fascicularis</i>	NT*
<i>Macaca fascicularis aurea</i>	LR/nt	<i>Macaca fascicularis aurea</i>	CR A2c+3c+4c; B2ab(i,ii,iii,iv,v); D*
<i>Macaca fascicularis umbrosa</i>	DD	<i>Macaca fascicularis umbrosa</i>	NT
<i>Macaca leonina</i>	VUA1cd	<i>Macaca leonina</i>	EN C2a(i)*
<i>Macaca mulatta</i>	LR/nt	<i>Macaca mulatta mulatta</i>	LC*
<i>Macaca radiata</i>	LR/lc	<i>Macaca radiata</i>	LC
<i>Macaca radiata diluta</i>	LR/lc	<i>Macaca radiata diluta</i>	LC
<i>Macaca radiata radiata</i>	LR/lc	<i>Macaca radiata radiata</i>	LC
<i>Macaca silenus</i>	EN B1+2c; C2a	<i>Macaca silenus</i>	EN C2a(i)
<i>Macaca sinica</i>	VUA1c	<i>Macaca sinica</i>	EN A2cd+4cd
<i>Macaca sinica aurifrons</i>	VUA1c	<i>Macaca sinica aurifrons</i>	EN A2cd+4cd
--	--	<i>Macaca sinica opisthomelas</i>	EN A2cd+4cd; B1ab(i,ii,iii,iv,v)+ 2ab(i,ii,iii,iv,v)
<i>Macaca sinica sinica</i>	VUA1c	<i>Macaca sinica sinica</i>	EN A2cd+4cd

2002 IUCN Red List of Threatened Animals (1994 criteria) Scientific name	IUCN Status	Current assessments of South Asian primates 2003 C.A.M.P. (2001 criteria) Scientific name	Status
<i>Semnopithecus entellus</i>	LR/nt	<i>Semnopithecus entellus</i>	NT*
-		<i>Semnopithecus entellus achates</i>	LC
<i>Semnopithecus entellus ajax</i>	LR/nt	<i>Semnopithecus entellus ajax</i>	CR B1ab(iii,v)+2ab(iii,v)
<i>Semnopithecus entellus anchises</i>	LR/nt	<i>Semnopithecus entellus anchises</i>	NT
<i>Semnopithecus entellus dassumieri</i>	DD	-	-
<i>Semnopithecus entellus elissa</i>	DD	-	-
<i>Semnopithecus entellus entellus</i>	LR/nt	<i>Semnopithecus entellus entellus</i>	NT
<i>Semnopithecus entellus hector</i>	LR/nt	<i>Semnopithecus entellus hector</i>	EN B2ab(i,ii,iii,iv,v)
<i>Semnopithecus entellus hypoleucos</i>	DD	<i>Semnopithecus entellus hypoleucos</i>	EN B2ab(i,ii,iii)
<i>Semnopithecus entellus priam</i>	DD	<i>Semnopithecus priam priam</i>	VU B2ab(i,ii,iii,iv,v)
<i>Semnopithecus entellus schistaceus</i>	LR/nt	<i>Semnopithecus entellus schistaceus</i>	NT*
<i>Semnopithecus entellus thersites</i>	VU A1cd	<i>Semnopithecus priam thersites</i> Indian pop.	EN B2ab(i,ii,iii,iv,v)
-		<i>Semnopithecus priam thersites</i> Sri Lankan pop.	EN A2cd+4cd
<i>Trachypithecus geei</i>	EN A1acd; C2a	<i>Trachypithecus geei</i>	EN B1ab(i,ii,iii,iv,v); C1+2a
<i>Trachypithecus johnii</i>	VU A1d; B1+2c; C2a	<i>Semnopithecus (Trachypithecus) johnii johnii</i>	VU C2a(i)
<i>Trachypithecus phayrei</i>	ENC2a	<i>Trachypithecus obscurus phayrei</i>	EN C1+2a(i) *
<i>Trachypithecus pileatus</i>	EN A1cd; C2a	<i>Trachypithecus pileatus</i>	EN C2a(i)
<i>Trachypithecus pileatus brahma</i>	EN A1cd; C2a	<i>Trachypithecus pileatus brahma</i>	DD
<i>Trachypithecus pileatus durga</i>	EN A1cd; C2a	<i>Trachypithecus pileatus durga</i>	EN C1+2a(i)
<i>Trachypithecus pileatus pileatus</i>	EN A1cd; C2a	<i>Trachypithecus pileatus pileatus</i>	EN C1+2a(i); D *
<i>Trachypithecus pileatus tenebricus</i>	EN A1cd; C2a	<i>Trachypithecus pileatus tenebricus</i>	EN C2a(i)
<i>Trachypithecus vetulus</i>	EN A1cd	<i>Trachypithecus vetulus</i>	EN A2cd+4cd
<i>Trachypithecus vetulus monticola</i>	EN A1cd	<i>Trachypithecus vetulus monticola</i>	EN A2cd+4cd; B1ab(ii,iii,iv,v)
<i>Trachypithecus vetulus nestor</i>	EN A1cd	<i>Trachypithecus vetulus nestor</i>	CR A2cd+3cd+4cd
<i>Trachypithecus vetulus philbricki</i>	EN A1cd	<i>Trachypithecus vetulus philbricki</i>	EN A2cd+4cd
<i>Trachypithecus vetulus vetulus</i>	EN A1cd	<i>Trachypithecus vetulus vetulus</i>	EN A2cd+4cd
Hylobatidae			
<i>Bunipithecus hoolock hoolock</i>	EN A1cd	<i>Bunipithecus hoolock hoolock</i>	EN A2abcd+3bcd; C1+2a(i) *

* Assessments are only at the regional level, limited to South Asia. The regional assessments should not be compared with the global assessments of the 2002 IUCN Red List of Threatened Animals list.

unique helps in recognising critical populations, genetic makeup and ecosystems: *Semnopithecus entellus hypoleucos* and *S. e. ajax*.

Justification for changes in categories and criteria

Compared to the assessments listed for South Asian primates in the 2002 IUCN Red List of Threatened Species, 26 taxa have been assessed at this workshop as having a different status. Twelve taxa having the same category have been assessed with slightly different criteria. This is because of detailed information available at the workshop with the participation of many primatologists from the region.

This primate assessments in this report are different from some of the exclusive assessments published in scientific, peer-reviewed publications that indicate status assessments from one or two field biologists. A recently published paper on Sri lankan lorises is cited here as an example of why there are differences in such assessments compared to what is seen in this report.

Case study: Two sets of biologists have published (or are about to publish) conflicting assessments of the *Loris* for Sri Lanka.

Set 1: The C.A.M.P. workshop for South Asian primates held in Coimbatore in March 2002 involved 9 participants (biologists) from Sri Lanka who were familiar with the primate fauna of Sri Lanka.

Set 2: At least two persons with experience with Sri Lankan lorises were not C.A.M.P. participants, Anna-Isola Nekaris and Thiruni Ramanaden. A pre-publication manuscript by Nekaris and Jayawardene (now published in 2003) had been made available to the Sri Lanka group at the workshop, courtesy of these two authors. T. Ramanaden contributed no information.

In general, the assessments made by the Sri Lanka C.A.M.P. group were based on a greater number of observers (9 people) with longer periods (many years for most) of observation in the natural areas of Sri Lanka than was possible for data in the Nekaris & Jayawardene (2003) publication. The two sets of observers agreed in their final assessment of Endangered for three of the four subspecies: *Loris tardigradus* (or *lydekkerianus*) *nordicus* of the dry zone, *L. t/l grandis* of the eastern midlands, and *L. t/l tardigradus* of the lowland wetzone. The criteria used for these assessments also agreed in general, but differed greatly in detail; the C.A.M.P. process allowed for the integration of more information from many more sites.

The main difference concerns the assessment of the montane zone loris *L. t/l nyctocephoides*, first described by Hill (1942). The Sri Lanka Camp group, assisted by Sanjay Molur, assessed this subspecies also as Endangered, whereas Nekaris & Jayawardene (2003) has this subspecies as Critically Endangered. The reason for this difference lies in the criteria used for assessment. The C.A.M.P. group recognized wider extent of occurrence (900 km²) and area of occupancy (600 km²) involving 4 sites, whereas Nekaris & Jayawardene (2003) indicated an extent of occurrence less than 100 km² from a single site. The latter authors confined the loris to the type locality originally identified by Hill (1942) whereas the C.A.M.P. biologists had evidence for the existence of these lorises in highland areas other than merely the Horton Plains.

Table 6: Summary of some differences between the C.A.M.P. process and the Nekaris and Jayawardene (2003) publication.

C.A.M.P. (this Report) (2001 criteria)	Nekaris & Jayawardene (2003) (1994 criteria adopted and justified for 2001 criteria)
<i>Loris tardigradus nordicus</i> Endangered A2cd+4cd Based on information from 28 sites	<i>Loris lydekkerianus nordicus</i> Endangered A1ce Based on information from 7 sites
<i>Loris tardigradus grandis</i> Endangered A2cd+4cd; B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v) Based on information from 16 sites	<i>Loris lydekkerianus grandis</i> Endangered A1c Based on information from 7 sites
<i>Loris tardigradus tardigradus</i> Endangered A2cd+4cd Based on information from 30 sites	<i>Loris tardigradus tardigradus</i> Endangered B1/2abcd Based on information from 6 sites
<i>Loris tardigradus nycticeboides</i> Endangered A2cd+4cd; B1ab(i,ii,iii,iv,v) Based on information from 4 sites	<i>Loris tardigradus nycticeboides</i> Critically Endangered B1, 2abc Based on information from 1 site

Recommendations

Research

With any taxonomic group, research is ongoing. What was largely thought as a single taxon of the Common Hanuman Langur is now split into 8 subspecies, each of which is either geographically isolated or forms a cline in the total species distribution. Phylogenetic studies recommended by the new taxonomy suggest further studies in the area since populations vary in their genetic composition and could be distinct. An example from this workshop is of *Semnopithecus entellus thersites*, which is found in India and Sri Lanka forming two distinct populations due to a geographical break. Although recent changes in taxonomy suggest the two populations to be *thersites* sub species, since the populations have been distinct for a very long period, further research is required into establishing their difference. Taxonomic research would therefore be an important recommendation.

Taxonomic research was one of the major recommendations made at the workshop. Surveys were recommended for newly recognised taxa, especially subspecies of the *Semnopithecus entellus* group and the *Trachypithecus pileatus* group. Life history studies were recommended for a few taxa, especially *Loris* and *Nycticebus* and some of the lesser-studied taxa.

Population and Habitat Viability Assessment (P.H.V.A.) was recommended for at least half the taxa assessed because of the need for developing an overall conservation action plan. Since more than 70% of the primates in the region are under threat, conservation action recommendations need to incorporate all variables for the taxa and all stakeholders. A P.H.V.A. allows for broad participation in developing this plan and also allows for the interpretation of variables affecting taxa in determining their probability of extinction. Some of the other important research recommendations included epidemiological studies and limiting factor research (Figure 4)

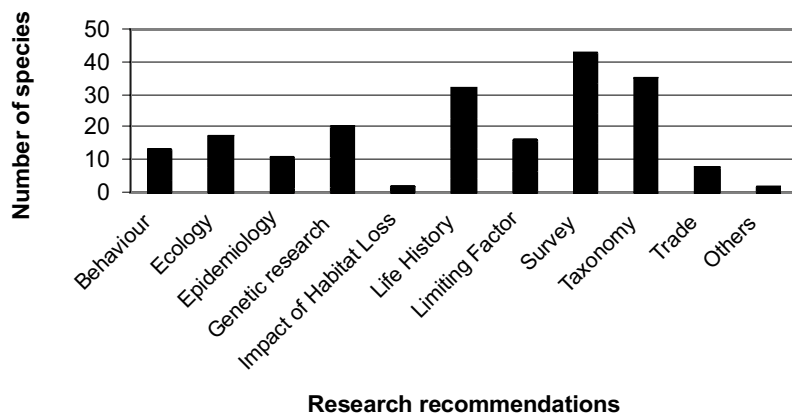


Figure 4. Research recommendations for South Asian primates

Management

Recommendations for habitat management and public education were highest, followed by monitoring of populations, monitoring of habitat, wild population management, and limiting factor management. Other

recommendations having to do with species conservation and recovery were recommended for a few taxa (Figure 5).

Addressing habitat loss was considered the first step in tackling conservation of threatened primate taxa in South Asia. Wild habitat management was designated as the first priority, mainly to stem the loss by human interference and further to develop suitable habitats for the primates. In achieving this, it was felt that management cannot be done in isolation, so public awareness and education were strongly recommended for many taxa. In conjunction the two recommendations would work well in conserving the remaining habitat and populations of primates in their range states/countries.

A hurdle to better management is the lack of knowledge of current trends of a taxon. Monitoring was recommended as a priority to understand the current status of all populations and habitats and implement a holistic conservation action plan.

Captive breeding was not considered an important tool in the long-term conservation of primates, not because of its lack of intrinsic importance, but for the following reasons: the lack of understanding of captive breeding as a viable tool, the absence of faith in captive facilities in the region, inadequate resource personnel, no coordinated breeding plans, limited taxonomic understanding and the personal belief of several field biologists that captive breeding is not worth the investment that could be better spent on wild habitat management.

All primates, except 2 macaques (*M. fascicularis aurea* and *M. sinica opisthomelas*), 1 common langur (*S. entellus hector*) and 1 pileated langur (*T. pileatus brahma*) occur in protected areas in South Asia. Problems with the taxonomy of the *Semnopithecus entellus* group still poses a challenge to many a field biologists and taxonomists as to their correct distribution and thereby their occurrence in protected areas in India. Nonetheless, at the species level the *S. entellus* group is represented in many protected areas. Table 7 in the following pages shows the available information on primate taxa in protected areas in South Asia.

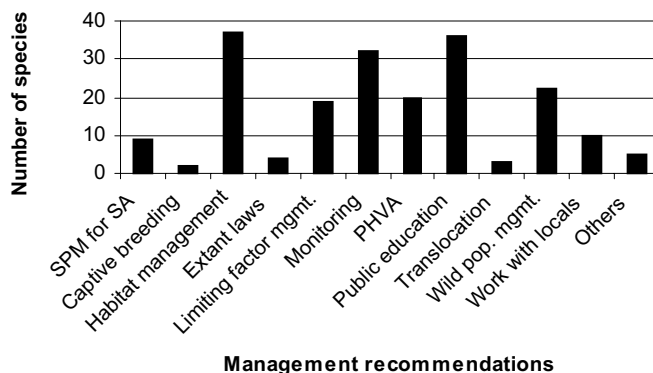


Figure 5. Management recommendations for South Asian primates.

Table 7: Primates in protected areas in South Asia.

Scientific taxon name	Country	Protected Areas
Loridae <i>Loris lydekkerianus lydekkerianus</i>	India	Andhra Pradesh: Nellapattu WLS, Sri Venkateswara NP Karnataka: Biligiri Rangaswamy Temple WLS
<i>Loris lydekkerianus malabaricus</i>	India	Karnataka: Brahmagiri WLS, Someswara WLS Kerala: Aralam WLS, Idukki WLS, Parambikulam WLS, Peechi-Vazhani WLS, Periyar NP, Shendurney WLS, Thattakkad WLS, Wynaad WLS Tamil Nadu: Indira Gandhi WLS, Kalakkad-Mundanthurai WLS, Grizzled Giant Squirrel WLS
<i>Loris tardigradus grandis</i>	Sri Lanka	Central Province: Knuckles Uva Province: Thangamalai WLS
<i>Loris tardigradus nordicus</i>	Sri Lanka	Central Province: IFS arboretum, Menikdena FR, Sigiriya Sanctuary, Victoria-Randeniyagala-Rantambe Sanctuary Eastern Province: Ampara Sanctuary, Kanthale FR North Central Province: Angamedilla NP, Flood Plains NP, Giritale Sanctuary, Kaudulla NP, Mihintale Sanctuary, Minneriya NP, Polonnaruwa Sanctuary, Somawathie NP, Wasgamuwa NP, Wilpattu NP Uva Province: Thangamalai Sanctuary
<i>Loris tardigradus nycticeboides</i>	Sri Lanka	Central Province: Siripagama WLS Sabaragamuwa Province: Peak Wilderness Sanctuary
<i>Loris tardigradus tardigradus</i>	Sri Lanka	Central Province: Gampola-Ambuluwela Biodiversity Park, Udawattekele Sanctuary, Victoria-Randenigala-Rantembe Sanctuary, Walker Estate Sabaragamuwa Province: Kurulukele Sanctuary, Peak Wilderness Sanctuary; Sinharaja World Heritage site, Udawalawe Sanctuary Western Province: Attidiya-Belanwila Sanctuary, Ingiriya (Dombegaskande) FR, Muthurajawela Wetland Reserve
<i>Nycticebus bengalensis</i>	India	Arunachal Pradesh: Itanagar WLS, Mehao NP, Namdapha NP, Pakhui WLS Assam: Chakrasila WLS, Dibru-Saikhwa WLS, Gibbon WLS, Kaziranga NP, Borajan WLS, Pobitora WLS Meghalaya: Balpakam NP, Nokrek NP Mizoram: Dampa NP, Nengpui WLS Tripura: Sepahijala WLS
Cercopithecidae <i>Macaca arctoides</i>	India	Arunachal Pradesh: Mehao WLS, Namdapha WLS?, Pakhui WLS? Assam: Gibbon WLS Meghalaya: Balpakram NP Mizoram: Murlen NP
<i>Macaca assamensis assamensis</i>	India	Arunachal Pradesh: Namdapha NP, Pakhui WLS Assam: Bherjan WLS, Borajan WLS, Dibru-Saikhowa NP, Garampani WLS, Gibbon WLS, Kaziranga NP, Manas NP Meghalaya: Nokrek NP, Balpakram NP, Siju WLS

Scientific taxon name	Country	Protected Areas
		Mizoram: Dampa NP, Nengpui WLS, Phawngpui Blue Mountain WLS
<i>Macaca assamensis</i> Nepal population	Nepal	Central Province: Langtang NP Eastern Nepal: Makalu Barun NP
<i>Macaca assamensis pelops</i>	India	West Bengal: Buxa NP, Mahananda WLS
<i>Macaca fascicularis aurea</i>	None	--
<i>Macaca fascicularis umbrosa</i>	India	Andaman and Nicobar: Greater Nicobar: Campbell Bay NP, Galathea NP
<i>Macaca leonina</i>	Bangladesh India	Chittagong: Chunati WLS Sylhet: Lawachara NP, Rema-Kelanga WLS Arunachal Pradesh: Kamlang WLS, Mehao WLS, Namdapha NP Assam: Dibru-Saikhowa WLS, Garampani WLS, Gibbon WLS, Padumoni-Bherjan-Borajan WLS Manipur: Yangoupokpi-Lokchao WLS Meghalaya: Balpakhran NP, Nongkhylllem WLS, Siju WLS Mizoram: Dampa WLS, Lengteng WLS, Murlen NP, Ngengpui WLS, Phawngpui Blue Mountain NP Nagaland: Fakim WLS, Intanki NP Tripura: Gumti WLS, Sepahijala WLS, Trishna WLS
<i>Macaca mulatta mulatta</i>	Bangladesh India Nepal Pakistan	Chittagong: Chunathi WLS Sylhet: Rama Kalanga WLS Andhra Pradesh: Coringa WLS, Eturnagaram WLS, Kawal WLS, Kinnerasani WLS, Lanja Madugu Sivaram WLS, Manjira WLS, Pakhal WLS, Pocharam WLS, Pranahita WLS Arunachal Pradesh: Eagle Nest WLS, Itanagar WLS, Mehao WLS, Mouling NP, Namdapha NP, Pakhui WLS, Sessa Orchid Sanctuary, Tale Valley WLS Assam: Bherjan WLS, Chakrasila WLS, Gibbon WLS?, Manas NP, Nameri NP, Pabitora WLS, Podumoni WLS Bihar: Valmiki NP Haryana: Bir Sikargarh WLS Himachal Pradesh: Chail WLS, Great Himalayan NP Jharkhand: Palamau WLS Maharashtra: Chaprala WLS, Bhamargarh WLS Meghalaya: Balpakram NP, Namdapha NP, Nokrek NP, Nongkhylllem NP, Siju WLS Tripura: Sepahijala WLS Central Province: Lang Tang NP Eastern Province: Makalu Barun NP Islamabad: Margallah Hills NP NWFP: Ayubia NP
<i>Macaca radiata diluta</i>	India	Kerala: Chimmomy WLS, Chinnar WLS, Eravikulam NP, Idukki WLS, Neyyar WLS, Peechi-Vazhani WLS, Peppara WLS, Periyar NP, Periyar WLS, Parambikulam WLS, Shendurney WLS,

Scientific taxon name	Country	Protected Areas
		Thattekkad WLS Tamil Nadu: Grizzled Giant Squirrel WLS, Indira Gandhi WLS, Kalakkad-Mundanthurai TR; Mudumalai WLS, Mukurthi NP, Point Calimere WLS
<i>Macaca radiata radiata</i>	India	Andhra Pradesh: Eturnagaram WLS, Lanja Madugu Sivaram WLS, Nellapattu WLS, Sri Venkateswara NP Goa: Bondla WLS, Mollem NP, Mollem WLS Karnataka: Bandipur NP, Bannerghatta NP, Kudremukh NP, Nagerhole NP Kerala: Aralam WLS, Silent Valley NP, Wyanad WLS Maharashtra: Radhanagari WLS; Sanjay Gandhi NP, Tansa WLS
<i>Macaca silenus</i>	India	Karnataka: Brahmagiri WLS, Kudremukh NP, Mookambika WLS, Pushpagiri WLS, Sharavathi Valley WLS, Someshwara WLS, Talakaveri WLS Kerala: Aralam WLS, Chimmony WLS, Neyyar WLS, Peppara WLS, Parambikulam WLS, Periyar NP, Periyar WLS, Shendurney WLS, Silent Valley NP, Wayanad WLS Tamil Nadu: Indira Gandhi NP, Indira Gandhi WLS, Kalakkad WLS, Mundanthurai WLS, Grizzled Giant Squirrel WLS
<i>Macaca sinica aurifrons</i>	Sri Lanka	Central Province: Gannoruwa, Knuckles, Menikdena, Udawattekele, VRR Sanctuary Sabaragamuwa Province: Kitulgala Sanctuary, Kurulukelle Sanctuary, Peak Wilderness, Samanalawewa, Sinharaja FR, Udawalawe NP? Southern Province: Rammalakande FR Uva Province: Thangamalai Sanctuary Western Province: Attidiya-Belanwila Sanctuary, Dombagaskande FR, Muthurajawela Sanctuary
<i>Macaca sinica opisthomelas</i>	Sri Lanka	None in protected areas
<i>Macaca sinica sinica</i>	Sri Lanka	Central Province: Dambulla (IFS arboretum), Menikdena Archeological Reserve, Ritigala Strict Nature Reserve, Sirigiriya Sanctuary, VRR Sanctuary, Wasgamuwa NP Eastern Province: Buddaragala Sanctuary, Kanthale Naval Sanctuary North Central Province: Elehara FR, Flood Plains NP, Moragaswewa NP, Minneriya-Giritale NP, Kaudulla NP, Polonnaruwa Sanctuary, Somawathie NP, Wilpattu NP North Eastern Province: Kanthale Naval Sanctuary Sabaragamuwa Province: Udawalawe NP Southern Province: Remmalakanda FR, Ruhuna NP Uva Province: Madura Oya NP, Rendeningala Sanctuary, Thangamalai Sanctuary
<i>Semnopithecus (Trachypithecus) johnii johnii</i>	India	Karnataka: Brahmagiri WLS Kerala: Aaralam WLS, Chimmony WLS, Chinnar WLS, Eravikulam NP, Idukki WLS, Neyyar WLS, Parambikulam WLS, Peechi WLS, Peppara WLS, Periyar NP, Periyar WLS, Shendurney WLS, Silent Valley NP, Thattekadu WLS, Wayanad WLS

Scientific taxon name	Country	Protected Areas
		Tamil Nadu: Indira Gandhi WLS, Kalakad WLS, Mudumalai WLS, Mundanthurai WLS, Mukurthi NP, Grizzled Giant Squirrel WLS
<i>Semnopithecus entellus achates</i>	India	Goa: Bondla WLS?, Mollem WLS? Gujarat: Sasan Gir WLS Karnataka: Bandipur NP? Nagarhole NP Madhya Pradesh: Kanha NP? Maharashtra: Andhari WLS?, Bhamragarh WLS?, Chaprala WLS?, Melghat WLS, Radhanagiri WLS?, Pench NP?, Sanjay Gandhi NP, Tadoba NP?, Tansa WLS Rajasthan: Sariska WLS?, Mount Abu WLS, Kumbalgarh WLS Tamil Nadu: Mudumalai NP?, Mudumalai WLS?
<i>Semnopithecus entellus ajax</i>	India	Himachal Pradesh: Great Himalayan NP?, Kalatop-Khajjir WLS?, Manali WLS? Jammu and Kashmir: Kistwar NP
	Nepal	Central Province: Lang Tang NP
<i>Semnopithecus entellus anchises</i>	India	Andhra Pradesh: Eturnagaram WLS, Kawal WLS, Kinnerasani WLS, Lanja Madugu Siwaram WLS, Manjira WLS, Pakhal WLS, Pocharam WLS, Pranahita WLS Maharashtra: Bhimashankar WLS?
<i>Semnopithecus entellus entellus</i>	India	Bihar: Valmiki NP, Valmiki WLS Chhatisgarh: Achanakmar WLS, Gomarda WLS Jharkhand: Palamau WLS Maharashtra: Andheri WLS?, Bhamragadh WLS?, Chaprala WLS?, Tadoba NP? Orissa: Chandaka-Dampara WLS
<i>Semnopithecus entellus hector</i>	India	None in protected areas
	Nepal	None in protected areas
<i>Semnopithecus entellus hypoleucos</i>	India	Goa: Bondla WLS?, Mollem WLS? Karnataka: Brahmagiri WLS, Kudremukh NP, Pushpagiri WLS, Sharavathi Valley WLS Kerala: Aralam WLS?, Silent Valley NP?, Wayanad WLS?
<i>Semnopithecus entellus schistaceus</i>	India	Bihar: Valmiki WLS Himachal Pradesh: Chail WLS, Renuka WLS? Jammu and Kashmir: Changthang WLS, Dachigam NP, Hemis NP, Karakoram WLS
	Nepal	Central Province: Langtang NP, Royal Chitwan NP Eastern Province: Makalu Barun NP Mid-Western Province: Royal Bardia NP
	Pakistan	NWFP: Manshi WLS
<i>Semnopithecus priam priam</i>	India	Andhra Pradesh: Sri Venkateswara NP, Nellapattu WLS Karnataka: Bandipur NP, Biligiri Rangaswamy Temple WLS, Nagarhole NP? Kerala: Wayanad WLS?, Silent Valley NP?

Scientific taxon name	Country	Protected Areas
		Tamil Nadu: Mudumalai NP, Mudumalai WLS
<i>Semnopithecus priam thersites</i> India population	India	Kerala: Chinnar WLS, Neyyar WLS, Peppara WLS, Parambikulam WLS, Shendurney WLS Tamil Nadu: Grizzled Giant Squirrel WLS, Indira Gandhi NP, Indira Gandhi WLS, Kalakad WLS, Mundanthurai WLS
<i>Semnopithecus priam thersites</i> Sri Lanka population	Sri Lanka	Central Province: VRR Sanctuary, Knuckles Eastern Province: Ampara Sanctuary, Buddaragala Sanctuary, Kanthale Naval Sanctuary North Central Province: Wilpattu, Ritigala Strict Nature Reserve, Angamedilla NP, Flood Plains NP, Giritale NP, Moragaswawe NP, Somawathie NP, Wasgamuwa NP Sabaragamuwa Province: Udawalawe NP Uva Province: Bundala NP, Lunugamvehera NP, Madura Oya NP, Ruhuna NP
<i>Trachypithecus geei</i>	Bhutan India	Black Mountain NP, Phipsoo WLS, Royal Manas NP, Trumshingla NP Assam: Chakrasila WLS, Manas NP
<i>Trachypithecus obscurus phayrei</i>	Bangladesh India	Sylhet: Lawachara NP, Rama-Kalenga WLS Mizoram: Dampa WLS Tripura: Gumti WLS, Sepahijala WLS, Trishna WLS
<i>Trachypithecus pileatus brahma</i>	None	
<i>Trachypithecus pileatus durga</i>	Bangladesh India	Chittagong: Chunathi WLS Sylhet: Ram-Kalenga WLS Assam: Gibbon WLS, Kaziranga NP, Pabitora WLS Mizoram: Dampa NP, Murlen NP, Nengpui WLS Tripura: Gumti WLS, Sepahijala WLS, Trishna WLS
<i>Trachypithecus pileatus pileatus</i>	India	Arunachal Pradesh: Namdapha NP Meghalaya: Balphakram NP, Nokrek NP, Siju WLS
<i>Trachypithecus pileatus tenebricus</i>	Bhutan India	Royal Manas NP Arunachal Pradesh: Eagle Nest WLS, Pakhui WLS Assam: Manas NP, Nameri NP
<i>Trachypithecus vetulus monticola</i>	Sri Lanka	Central Province: Peak Wilderness Sanctuary, Horton Plains NP, Hakgala Nature Reserve, Victoria, Randenigala, Rantembe Sanctuary
<i>Trachypithecus vetulus nestor</i>	Sri Lanka	Sabaragamuwa Province: Kitulgala WLS, Kurulukale Sanctuary Western Province: Attidiya-Belanwila Forest, Ingiriya, Muthurajawala
<i>Trachypithecus vetulus philbricki</i>	Sri Lanka	Central Province: Knuckles FR (east) North Central Province: Angamedilla NP, Anuradhapura Sanctuary, Flood Plains NP, Kaudulla NP, Minneriya-Giritale NP,

Scientific taxon name	Country	Protected Areas
		Mihintale Sanctuary, Moragaswewa NP, Polonnaruwa Sanctuary, Ritigala Strict Nature Reserve, Somawathie NP, Wasgamova NP North Western Province: Wilpattu NP Uva Province: Madura Oya NP
<i>Trachypithecus vetulus vetulus</i>	Sri Lanka	Sabaragamuwa Province: Udawalawe NP, Peak Wilderness (Ratnapura sector), Gilimale-Eratne Conserved Forest, Morahela Conserved Forest, Sinharaja Conserved Forest (NWHS) Forest Reserve Southern Province: Dombaghakanda Forest Reserve, Kekunadara Conserved Forest, Oliyagankale Conserved Forest, Heycodi Conserved Forest, Kombala-Kottawale Conserved Forest, Kauneliya Conserved Forest, Messava Conserved Forest, Nahiti-Mukalana Conserved Forest, Detwale Conserved Forest
Hylobatidae <i>Bunopithecus hoolock hoolock</i>	Bangladesh India	Chittagong: Chunati WLS Sylhet: Lawachara WLS Arunachal Pradesh: Kamlang WLS, Mehao WLS, Namdapha NP Assam: Bherjan WLS, Borajan WLS, Dibru-Saikhowa NP, Garampani WLS, Gibbon WLS, Kaziranga NP Meghalaya: Balpakram NP, Nokrek NP, Nongkhylem WLS, Siju WLS Mizoram: Dampa WLS, Khawnglung WLS, Murlen NP, Nengpui WLS, Phawangpui WLS Nagaland: Intanki NP Tripura: Gumti WLS, Sepahijala WLS, Trishna WLS

Primates in southern Indian zoos

Primates are among the most popular zoo animals due to their similarity to humans and their funny, charming behaviour. Of the 164 public zoos, mini zoos and deer parks in India, which have been recognised by the Central Zoo Authority, the 54 Large, Medium and Small Zoos, which are the better facilities, hold from one to eight species of primates. Sometimes these highly social animals are held in appropriate groupings of numbers and sex ratios, but all too often, as solitary inmates of an enclosure, or a single sex group or occasionally even as mixed species. The status of many of them is uncertain because of recent taxonomic changes. The number in the 112 Mini-zoos and Deer Parks has not been updated by C.Z.A, but it is “considerable” In the remaining South Asian countries there are 14 major zoos, all of which hold from 1-9 species of primates.

The C.A.M.P. workshop provided a forum for the Central Zoo Authority and the Indian zoo community, represented by three Indian zoo directors, to address revisions in primate taxonomy and nomenclature. Now, instead of 15 species of primates with Indian distribution there are more species and subspecies defined in different taxonomic systems. India and the other South Asia zoos in Pakistan, Bangladesh, Nepal, and Sri Lanka, will find the revised taxonomic system a major challenge in identifying subspecies within existing collections. The Conservation Breeding Working Group

recommended that zoos with such species and subspecies refrain from breeding until they could be correctly identified and organized to avoid unwanted propagation of hybrids. They also recommended that zoos update their signage and educational materials and focus on planned programmes for non-controversial species for the time being.

Comprehensive Education Project

The Working Group for Education and Species Conservation Action made extensive recommendations for education and awareness. According to one of these recommendations, ZOO/CBSG South Asia has undertaken a comprehensive education programme with the primary objective of disseminating information from the workshop to three major target groups. The groups are i. policy-makers, foresters and academics, ii. adult laypersons in both English and vernacular, and iii. youngsters of different age groups. This programme is going on currently and will be enhanced significantly by the publication of this Report, associated report summaries for very wide distribution, and other material.

Currently over 5000 educational packets featuring South Asian primates have been distributed to 30 institutions for Earth Day, World Environment Day, Wildlife Week and occasional events such as teacher training programmes and other educational events. The packets describe the variety, distribution, status, threats, ecology and problems of South Asian primates. These have been distributed in large quantities to primate biologists who wish to educate the public about primates, to zoological gardens for use in their zoo education programmes and to a range of conservation and education non-governmental organizations to use in local public education on primate conservation. With the publication of this Report many other materials will be brought out and distributed to hundreds of policy-makers and thousands of layperson. Funds for the South Asian Primate Education Programme have been contributed by Primate Society of Great Britain, Margot Marsh Foundation, Thrigby Hall Wildlife Park, Appenheul Primate Park, Primate Conservation, Inc. and Flora and Fauna International.

Summation

Finally, the South Asian Primate C.A.M.P. Workshop provided an excellent opportunity address the conservation needs for an entire group of taxa and their habitat, as well as the resolution of important issues identified by all stakeholders. Research focus and management recommendations from the Primate C.A.M.P. workshop will help conservation organizations, agencies and institutions nationally, regionally and internationally, to formulate and implement appropriate action on behalf of primate conservation. Funding agencies can use this Report as a reference for prioritizing proposals for maximum benefit of funds.

In addition to assessing each species and subspecies of South Asian primates individually, the workshop provided opportunities to test hypotheses generated about primate relations in the new PSG taxonomy, to access the field data that had been gathered under both individual and institutional efforts and, of course, to provide an opportunity for primate biologists, foresters and other specialists within the South Asia region to meet and discuss matters of mutual concern.

As part of the mandate of the workshop, national assessments of all widely distributed primates were made using the the Regional Guidelines of the IUCN Red List Criteria. The assessments are compiled in Table 8.

Table 8: Status of widely distributed primates at the national level.

Scientific taxon name	SA	Ba	Bh	I	N	P	SL	E
Loridae								
<i>Loris lydekkerianus lydekkerianus</i>	NT			NT				E
<i>Loris lydekkerianus malabaricus</i>	NT			NT				E
<i>Loris tardigradus grandis</i>	EN						EN	E
<i>Loris tardigradus nordicus</i>	EN						EN	E
<i>Loris tardigradus nycticeboides</i>	EN						EN	E
<i>Loris tardigradus tardigradus</i>	EN						EN	E
<i>Nycticebus bengalensis</i>	DD	DD		DD				No
Cercopithecidae								
<i>Macaca arctoides</i>	CR	LE		CR				No
<i>Macaca assamensis assamensis</i>	EN	CR		EN				No
<i>Macaca assamensis</i> ¹	EN				EN			E
<i>Macaca assamensis pelops</i>	EN		EN	EN				E
<i>Macaca fascicularis aurea</i>	CR	CR						No
<i>Macaca fascicularis umbrosa</i>	NT			NT				E
<i>Macaca leonina</i>	EN	CR		EN				No
<i>Macaca mulatta mulatta</i>	LC	↓NT	↓NT	LC	↓NT	NT		No
<i>Macaca radiata diluta</i>	LC			LC				E
<i>Macaca radiata radiata</i>	LC			LC				E
<i>Macaca silenus</i>	EN			EN				E
<i>Macaca sinica aurifrons</i>	EN						EN	E
<i>Macaca sinica opisthomelas</i>	EN						EN	E
<i>Macaca sinica sinica</i>	EN						EN	E
<i>Semnopithecus (Trachypithecus) j. johmii</i>	VU			VU				E
<i>Semnopithecus entellus achates</i>	LC			LC				E
<i>Semnopithecus entellus ajax</i>	CR			CR	CR			E
<i>Semnopithecus entellus anchises</i>	NT			NT				E
<i>Semnopithecus entellus entellus</i>	NT	EN		NT				E
<i>Semnopithecus entellus hector</i>	EN			EN	↑CR			E
<i>Semnopithecus entellus hypoleucos</i>	EN			EN				E
<i>Semnopithecus entellus schistaceus</i>	NT		NT	NT	NT	NT		No
<i>Semnopithecus priam priam</i>	VU			VU				E
<i>Semnopithecus priam thersites</i> ²	EN			EN				E
<i>Semnopithecus priam thersites</i> ³	EN						EN	E
<i>Trachypithecus geei</i>	EN		EN	↑CR				E
<i>Trachypithecus obscurus phayrei</i>	EN	CR		EN				No
<i>Trachypithecus pileatus brahma</i>	DD			DD				E
<i>Trachypithecus pileatus durga</i>	EN	CR		EN				E
<i>Trachypithecus pileatus pileatus</i>	EN			EN				No
<i>Trachypithecus pileatus tenebricus</i>	EN		EN	↑CR				E
<i>Trachypithecus vetulus monticola</i>	EN						EN	E
<i>Trachypithecus vetulus nestor</i>	CR						CR	E
<i>Trachypithecus vetulus philbricki</i>	EN						EN	E
<i>Trachypithecus vetulus vetulus</i>	EN						EN	E
Hylobatidae								
<i>Bunopithecus hoolock hoolock</i>	EN	CR		EN				No

SA - South Asia; Ba - Bangladesh; Bh - Bhutan; I - India; M - Maldives; N - Nepal; Pk - Pakistan; SL - Sri Lanka; E - Endemic to South Asia, ¹ Nepal population, ² India population, ³ Sri Lanka population

SPECIAL ISSUE WORKING GROUPS

Special Issue: Funding Field Studies

Working group members:

M.M. Feeroz, Minesh Ghimire, J. Das, A. Kumar, J. Bose, J. Biswas, Rekha Medhi, Dilip Chetry, Ardith Eudey

The Working Group addressed the issue of funding agencies, recommending that primate biologists should attempt to obtain funds from their own respective organizations, e.g. University, forest department, wildlife department and relevant ministry. The Group discussed the fact that many national agencies were unable to support the overall requirement, and thus funds should be sought from international organizations.

Some international organizations agencies which provide funds for research and conservation in the South Asian region are United States Department of the Interior/U.S. Fish and Wildlife Service, McArthur Foundation, Ford Foundation, Toyota Fund, Volkswagen Foundation, Wildlife Conservation Society, USA, World Wide Fund for Nature, USA, Flora and Fauna International, UK, IUCN Netherlands, United Nations Development Programme, Conservation International, USA; Primate Conservation, Inc., selected national embassies, as well as regional organizations like USUR ICIMOD, Nepal, and many others. Many zoos in developed countries are also interested in reviewing proposals and funding field studies of threatened species. Some zoos prioritise species that they hold in their collection while other zoos prioritise solely on merit of the proposal. All of these organisation have a specific format and require an application on the appropriate form.

Prioritising Proposals

The Working Group felt that proposals and requests should be focused on Data Deficient areas so that the study could contribute to over all basic information on South Asian primates. The group emphasized that proposals had a higher probability of being funded if they targeted lesser-known species, threatened species, conservation dependent species, urban population and trans-boundary research areas.

Special Issue: Urban Monkeys

Working Group members:

All participants

It was noted by the group that the definition of “urban monkeys” should extend to all other altered habitats, such as plantations, home gardens, etc. and not only those in ‘urban’ areas.

The group listed the problems of urban monkeys as i) the decreasing space between monkeys and human settlements which results in crop raiding and garbage eating; ii) the resulting decline of remaining populations, e.g. those left after poisoning, shooting, etc.; iii) the likelihood of these populations increasing due to their accessibility of garbage, feeding by tourists, etc; iv) destruction of crops; v)

approaching or entering houses, government works etc.; vi) zoonotic diseases from human to monkey and vice versa; vii) guides encouraging feeding to promote contact with tourists, etc.

Governments of all non-human primate bearing countries require help to deal with this problem. It is a human problem which can be mitigated by clearing of garbage, which is the most pro-active and effective solution. It was felt that placing signboards around areas where garbage piles up and monkeys gather was not feasible.

Municipal solutions include translocations and sterilisation. Sterilisation has its own difficulties with implants for females being expensive and short term and catching monkeys for any procedure is expensive and energy consuming. Culling monkeys in some countries in South Asia is culturally controversial.

The group felt that the more productive solutions and their advantages were:

1. Get rid of garbage entirely instead of simply moving it from one area to another as done by many municipalities.
2. This should be done in association with public education as a concerted public relations effort over the long term
3. Such education should emphasize why we must not feed monkeys or provide any artificial food
4. These efforts can be undertaken over the long term and will prove less costly than intrusive methods, such as translocation, sterilisation, etc.
5. There is an added advantage of getting rid of rodents and other pests as well as cleaning the atmosphere by reducing or eliminating garbage
6. Culling is controversial with some NGOs, religious bodies etc. and can create problems for municipal, state and national governments/
7. Education should extend to religious leaders who should pass the information to temples, etc. The concept of “monkey-god” and its non-requirement of public feeding for pujas need to be explained.
8. Schools and universities as well as Municipal councils should be provided with material to use in their institutions and with their members.
9. Cleanup campaigns can utilise civic organizations, such as Lions Club, Rotary Club etc., as well as team of volunteers or paid public relations personnel
10. Target where problems initiate, e.g. temples
11. In zoos, where there are often free ranging monkeys in addition to captive ones, or other tourist sites, screening of polythene bags can be done before visitors enter and visitors

- can be requested individual not to feed the monkeys.
12. Constant clearing of garbage prone areas

Special Issue: Conservation Breeding

Working Group Members:

Bipul Chakraborty, Kumar Pushkar, P. C. Tyagi and Manoharan, assisted by Mewa Singh, Douglas Brandon-Jones, Rauf Ali, and Manoj Misra.

Keeping in view the classification of primates into various subspecies, it will be appropriate that the Indian zoos prevent breeding of the following species until they can be properly identified :

1. Bonnet macaque
2. Common langur / grey langur
3. Assamese macaque
4. Capped langur
5. Slender loris

The animals may be segregated on the basis of morphological differences. The help of qualified taxonomists, ideally from the IUCN SSC Primate Specialist Group may be taken by the zoos in determining how the animals should be segregated. The help of the Centre for Cellular and Molecular Biology (CCMB) may also be taken for identification of different subspecies when appropriate.

During the next 3 years time the zoos can be made aware of the revised taxonomy and the anomalies in their collection. Priority can be fixed on non-controversial species to be covered under planned breeding programmes. Zoos will also make the visitors aware of the status and importance of different subspecies in their natural habitat and encourage them to support conservation of the *in situ* population. With respect to other species the details are as follows:

1. Slow loris (*Nycticebus bengalensis*)

At present 8 zoos in India are displaying 12 (6 males and 6 females) slow loris. Out of the 8 zoos, four are located in the animals' habitat area. The species has so far bred very well in captivity. Assam State Zoo, Guwahati and Sanjay Gandhi Biological Park, Patna has good experience in breeding the animals. However due to bad management practices the zoo populations have suffered a higher level of mortality.

Keeping in view of the recommendations of the South Asian Primate CAMP and if at all a special conservation breeding programme of the species needs to be initiated for conserving the gene pool, facilities can be created at the zoos located at Guwahati, Itanagar and Patna. Itanagar zoo is already creating an enclosure on the guidelines of Central Zoo Authority for housing of this species. **Not recommended for captive breeding.**

2. Stump-tailed macaque (*Macaca arctoides*):

At present 10 zoos in India are displaying 41 (20 males and 21 females) stump tailed macaque. Out of the ten zoos, three zoos are located near the animal habitat. Only a few zoos have a sizable number, but

the sex ratio is skewed. Some of the zoos like Guwahati Zoo and Patna Zoo have bred the species in past. Though the overall population of the species is satisfactory on the surface, due to their scattered distribution and skewed sex ratio, few zoos can actually breed the animals. Thus, pooling of the animals has to be done in the zoos which are near the animals habitat, so that if at all any animal that is rescued, or confiscated from traders can be brought to these zoos and involved in the breeding programme. An appropriately designed enclosure for the species is under way at Guwahati Zoo. **Recommended for captive breeding.**

3. Pig-tailed macaque (*Macaca leonina*):

At present 7 zoos in India are displaying 20 (11:9) Pig-tailed macaques. Only 2 zoos are located near the habitat of the animal. These 2 zoos alone make up for 14 animals, e.g., 7 males and 7 females, with the rest of them are distributed singly in 5 zoos. The Assam State Zoo has been successful in breeding the animal. The present population in the zoos is not sufficient to start a breeding programme, keeping in view that for any such programme at least 20 founder animals would be required. The possibility of having an age group which are currently in their prime is also remote. Therefore, help of zoos outside India and the animals rescued from wild areas would be required to initiate a fruitful breeding programme. **Not recommended for captive breeding**

4. Lion-tailed macaque (*Macaca silenus*):

At least 18 zoos in India are displaying lion-tailed macaque. Out of these 10 zoos are located in proximity to the animals habitat, ie the Western Ghats. 50 (28:22) animals are on display.

Arignar Anna Zoo, Chennai is the studbook keeper of the species. A studbook for all the Lion-tailed macaque's in Indian Zoos has been prepared by the Wildlife Institute of India. It has also been established that a managed conservation breeding programme for the species can be initiated from the present captive population. AAZP, Chennai, Mysore Zoo and Trivandrum Zoo are participating in the breeding programme. The CZA will make all efforts to pool the single animals in other zoos and send breeding age individuals to the breeding center. Others will be kept on display, provided an appropriate enclosure for the animals should exist, so they may serve as Ambassadors for conservation and protection of their kins in wild. **Recommended for captive breeding**

5. Golden langur (*Trachypithecus geei*):

Five zoos in India are displaying 7 (2 males and 5 females) of Golden langur. Two zoos are located in the proximity of the animals' habitat. It is suggested that, as Assam State Zoo, Guwahati has a very good enclosure for Golden langur in an off-display area, the single animals in other 4 zoos should be shifted to Guwahati. Controlled captive breeding can be carried out at Guwahati, but long term captive breeding of the species cannot be recommended at this stage. **Not recommended for captive breeding**

6. Nilgiri langur (*Semnopithecus johnii*):

Eight zoos in India are displaying 27 (11 males, 14 females and 2 juveniles) Nilgiri langur. Six zoos are located in the proximity of the animals' habitat. Despite the fact that Arignar Anna Zoo, Chennai, the Chamarajendra Zoological Gardens, Mysore and, more recently the V.O.C. Park, Coimbatore has been successful in breeding of the species, a national programme on conservation breeding of the

animals has not been initiated. Single animals (if they are of breeding age) can be pooled in the above zoos, which are located near the animals habitat, for use in a breeding programme. These zoos may receive animals rescued from the wild, which can then be added to the existing groups.

Recommended for captive breeding

7. Long-tailed Macaque (*Macaca fascicularis umbrosa*)

This species of primate is distributed only at one zoo at Port-blair, Andamans. Presently 16 (9:7) Long tailed macaque are displayed. In the past the zoo had one or two successes in breeding of the species, however the animal survival rate was poor. This may be due to the design of the enclosure constructed by the Andamans and Nicobar Forest department at Chidiya Tapu Biological Park. May be once these animals get translocated to the new enclosure, breeding may take place.

If at all any programme is initiated for conservation breeding of the species, on offsite area in the new zoo has to be acquired from the wild. The present population may be inbred. One or two of these also may not be in their prime. **Not recommended for captive breeding**

8. Hoolock (*Bunopithecus hoolock hoolock*):

Five zoos in India are displaying 10 (4 males and 6 females) Hoolock gibbon. Three zoos are located near the animal habitat and only Assam State Zoo, Guwahati has an appropriate enclosure for the animals. This is the only zoo which had success in breeding of the Hoolock gibbon, but survival rate was very poor. Being monogamous, breeding of the animals is limited to suitable pairing. Much study is

needed on the behaviour of the species, before any serious breeding programme can be taken up. The zoos located near the animals habitat may in the meantime try to form compatible pairs for breeding.

Not recommended for captive breeding

Special Issue: Education, Species Action and Conservation Action

Working group members:

Gigi, K. Joseph, H.R. Bhat, Manoj, K. Misra, P. Srivastava, Santhosh Kumar Sahoo, G. Ramaswamy, Suvas Chandra Ghimire, M.S. Pradhan, Jini Dela, Ramakantha V., C.V.C. Pandian, Wesley Sundarraj, Binu Priya A.R.

The Group described its mandate as describing ways to translate the results from the Primate C.A.M.P. to field action. The challenge is to successfully communicate the right message to the right individual or organisation.

The Working Group defined the primaty messages as :

- Primate taxonomy is evolving
- This is a revised taxonomy
- These are the current (2002) threat status of the primates in south Asia
- You can act to make a difference!

And subsidiary messages as :

- Langur taxonomy is unclear
- Scientist/taxonomists need your help

Suggestions for appropriate long-range and overall action :

1. A focused one-page summary from the working group in a simple language be sent out by the organizers (ZOO, CBSG, SFSC) to all the key decision makers, accompanied with the executive summary of the working group proceedings for information and sensitization purposes.
2. Carefully identified interested and relevant field practitioners should be sent the full report.
3. Zoo Outreach Organisation may take up the year 2004 as “The Year of Primates”.
4. Volunteer scientists/NGO in different parts of the region may be encouraged to take up the census of specific species and subspecies in long term with a missionary zeal.
5. Institutions like SACON may become focal centers for taking a lead on resolving the langur taxonomic tangle.
6. Local officials to be enrolled as active collaborators in the endeavor.
7. Media to be fed exciting stories on it. Interested taxonomists from abroad to fund raise for field work.

Detailed recommendations

1. The group recognized that a macrolevel (television, websites, press etc.,) and microlevel (village level interaction) of education as crucial for the successful conservation of non-human primates in south Asia.
2. Identify important persons (local leaders) from local communities to sensitize their masses.
3. Forest departments can play a major role in disseminating the facts and conservation needs. Local NGOs can be entrusted as communicators and facilitators to do effectively the same.
4. It has been established that the involvement of local communities in decision making process in the management strategies of concerned protected areas and other natural areas is vital. This creates a sense of ownership towards the natural primate habitat and its conservation.
5. Youth from marginal communities can be selected and trained as efficient interpreters or guides of primates in their nearest natural habitats and thereby promote ecotourism from which they get a financial benefit also.
6. A stakeholder workshop can be organized with the help of NGOs and forest department to communicate the prime values of primates and their conservation. These will help to derive site-specific education and awareness strategies to be followed in concerned areas.
7. The names of the important primates should be used for some important roads, trains and seminar halls. For e.g. 'Gibbon Express' for a train in northeast India; 'LTM Hall' in SFS complex to start with.
8. Some slides can be shown in local theatres before a film show.
9. ZOO can develop and distribute education packets on primates to various zoos, ngo's and other interested and concerned individuals, institutions, and forest departments to conduct nature camps and education programmes.
10. Conservation of many primates have been built in with the religious cultural system especially in India. Important religious personalities can be motivated to sensitize their audience to the fact that many primates are endemic to this region and the importance of conservation of the concerned primate species.
11. Develop small booklets with interesting stories many pictures, stickers, and brochures in vernacular language for local communities and some relevant materials for policy makers and administrators in English.
12. In education compare human behaviour with primate behaviour to create interest among locals.
13. Information provided should neither be too complex nor too simple. Information should be precise and should be appropriate for the community.

Status of South Asian Primates

4. Taxon Data Sheets

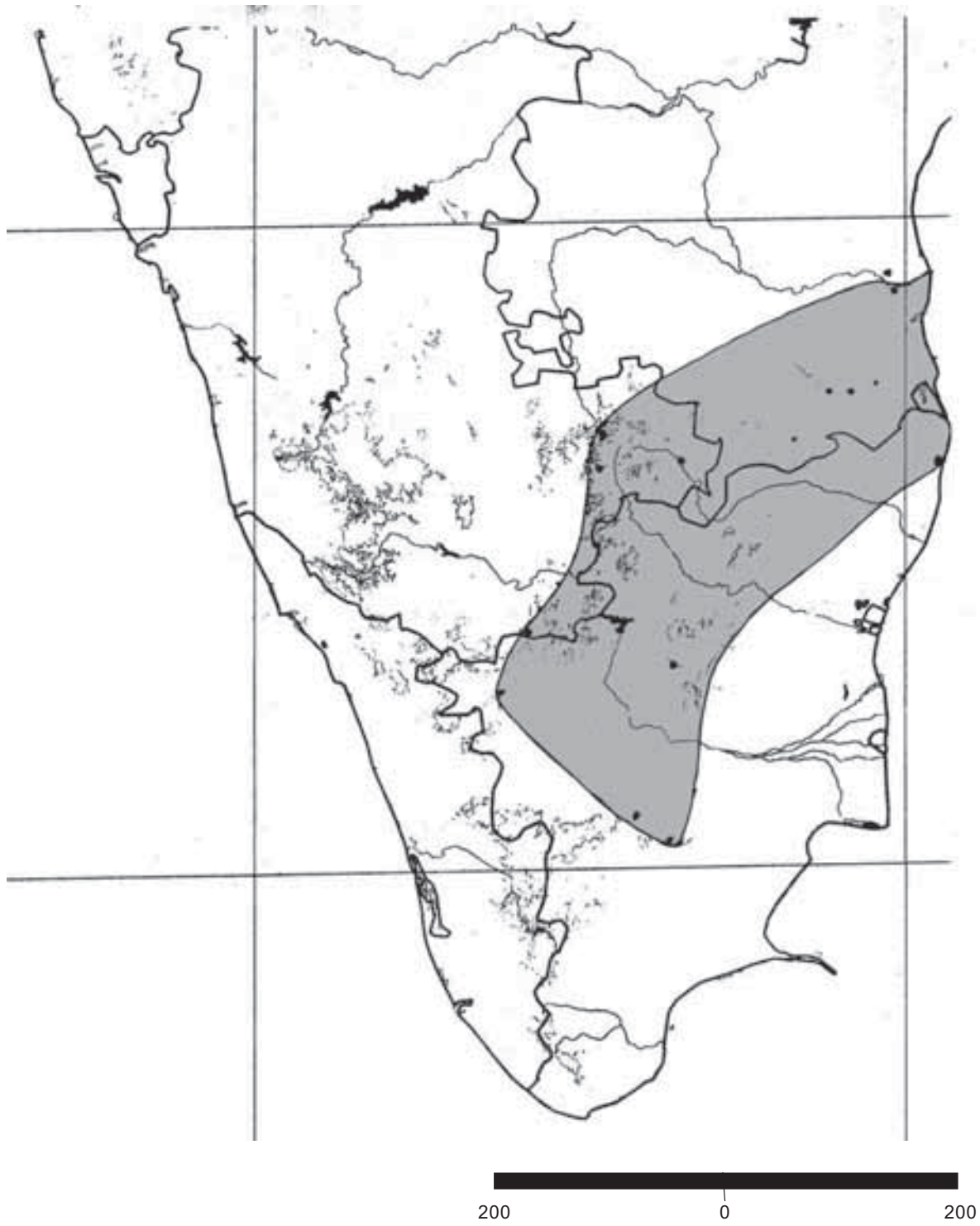
Loris lydekkerianus lydekkerianus Cabrera, 1908

NEAR THREATENED

Synonyms	<i>Loris lydekkerianus</i> Cabrera, 1908 <i>Loris tardigradus lydekkerianus</i> Cabrera, 1908 <i>Loris gracilis typicus</i> (Lydekker, 1904)
Family	Loridae
Level of assessment	Subspecies
Common names	Hindi: <i>Lajivanti</i> ; Kannada: <i>Advimanushya, Kadupapa</i> ; Malayalam: <i>Kutti Thevangu</i> ; Tamil: <i>Thevaangu</i> ; Telugu: <i>Devanga Pilli</i> ; English: Gray Slender Loris, Mysore Slender Loris, Slender Loris
Notes on taxonomy	Six subspecies are distinguished by minor variations in pelage colour and size, based on small samples. Jenkins, 1987 mentioned that it seems likely that there are fewer subspecies than the literature suggests, but larger samples are required to provide a definitive classification.
Habit	Nocturnal, arboreal, insectivorous, usually solitary
Habitat	Dry deciduous forest and scrub jungles
Niche	Tree branches and hollows. Feeds on small insects, lizards, fruits etc.
Elevation	Up to 900m.
Distribution	
Global	Endemic to India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,001 km ²
Locations/subpopulations	36 / Not known. Number of locations given are based on the available information and it is believed that the locations may be more.
Habitat status	Fragmented
Threats	Hunting, traditional medicine, road kills, biomedical research, habitat loss and taboos.
Trade	Local and commercial trade for eyes and as live animals for medicine, pet, zoos, road shows and research. Trade for medicine is a major threat.
Population	
Generation time	Estimated at 4-7 years
Total population	>430
Mature individuals	Not known
Population trend	Declining, but rate of decline in the past not known. Predicted to decline in future.
Data Source	Field study, literature, observed, 95% confidence

Status	NEAR THREATENED
SAP CAMP (Ver. 3.1)	
Rationale	Although this taxon is under pressure from various threats, primary being habitat loss and hunting, there is not enough observation or confidence in inference about its rate of decline in the past. Since the taxon is restricted to a few locations (based on available information) and some information is available on its distribution and threats, it is considered Near Threatened.
2001 Red List (Ver. 2.3)	Data Deficient
Justification for change	Better / new information available at the workshop.
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife legislation	Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix II
Presence in Protected Areas	
India	<i>Andhra Pradesh:</i> Nellapattu WLS, Sri Venkateswara NP <i>Karnataka:</i> Biligiri Rangaswamy Temple WLS
Recommendations	
Research	Survey, taxonomic research, life history studies, behaviour and ecology
Management	Habitat management, public education, monitoring, PHVA
Captive stocks	3 zoos in India (4.0.1.5) and 1 zoo in Sri Lanka (0.1.0.1). Subspecies not known.
Comments	Males migrate. East of Dindugal: fragmented, clumped populations in an areas where farming is more intensive and canal-irrigated in many parts with a lower density of trees. In regions with rain-fed fields interspersed among forested hills, continuous distribution of lorises is noticed (Singh <i>et al.</i> , 2003). During the course of hunting, if hunters came across a loris, they kill the animal as they consider it to be unlucky.
Sources	Brandon-Jones <i>et al.</i> , 2002; CZA, 2000-2001; Groves, 2001; Hilton-Taylor (2000); Jenkins, 1987; SAZARC, 2001; Schulze, 2003; Singh <i>et al.</i> , 1999; Singh <i>et al.</i> , 2000; Singh <i>et al.</i> , 2001a Biological Information Sheets (2002): H.N. Kumara, C. Srinivasulu C.A.M.P. questionnaire (2002): C.S. Rao
Compilers	R. Ali, H.R. Bhat, G.K. Joseph, R. Krishnamani, A. Kumar, P.O. Nameer, M.S. Pradhan, S. Ram, K.K. Ramachandran, G. Ramaswamy, A.K. Sharma, M. Singh, W.S.F. Sunderraj.
Reviewers	D. Brandon-Jones, A. Eudey, M.S. Pradhan, A.K. Sharma

Distribution range of *Loris lydekkerianus lydekkerianus*



Distribution of *Loris lydekkerianus lydekkerianus* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA										
Andhra Pradesh										
<i>Chittoor</i>	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Bakrapet	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
K. Nagaram	13°00	78°05	200	DD, S	Hunting, Habitat loss (P/Pr/F)	-	-	41	24	Singh <i>et al.</i> , 2000a
Kundinia	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Kuppam	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Madhepalli	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Palamaneru	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Punganur	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Puttur	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Sathivedu	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Seshachellam Hills	13°07	79°05	150	DD, S	Hunting, Habitat loss (P/Pr/F)	-	-	36	20	Singh <i>et al.</i> , 2000a
Sri Kalahasti	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
<i>Nellore</i>	-	-	-	-	-	-	-	-	-	(early 1980s) V. Nagulu, pers. comm.
Nellapattu WLS	-	-	-	-	-	-	-	-	-	
Rapur	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Sriharikota island	13°45	80°20	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a; C. Srinivasulu, BIS
Udayagiri Venkatagiri	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
<i>Rajampet</i>	-	-	-	-	-	-	-	-	-	
Chitvel	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Kodur	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
<i>Tirupathi</i>	-	-	-	-	-	-	-	-	-	
Balapalli	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Chamala	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Near Renigunta	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Sri Venkateswara WLS	13°07	79°05	75	DD, S	Hunting, Habitat loss (P/Pr/F)	-	-	30	18	Singh <i>et al.</i> , 2000a; C.S. Rao, BIS
Tirupathi	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Karnataka										
<i>Bangalore</i>	-	-	-	-	-	-	-	-	-	
Bangalore	12°59	77°35	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
<i>Chamarajmagar</i>	-	-	-	-	-	-	-	-	-	
Bilgiri Ranga-swamy Temple	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a

Distribution of *Loris lydekkerianus lydekkerianus* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
WLS	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
<i>Kolar</i>	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Kolar town	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Malur	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
<i>Mysore?</i>	-	-	-	-	-	-	-	-	-	Kumara, H.N. and M. Singh (Unpublished data)
Heggadadevan-kote, Hunsur, Piriapatna?, T. Narasipura?	-	-	-	-	-	-	-	-	-	Kumara, H.N. and M. Singh (Unpub.)
<i>Tumkur district</i>	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Kunigal, Tumkur	-	-	-	-	-	-	-	-	-	Kumara, H.N. and M. Singh (Unpub.)
Tamil Nadu										
<i>Chennai</i>	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a; Groves, 2001
Chennai	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
<i>Dindugal</i>	10°04-~10°24	77°54-~78°00	100	-	-	-	-	313	200	Singh <i>et al.</i> , 2000a
Ayalur	10°13	78°13	-	DD, S	Hunting, road kills, habitat loss (P/Pr/F)	-	-	-	-	Singh <i>et al.</i> , 1999
Nattam	-	-	-	DD, S	Hunting, road kills, habitat loss (P/Pr/F)	-	-	-	-	Singh <i>et al.</i> , 1999
Sirumalai	-	-	-	DD, S	Hunting, road kills, habitat loss (P/Pr/F)	-	-	-	-	Singh <i>et al.</i> , 1999
<i>Karur</i>	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Sevapur	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
<i>Madurai</i>	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Alegar hills	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
<i>Nilgiris</i>	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Kotagiri	-	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
<i>Salem</i>	11°50	78°29	-	-	-	-	-	-	-	610m. Schulze, 2003
Chettiri range	-	-	-	-	-	-	-	-	-	610m. Schulze, 2003

DD, S - Dry deciduous and Scrub forests

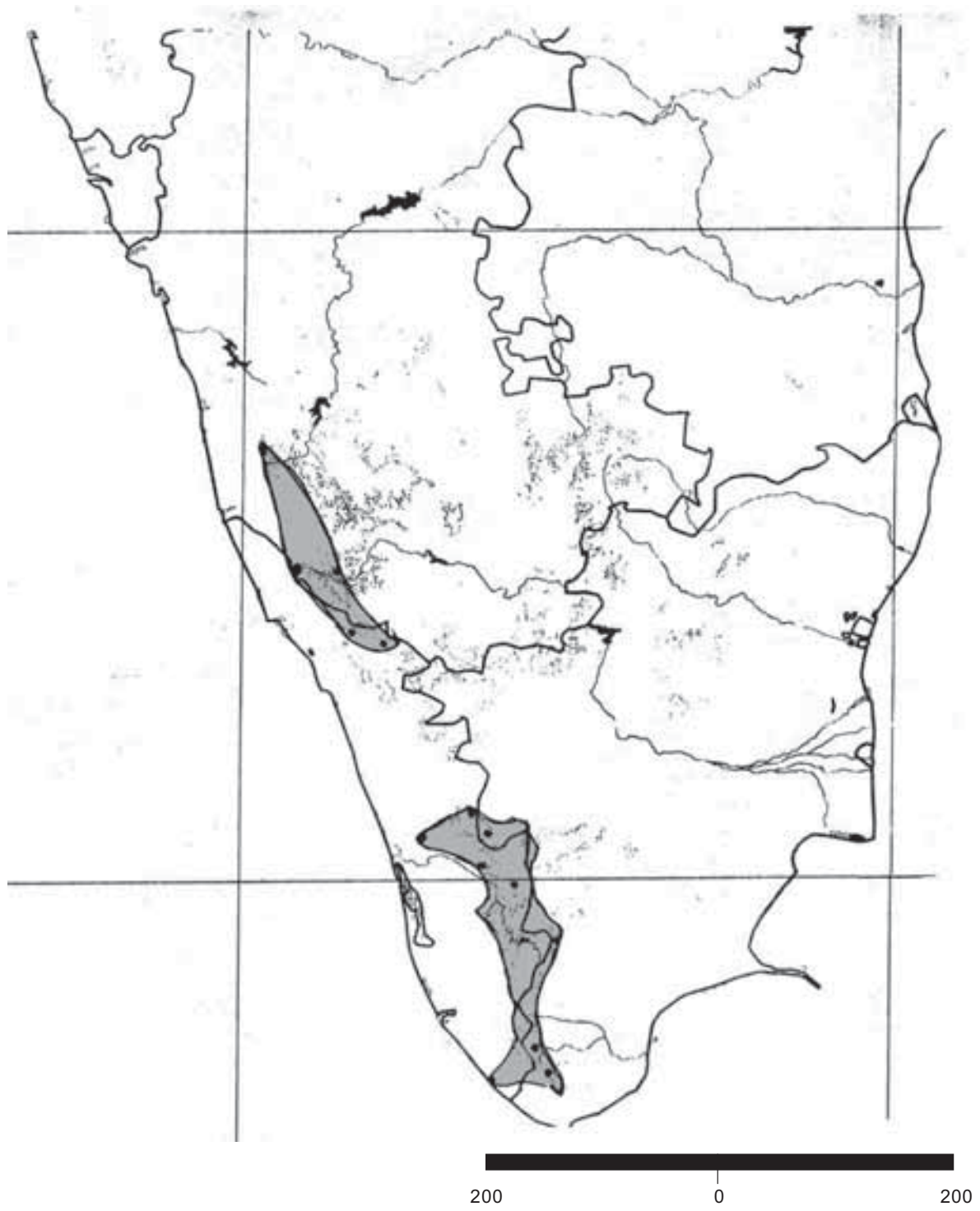
***Loris lydekkerianus malabaricus* (Wroughton, 1917)**

NEAR THREATENED

Synonyms	<i>Loris tardigradus</i> (Ryley, 1913) <i>Loris malabaricus</i> Wroughton, 1917 <i>Loris tardigradus malabaricus</i> Wroughton, 1917 <i>Loris tardigradus gracilis</i> Jenkins, 1987
Family	Loridae
Common names	Kannada: <i>Kadupapa</i> ; Malayalam: <i>Kutti Thevangu</i> ; Tamil: <i>Thevaangu</i> ; English: Gray Slender Loris, Malabar Slender Loris
Level of assessment	Subspecies. The Indian wet- and dry-country subspecies overlap each other.
Habit	Nocturnal, arboreal, insectivorous, usually solitary
Habitat	Moist deciduous, teak plantations, semi-evergreen forests
Niche	Tree branches and hollows
Elevation	50-1000m.
Distribution	
Global	Endemic to India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,001 km ²
Locations/Subpopulations	20 / Not known. Locations may be more than what is reported here.
Habitat status	Not known
Threats	Hunting as a taboo, trade, biomedical and laboratory research, habitat loss
Trade	Local, commercial and domestic trade for eyes, fur/skin, for medicinal purposes and live animal trade as pets, for zoos and for road shows
Population	
Generation time	Estimated at 4-7 years
Total population	>155
Mature individuals	Not known
Population trend	Predicted to decline in future due to habitat loss (Rate and period of decline not known).
Data source	Field study, indirect information, literature; inferred; 95% confidence

Status	
SAP CAMP (Ver. 3.1)	NEAR THREATENED
Rationale	Although this taxon is under pressure from various threats, primary being habitat loss and hunting, there is not enough observation or confidence in inference about its rate of decline in the past. Decline is predicted due to the above factors. Since the taxon is restricted to 20 locations (based on available information) and some information is available on its distribution and threats, it is considered Near Threatened.
2001 Red List (Ver. 2.3)	Data Deficient
Justification for change	Better / new information available at the workshop.
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife legislation	Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix II
Presence in Protected areas	
India	<i>Karnataka</i> : Brahmagiri WLS, Someswara WLS <i>Kerala</i> : Aralam WLS, Idukki WLS, Parambikulam WLS, Peechi-Vazhani WLS, Periyar NP, Shendurney WLS, Thatthakkad WLS, Wynaad WLS <i>Tamil Nadu</i> : Indira Gandhi WLS, Kalakkad-Mundanthurai WLS, Grizzled Giant Squirrel WLS
Recommendations	
Research	Taxonomic research, life history studies, survey, ecological studies
Management	Habitat management, monitoring, public education
Captive stocks	3 zoos in India (4.0.1.5) and 1 zoo in Sri Lanka (0.1.0.1). Subspecies not known.
Comments	Moist evergreen forests of South India have been reduced to a series of isolated patches by extensive deforestation (Eudey, 1987). It is considered as a bad omen among poachers and so they kill the animal when they sight one.
Sources	Brandon-Jones <i>et al.</i> , 2002; CZA, 2000-2001; Easa <i>et al.</i> , 2000; Groves, 2001; Hilton-Taylor, 2000; Jenkins, 1987; SAZARC, 2001; Schulze, 2003 Biological Information Sheet (2002): H.N. Kumara C.A.M.P. questionnaire on protected areas (2002): G.K. Joseph, T.U. Uthup
Compilers	R. Ali, H.R. Bhat, G.K. Joseph, R. Krishnamani, Ajith Kumar, P.O. Nameer, M.S. Pradhan, S. Ram, K.K. Ramachandran, G. Ramaswamy, A.K. Sharma, M. Singh, W.S.F. Sunderraj.
Reviewers	D. Brandon-Jones, A. Eudey, M.S. Pradhan

Distribution range of *Loris lydekkerianus malabaricus*



Distribution of *Loris lydekkerianus malabaricus* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA									
Karnataka	-	-	-	-	-	-	-	-	Jenkins, 1987
Tapti River									
Belgaum	-	-	-	-	-	-	-	-	Kumara, H.N. and M. Singh (Unpublished data)
Khanapura									
Coorg (South)									
Brahmagiri WLS	-	-	-	-	-	-	-	-	Jenkins, 1987; Singh <i>et al.</i> , 2000a
Coorg									Groves, 2001
Huvinakadu estate	12°01'	75°58'	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Virajpet	12°12'	75°48'	-	-	-	-	-	-	
Chikmagalur									
Mudigere,	-	-	-	-	-	-	-	-	Kumara, H.N. and M. Singh (Unpublished data)
Sringeri									
Koppa, Narasim-harajapura									
Dakshina									
Kannada									
Someswara WLS	-	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Hassan									
Alur	-	-	-	-	-	-	-	-	Kumara, H.N. and M. Singh (Unpublished data)
Kodagu									
Haasan, Madikeri	-	-	-	-	-	-	-	-	Kumara, H.N. and M. Singh (Unpublished data)
Virajendrapet									
Mandya									
Malvalli, Maddur?	-	-	-	-	-	-	-	-	Kumara, H.N. and M. Singh (Unpublished data)
Mysore									
Heggadadevan-kote, Hunsur,	-	-	-	-	-	-	-	-	Kumara, H.N. and M. Singh (Unpublished data)
Priyapatna?, T. Narasipura?									

Distribution of *Loris lydekerianus malabaricus* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Shimoga</i> Tirthahalli, Sagar Hosanagara, Sorab	-	-	-	-	-	-	-	-	-	Kumara, H.N. and Singh, M. (Unpub.)
<i>Udupi</i> Karkai, Udupi?, Kundapura	-	-	-	-	-	-	-	-	-	Kumara, H.N. and Singh, M. (Unpub.)
<i>Uthara Kannada</i> Bhatkala, Siddapur, Sirsi, Honnavara, Kumta, Ankola, Karwar, Yellapur, Supa, Haliyal?, Mundgod?	-	-	-	-	-	-	-	-	-	Kumara, H.N. and Singh, M. (Unpub.)
Kerala <i>Ernakulam</i> Thattakkad WLS	10°07'	76°42'	-	MD	-	-	-	-	-	Nameer, 2000
<i>Idukki</i> Idukki WLS	-	-	-	-	-	-	-	-	-	-
Periyar NP	09°32'	77°12'	-	MD	-	-	-	-	-	Easa, 1986. Found in adjacent areas too. G.K. Joseph, 2002
<i>Kannur</i> Aralam WLS	12°00'	75°75'	-	MD, TP	-	-	-	-	-	Balakrishnan
<i>Palghat</i> Parambikulam WLS	10°23'	76°44'	-	MD	-	-	-	-	-	-
<i>Thrissur</i> Peechi-Vazhani WLS	-	-	1	MD	-	-	-	-	-	Nameer, 1987
<i>Quilon</i> Shendurney WLS	08°49'	77°08'	1	-	Trapping (P), hunting (Pr)	-	-	1	-	Distribution is known from only one sighting. Ramachandran, 1995, T.U. Uthup, 2002

Distribution of *Loris lydekerianus malabaricus* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Wynaad</i> Wynaad WLS	11°06	76°00	1	MD, B	-	-	-	-	-	No lorises found, Singh <i>et al.</i> , 2000a
Trivandrum	08°29	76°55	-	-	-	-	-	-	-	Singh <i>et al.</i> , 2000a
Tamil Nadu <i>Coimbatore</i> Indira Gandhi WLS	-	-	-	DD, S	Road kills (P/I/F)	-	Stable	150 (100-200)	75	Kumar <i>et al.</i> , 2002
Anaikatty	-	-	-	DD	-	-	-	-	-	Mewa Singh, pers. comm.
<i>Kamaraj</i> Grizzled Giant Squirrel WLS	-	-	-	SE	-	-	-	-	-	G. Ramaswamy
<i>Tirunelveli</i> Mundanthurai WLS	08°40	77°20	-	S, DD	Hunting (P/I/F)	-	-	75-100	60	K. Kar-Gupta pers. comm.

B - Bamboo forest, DD - Dry Deciduous forest, MD - Moist Deciduous forest, S - Scrub forest, SE - Semi-evergreen forest; TP - Teak Plantation

***Loris tardigradus grandis* Hill and Phillips, 1932**

ENDANGERED

Synonyms	<i>Loris tardigradus grandis</i> (Hill and Phillips, 1932) <i>Loris lydekkerianus nordicus</i> (Hill, 1933) <i>Loris tardigradus nordicus</i> Hill, 1933 <i>Loris lydekkerianus grandis</i> Brandon-Jones <i>et al.</i> , 2000
Family	Loridae
Level of assessment	Subspecies
Common names	Sinhala: <i>Kalu Unahapuluwa</i> , <i>Unahapuluwa</i> ; Tamil: <i>Kadu-papa</i> , <i>Thevaangu</i> ; English: Grey Slender Loris, Highland Slender Loris
Notes on taxonomy	Hill and Phillips (1932) is followed until published clarification of species status is available. Brandon-Jones <i>et al.</i> (2000) do not recognize <i>L. tardigradus nordicus</i> (Hill, 1933) as a separate subspecies, but have included it with the <i>grandis</i> subspecies based on Groves' (2001) absence of evidence to distinguish these two subspecies from museum specimens. Following Hill (1933) and recent field observations from Nekaris (in press), <i>nordicus</i> and <i>grandis</i> are considered as distinct subspecies in this report. Groves (2001) notes that he is quite unable to distinguish the lowland dry zone (<i>nordicus</i>) and hill country (<i>grandis</i>) lorises.
Habit	Nocturnal, arboreal, solitary, insectivorous, frugivorous, carnivorous (small lizards, eggs etc.)
Habitat	Tropical hill forest
Elevation	600-1200m.
Distribution	
Global	Endemic to Sri Lanka
Extent of Occurrence	1600 km ²
Area of Occupancy	400 km ²
Locations/subpopulations	16 / Not known. Fragmented. There is a close relationship between loss of critical habitat and population number. According to government data, during last 42 years (1956-1993), the country has lost 50% of its forest cover and more than 50 % if the last 10 years (1994-2003) is included. There is a close relation between loss of critical habitat and population number. Therefore the subspecies have been numerically reduced by 50%. Much of the original forested habitat in the low and midland central hill zone areas has been converted into agriculture, home gardens and plantations. The taxon is therefore very sparsely distributed among isolated pockets of protective vegetation.
Habitat status	Decrease in area by >50% in the last 50 years or more and is predicted to decrease by >10% in the next 5 years due to agricultural and economic land use. Decrease in quality due to habitat fragmentation, loss of ecologically important forests and human encroachment. Tropical evergreen forests in the central hills are continuing to be converted for human use. As large home gardens and small estates are urbanized, this taxon is deprived of refuges.
Threats	Clear-cutting, deliberate fires, trade, habitat loss by use of chemicals in agriculture. Koslanda, Thangamalai and Kotmale locations are heavily clearcut for timber and for other plantations. Increasing visitor pressure to Thangamalai is a significant

	factor.
Trade	Threats well understood, not reversible, not ceased Local (commercial) trade for eyes for folk medicine and meat for food.
Population	
Generation time	Estimated at 4-7 years
Total population	Not known
Mature individuals	Not known
Population trend	Declined by 50% or more in 3 generations and predicted to decline by >20% in the next 10 years.
Data source	Informal sightings; observed; minimum/maximum
Status	
SAP CAMP (Ver. 3.1)	ENDANGERED A2cd+4cd, B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)
2001 Red List (Ver. 2.3)	Not Evaluated
Justification	The Grey/Highland/Northern Dry Slender Loris occurs only in dry zone forests tracts of Sri Lanka most of which is threatened due to human interference (see under threats). Habitat fragmentation over the years has depleted the area available for this dry-zone taxon and restricted it to several small pockets. From 1956-1993 Sri Lanka lost more than 50% of forest cover to human activities, followed by a similar rate of decline in the remaining forest cover between 1994 and 2003. Correlating loss of habitat to populations, rate of decline in population is inferred at more than 50% over 3 generations. Also due to continuing trends past and predicted declines could reduce the population by more than 50% within the next 11 to 22 years due to continuing decline in area, extent and quality of habitat along with exploitation of the species observed in the wild. The taxon is also threatened due to its restricted distribution of less than 1600km ² extent of occurrence and 400km ² area of occupancy and continuing decline in area, extent and quality of habitat, number of locations and in the number of mature individuals, the latter two inferred from threats to habitat and population from degradation and hunting, respectively.
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	Protected under the Fauna and Flora Protection Ordinance Act No. 2, 1937 and subsequent amendments including Act No. 49, 1993 but at the species level
CITES	Appendix I
Presence in Protected Areas	
Sri Lanka	<i>Central Province:</i> Knuckles; <i>Uva Province:</i> Thangamalai WLS
Recommendations	
Research	Population genetics, taxonomy, life history, population survey, behaviour and ecology, epidemiology, trade
Management	Habitat management, monitoring, public education, limiting factor management, work in local communities, PHVA
Captive Stocks	Zoos. Subspecies not known.
Comments	This species requires habitat conservation and natural breeding. Geographical distribution is in lower slopes and hills of northern, eastern and southern aspects of

central montane *massif*. No sightings of *grandis* in lower plains of dry zone or wet zone. Sometimes, rustier pelage of adults and brown and reddish-brown young of *grandis* (Phillips, 1935) suggest that this form is more allied to lowland wet zone (*L.t. tardigradus*) than the lowland dry zone (*L.t. nordicus*) subspecies. Animal little known to its captors, many of them had not seen such a creature previously. Rewards failed to produce further specimens for months. It would appear that the race is uncommon and sparsely distributed throughout its distribution area (Schulze, 2003). The main distribution area of this subspecies is vulnerable to tourism, which may affect them. The area is also highly exposed to agricultural practices and usage of agro-chemicals is increasing dramatically, which would adversely reduce the insect population, an important food source of this animal.

Sources	Brandon-Jones <i>et al.</i> , 2002; Groves, 2001; Hill and Phillips, 1932; Hilton-Taylor, 2000; IUCN, Sri Lanka, 2000; Jenkins, 1987; Phillips, 1935; Schulze, 2003 Ecology and distributional data (in alphabetical order): IUCN Sri Lanka, Biodiversity Field Research team (data communicated by R. Somaweera through workshop participants). Primate Biology Program, Smithsonian Institution and Institute of Fundamental Studies: original data from W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe. University of Jaffna: S. Wijeyamohan
Compilers	Chief compilers: W. Dittus and A. Watson Working group: J. Dela, W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe, S. Wijeyamohan Biological Information Sheet (2002): R. Somaweera
Reviewers	D. Brandon-Jones, W. Dittus, A. Eudey, A. Watson

Distribution range of *Loris tardigradus grandis*



Distribution of *Loris tardigradus grandis* in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA Opalgalla? Pindeniya	-	-	-	-	-	-	-	-	-	Schulze, 2003
Central Province <i>Gammaduwa</i> Udawattakelle	07°32 07°18	80°41 80°39	-	-	-	-	-	-	-	Hill & Phillips, 1932; Hill, 1933 Participants from Sri Lanka; Schulze, 2003;
<i>Kandy</i> Digane	-	-	-	-	-	-	-	-	-	Schulze, 2003
<i>Matale</i> Illukumbura Knuckles Mousakande	07°32 07°24 07°32	80°46 80°47 80°42	-	-	-	-	-	-	-	Participants from Sri Lanka Participants from Sri Lanka Type locality, 675m, Jenkins, 1987. Participants from Sri Lanka
North Central Province <i>Anuradhapura</i> Talawa	-	-	-	-	-	-	-	-	-	Groves, 2001
Uva Province <i>Badulla</i> Badaikumbura? Near	06°54	81°14	-	-	-	-	-	-	-	Hill, 1933 Schulze, 2003
Bandarawela Beregala Koslande Monaragala? near Nakkala Namunucula Thangamalai Sanctuary	- ~7 06°45 06°54 - -	- ~80 81°00 81°14 - -	-	-	-	-	-	-	-	Schulze, 2003 Participants from Sri Lanka Participants from Sri Lanka Participants from Sri Lanka Schulze, 2003 Participants from Sri Lanka

***Loris tardigradus nordicus* Hill, 1933**

ENDANGERED

Synonyms	<i>Loris tardigradus nordicus</i> Hill, 1933 <i>Loris lydekkerianus grandis</i> Brandon-Jones <i>et al.</i> , 2000
Family	Loridae
Level of assessment	Subspecies
Common names	Sinhalese: <i>Unahapuluwa</i> ; Tamil: <i>Thevaangu</i> ; English: Dry Zone Slender Loris, Northern Slender Loris, Slender Loris
Notes on taxonomy	Hill (1933) and Hill and Phillips (1932) is followed until published, clarification of species status is available. Brandon-Jones <i>et al.</i> (2000) do not recognise <i>L. tardigradus nordicus</i> (Hill, 1933) as a separate subspecies but include it with the <i>grandis</i> subspecies based on Groves 2001, absence of evidence to distinguish these two subspecies in museum specimen. Following Hill, 1933 and recent field observations by Nekaris (in press) <i>L. l. nordicus</i> is considered as a distinct subspecies here.
Habit	Arboreal, nocturnal, insectivore, frugivore, carnivore (small lizards, eggs etc.)
Habitat	Tropical dry evergreen forest, moist forest
Niche	Shrubs, trees.
Elevation	Up to 350m in lowland dry zone of Sri Lanka.
Distribution	
Global	Endemic to Sri Lanka
Extent of Occurrence	20300 km ²
Area of Occupancy	3100 km ²
Locations/subpopulations	41 / Not known. Fragmented. Continuous decline in locations/subpopulations is very likely in concert with habitat loss. According to government data, during 42 years (1956-1993), the country has lost 50% of its forest cover, but the loss is greater than 50%, if habitat changes during the last 10 years (1994-2003) is included. In addition, since 1978, the Accelerated Mahaweli Development Scheme has destroyed much dry-zone forest habitat. There is a close relationship between loss of critical habitat and population number. Since the 1978 Accelerated Mahaweli Programme some populations have drastically declined but others less so. Hence an average is taken for population decline. The population has been reduced numerically by >50% - and this is a minimal estimate. The degree to which water availability restricts the geographic distribution of the dry-zone loris is unclear. According to Eisenberg and Lockhard (1969), <i>Loris</i> were common in Wilpattu NP (1965-67) where the vegetation is denser than at Ruhuna NP. <i>Lorises</i> were absent from the dry blocks of Ruhuna NP, but are present in the moister Blocks 4 and 5. (Watson and Kittle, pers. obs.). If water limits their distribution, their numerical presence would be far less than suggested by total natural forest cover in the dry zone of Sri Lanka.
Habitat status	Decrease in area of >50% in the last 40 years or more and is predicted to decline by >20% in the next 5 years due to agriculture and economical land use. Decrease in

quality due to deforestation, habitat degradation, fragmentation, desertification and loss of diversity.

Threats	<p>Hunting for folk medicine and habitat loss.</p> <p>Currently the loris population is predicted to be stable in the northern province. For the last ten years (1993-2002), due to current civil war, people fear to go into these areas to hunt, mainly because the animal is nocturnal. No illegal logging or clearing of forest except along the main roads other than by the army. The forest is fairly intact but with the cessation of warfare in 2002 these northern forests areas will come under greater threat.</p> <p>Threats well understood, not reversible, not ceased</p>	
Trade	Local and commercial trade for eyes and meat for food and as an aphrodisiac.	
Population		
Generation time	Not known (estimated to be 4-7 years)	
Total population	Not known	
Mature individuals	Not known	
Population trend	Declined by >50% in the last 3 generations and predicted to decline by >20% in the next 5 years.	
Data source	Census or monitoring, general field study, informal sighting, indirect information; observed.	
Status		
SAP CAMP (Ver. 3.1)	ENDANGERED	A2cd+4cd
Rationale	<p>The Grey/Highland/Northern Dry Slender Loris occurs only in dry zone forests tracts of Sri Lanka most of which is threatened due to human interference (see under threats). Habitat fragmentation over the years has depleted the area available for this dry-zone taxon and restricted it to several small pockets. From 1956 – 1993 Sri Lanka lost more than 50% of forest cover to human activities, followed by a similar rate of decline in the remaining forest cover between 1994 and 2003. Correlating loss of habitat to populations, rate of decline in population is inferred at more than 50% in the last 33 years (3 generations). Also due to continuing trends past and predicted declines could reduce the population by more than 50% within the next 11 to 22 years due to continuing decline in area, extent and quality of habitat along with actual and potential levels of exploitation of the species observed in the wild. The taxon is also threatened due to its restricted distribution of 20,300 km² extent of occurrence and 400km² area of occupancy and continuing decline in area, extent and quality of habitat, number of locations and in the number of mature individuals, the latter two inferred from threats to habitat and population from degradation and hunting, respectively.</p>	
2001 Red List (Ver. 2.3)	Endangered	A1c
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Protected under the Fauna and Flora Protection Ordinance Act No. 2, 1937 and subsequent amendments including Act No. 49, 1993 at the species level.	
CITES	Appendix II	

Presence in Protected Areas

Sri Lanka *Central Province*: IFS arboretum, Menikdena FR, Sigiriya Sanctuary, Victoria-Randeniyagala-Rantambe Sanctuary
Eastern Province: Ampara Sanctuary, Kanthale FR
North Central Province: Angamedilla NP, Flood Plains NP, Giritale Sanctuary, Kaudulla NP, Mihintale Sanctuary, Minneriya NP, Polonnaruwa Sanctuary, Somawathie NP, Wasgamuwa NP, Wilpattu NP
Uva Province: Thangamalai Sanctuary

Recommendations

Research Taxonomy, genetic research, life history, population surveys, epidemiology, trade, population genetics, behaviour and ecology

Management Habitat management, monitoring, public education, limiting factor management, work in local communities, PHVA. A coordinated Species Management Program is recommended for Sri Lanka

Captive stocks Zoos, subspecies not known

Comments If the habitat is conserved, the animals will breed naturally and establish in the wild. The dry zone of the north and southeast, habitat of *L.t. nordicus*, covers 65% of the island (Total size: 66,000 km²). About 1 ha of forest used by one individual. During a survey in 2001, in six locations visited, 98 sightings (excluding carried infants and calls) of *L.t. nordicus* were made; densities of *L.t. nordicus* from 0.33-38 animals per kilometer. Other than in areas afflicted with war (i.e. Jaffna, Wilpattu), *L.t. nordicus* seems to be the most successful of the subspecies. It is found in areas surrounded by human disturbance, and was located in almost every area checked in the north. This subspecies adequately fits the description of Osman Hill (1933); present everywhere, but nowhere common (Schulze, 2003).

Sources Brandon-Jones *et al.*, 2002; Hill, 1933; Hilton-Taylor, 2000; IUCN Sri Lanka, 2000; Phillips, 1935; Schulze, 2003
Ecology and distributional data (in alphabetical order):
IUCN Sri Lanka, Biodiversity Field Research team (data communicated by R. Somaweera through workshop participants).
Primate Biology Program, Smithsonian Institution and Institute of Fundamental Studies: original data from W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe.
University of Jaffna: W. Wijeyamohan
Biological Information Sheet (2002): W. Dittus

Compilers Chief compilers: W. Dittus and A. Watson
Working group: J. Dela, W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, R. Somaweera, A. Watson, N. Weerasinghe, S. Wijeyamohan

Reviewers D. Brandon-Jones, W. Dittus, A. Eudey, A. Watson

Distribution range of *Loris tardigradus nordicus*



Distribution of *Loris tardigradus nordicus* in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA										
Habarana	-	-	-	-	-	-	-	-	-	Schulze, 2003
Tamanawa	-	-	-	-	-	-	-	-	-	Schulze, 2003
Cheddikulam	-	-	-	-	-	-	-	-	-	Schulze, 2003
Central Province										
<i>Kandy</i>										
VRR Sanctuary	~07°15'	~80°47'	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Matale</i>										
Dambulla - IFS	07°51'	80°40'	-	-	-	-	-	-	-	Participants from Sri Lanka
Arborateum	07°52'	80°43'	-	-	-	-	-	-	-	Participants from Sri Lanka
Kandalama	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Laggala-	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Pallegama	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Menikdena FR	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Nakelle	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Sirigiriya Sanctuary	07°57'	80°45'	-	-	-	-	-	-	-	Participants from Sri Lanka
Eastern Province										
<i>Ampara</i>										
Ampara Sanctuary	07°16'	81°40'	-	-	-	-	-	-	-	Participants from Sri Lanka
Inginivagala	07°16'	81°30'	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Trincomalee</i>										
Arugam Bay	08°34'	81°13'	-	-	-	-	-	-	-	Participants from Sri Lanka
Kantale FR	08°22'	8°00'	-	-	-	-	-	-	-	Participants from Sri Lanka
Northern Province										
<i>Jaffna</i>										
Chavakachheri	09°39'	80°09'	-	-	-	-	-	-	-	Schulze, 2003
Jaffna	-	-	-	-	-	-	-	-	-	Schulze, 2003
Point Pedro	09°50'	80°14'	-	-	-	-	-	-	-	Schulze, 2003
<i>Vavuniya</i>										
Mamaaduwa	08°49'	80°31'	-	-	-	-	-	-	-	Participants from Sri Lanka
Mannar	-	-	-	-	-	-	-	-	-	Schulze, 2003
Vavuniya	08°45'	80°30'	-	-	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Loris tardigradus nordicus* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
North Central Province										
<i>Anuradhapura</i>	08°21	80°23	-	-	-	-	-	-	-	Schulze, 2003
<i>Anuradhapura</i>	08°33	80°49	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Horowapotana</i>	-	-	-	-	-	-	-	-	-	Schulze, 2003
<i>Kekirawa</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Madaragam Atu (Wilpattu)</i>	-	-	-	-	-	-	-	-	-	Schulze, 2003
<i>Mihintale</i>	-	-	-	-	-	-	-	-	-	Schulze, 2003
<i>Ritigala Strict</i>	-	-	-	-	-	-	-	-	-	Schulze, 2003
<i>Nature Reserve</i>	-	-	-	-	-	-	-	-	-	Type locality at 16m. Hill, 1933
<i>Talawa</i>	08°13	80°21	-	-	-	-	-	-	-	Schulze, 2003
<i>Wilpattu NP</i>	-	-	-	-	-	-	-	-	-	Schulze, 2003
<i>Puttalam</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Andigama</i>	~7	~80	-	-	-	-	-	-	-	Participants from Sri Lanka
Polonnaruwa										
<i>Angamedilla NP</i>	07°50	80°55	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Flood Plains NP</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Girtale NP</i>	07°59	80°55	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Mannampitiya</i>	07°54	81°07	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Minneriya</i>	08°01	80°54	-	-	-	-	-	-	-	Schulze, 2003. Participants from Sri Lanka
Polonnaruwa										
<i>Sanctuary</i>	07°56	81°02	-	-	-	-	-	-	-	Schulze, 2003. Participants from Sri Lanka
Puttalam town										
<i>Somawathie NP</i>	08°01	79°55	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Wellikanda</i>	08°16	81°10	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Willachchiya</i>	07°55	81°13	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Willachchiya</i>	-	-	-	-	-	-	-	-	-	Schulze, 2003
Southern Province										
<i>Hambantota</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Surya Wewa</i>	06°19	81°00	-	-	-	-	-	-	-	Participants from Sri Lanka
Uva Province										
<i>Monaragala</i>	07°09	81°07	-	-	-	-	-	-	-	Schulze, 2003

***Loris tardigradus nycticeboides* Hill, 1942**

ENDANGERED

Synonyms	<i>Loris lydekkerinus nycticeboides</i> Brandon-Jones <i>et al.</i> , 2001
Family	Loridae
Level of assessment	Subspecies
Common names	Sinhalese: <i>Unahapuluwa</i> ; Tamil: <i>Thevaangu</i> ; English: Highland Slender Loris, Horton Plains Slender Loris, Montane Slender Loris
Notes on taxonomy	Hill (1942) is followed until further taxonomic work is published. Clarification of species status is available.
Habit	Nocturnal, arboreal, solitary, carnivore (small prey)
Habitat	Tropical montane rainforest/mist forest
Elevation	1650-2000m.
Distribution	
Global	Endemic to Sri Lanka
Extent of Occurrence	900 km ²
Area of Occupancy	600 km ²
Locations/subpopulations	5 / Not known. Fragmented. A continuous decline in locations/subpopulations highly likely in concert with habitat loss. Decline in locations/subpopulations by >80% in 200 years. According to government data, during last 42 years, the country has lost 50% of its forest cover and more than 50% if the last 10 years (1994-2003) is included. In addition, 80% of hill country forests were lost to coffee and tea plantations in the 19th century. There is a close relation between loss of critical habitat and population number. Therefore, the subspecies which inhabits the high elevation forest (favoured by tea plantations) has been reduced numerically by 80% over 200 years. This trend is continuing as high elevation natural forest is being converted to agriculture (vegetable plots and dairy pasture) and is cut for firewood. Some montane forests have been surveyed incompletely and therefore the area of occupancy of <i>L.t. nycticeboides</i> may be greater than indicated here.
Habitat status	Decrease in area of >80% in 200 years and is predicted to decline by >10% in the next 5 years due to agricultural land use. Decrease in quality due to deforestation, habitat degradation.
Threats	Land and water pollution, habitat loss due to agriculture, dairy husbandry, and vegetable cultivation
Trade	Local and commercial trade for eyes and meat by tea plantation workers. Possible village level trade for folk medicine.
Population	
Generation time	Estimated at 4-7 years.
Total population	Not known
Mature individuals	Not known

Population trend	Declined by >80% in the last 200 years and is predicted to decline by >20% in the next 10 years. Declined by >50% in 3 generations.	
Data source	Census or monitoring, informal sightings, indirect information, museum records; observed; minimum/maximum	
Status SAP CAMP (Ver. 3.1)	ENDANGERED	A2cd+4cd; B1ab(i,ii,iii,iv,v)
Rationale	The Dry Zone/Northern Slender Loris occurs only in dry zone forests tracts of Sri Lanka most of which is threatened due to human interference (see under threats). Habitat fragmentation over the years has depleted the area available for this dry-zone taxon and restricted it to several small pockets. From 1956-1993 Sri Lanka lost more than 50% of forest cover to human activities, followed by a similar rate of decline in the remaining forest cover between 1994 and 2003. Correlating loss of habitat to populations, rate of decline in population is inferred at more than 50% over 3 generations. Also due to continuing trends past and predicted declines could reduce the population by more than 50% within the next 11 to 22 years due to continuing decline in area, extent and quality of habitat along with actual and potential levels of exploitation of the species observed in the wild.	
2001 Red List (Ver. 2.3)	Endangered	A1c
Justification for change	Better / new information available at the workshop	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Protected under the Fauna and Flora Protection Ordinance Act No. 2, 1937 and subsequent amendments including Act No. 49, 1993 at the species level.	
CITES	Appendix I	
National RDB	Threatened	
Presence in Protected Areas		
Sri Lanka	<i>Central Province</i> : Siripagama WLS <i>Sabaragamuwa Province</i> : Peak Wilderness Sanctuary	
Recommendations		
Research	Genetic research, taxonomy, life history, population survey, epidemiology, trade, population genetics, behaviour and ecology	
Management	Habitat management, public education, limiting factor management, work in local communities, PHVA	
Captive stocks	Zoos, subspecies not known.	
Comments	If the natural habitat is conserved, the species will reproduce on its own and establish itself well. The size of possible habitat to which <i>L.t. nycticeboides</i> are endemic (montane rain and mist forest) is about 40,000 ha in several isolated areas. The subspecies has only been found in one of these areas, on Horton Plains. Osman Hill wrote of <i>L.t. nycticeboides</i> : "That the animal is rare in that locality is evidenced by the fact that Mr. Tunein-Noltenius has been on the look out for it for the previous twenty years without success". Only two specimens have ever been found (in 1938), they and their offspring died in captivity. No recent sightings. In 1982, rangers said that slender lorises still occur on Horton Plains where temperatures	

may fall below 0°C during a survey in 2001, however, rangers and researchers who have worked in the park for years said they have never seen heard any evidence of lorises here (Schulz, 2003).

Sources

Brandon-Jones *et al.*, 2002; Groves, 2001; Hilton-Taylor, 2000; IUCN, Sri Lanka, 2000; Jenkins, 1987; Schulze, 2003

Ecology and distributional data (in alphabetical order):
IUCN Sri Lanka. Biodiversity Field Research team (data communicated by R. Somaweera through workshop participants)
Primate Biology Program, Smithsonian Institution and Institute for Fundamental Studies: original data from W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe
University of Jaffna: S. Wijeyamohan
Biological Information Sheet (2002): W. Dittus

Compilers

Chief compilers: W. Dittus and A. Watson
Working group: J. Dela, W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, R. Somaweera, A. Watson, N. Weerasinghe, S. Wijeyamohan

Reviewers

D. Brandon-Jones, W. Dittus, A. Eudey, A. Watson

Distribution range of *Loris tardigradus nycticeboides*



Distribution of *Loris tardigradus nycticeboides* in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA										
Central Province										
<i>Nuwara Eliya</i>	06°52	80°43	-	-	-	-	-	-	-	Participants from Sri Lanka
Agarapatana	06°52	80°49	-	-	-	-	-	-	-	Participants from Sri Lanka
Ambewella	06°51	80°50	-	-	-	-	-	-	-	Participants from Sri Lanka
Pattipola	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Siripagama	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Uva Province										
Horton Plains	~06°50	~80°47	-	-	-	-	-	-	-	1,830m. Groves, 2001; No lorises found. Schulze, 2003

***Loris tardigradus tardigradus* (Linnaeus, 1758)**

ENDANGERED

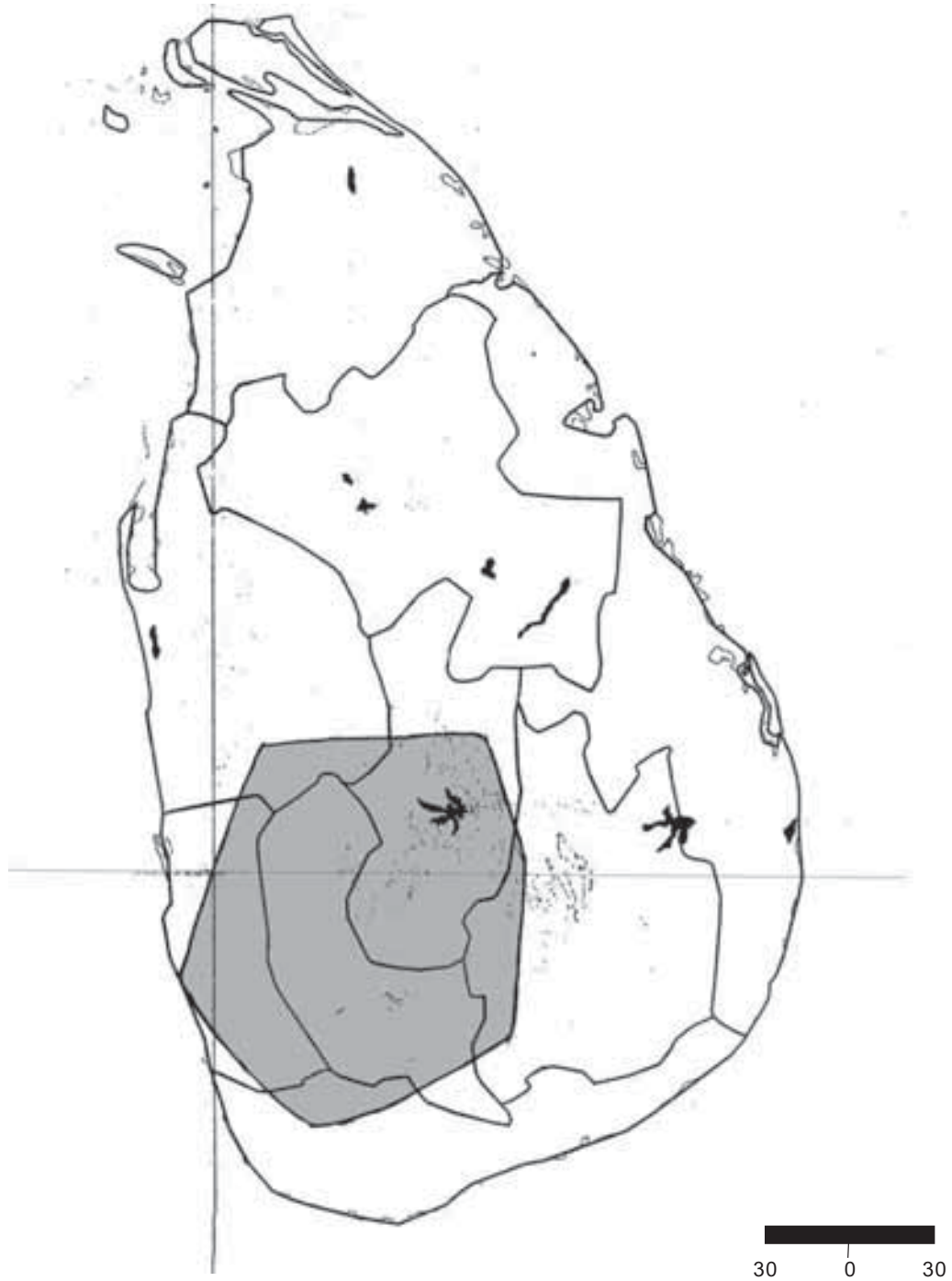
Synonyms	<i>Lemur tardigradus</i> Linnaeus, 1758 <i>Stenops tardigradus</i> (Linnaeus, 1758) <i>Loris gracilis</i> E. Geoffroy, 1796 <i>Lemur ceylonicus</i> Fischer, 1804 <i>Stenops gracilis</i> (Kuhl, 1820) <i>Loris ceylonicus</i> (Fischer) Lesson, 1827 <i>Arachnocebus lori</i> Lesson, 1840 <i>Bradylemur tardigradus</i> var. c: Lesson, 1840 <i>Nycticebus gracilis</i> (Blainville, 1841) <i>Tardigradus tardigradus</i> (Boddaert, 1841) <i>Loris gracilis zeylanicus</i> Lydekker, 1905 <i>Loris tardigradus</i> Thomas, 1908 <i>Loris tardigradus tardigradus</i> Hill and Phillips, 1932
Family	Loridae
Level of assessment	Subspecies
Common names	Sinhalese: <i>Unahapuluwa</i> ; Tamil: <i>Thevaangu</i> ; English: Red Slender Loris, Slender Loris
Notes on taxonomy	Hill (1942) is followed until published clarification of species status is available.
Habit	Arboreal, nocturnal, solitary, insectivorous, frugivorous, carnivorous (small prey)
Habitat	Tropical rain, swampy coastal and evergreen forests, wet zone lowland forest
Elevation	Up to 700m.
Distribution	
Global	Endemic to Sri Lanka
Extent of Occurrence	7600 km ²
Area of Occupancy	2200 km ² including possible intermediate types.
Locations/subpopulations	41 / Not known. Fragmented.
Habitat status	Decrease in area of >50% in the last 40 years or more and is predicted by >20% in the next 10 years. Decrease in quality due to loss of ecologically critical forest and habitat loss due to urbanisation. Tropical evergreen forests in the Central Hills are continuing to be converted for human use. As large home gardens and small estates are urbanized, this taxon is deprived of refuges.
Threats	Deforestation due to urbanisation Threats well understood, not reversible, not ceased
Trade	Local, domestic, commercial trade for meat
Population	
Generation time	Estimated to be 4-7 years.
Total population	Not known

Mature individuals	Not known
Population trend	Declined by >50% in 3 generations and is predicted to decline by >10% in the next 5 years. There is a 1:1 relationship between loss of critical habitat and population number. According to government data, during last 42 years, the country has lost 50% of its forest cover thus brought down the population of the species by 50%.
Data source	Census or monitoring, field study, informal sightings, indirect information, museum records, literature; observed; minimum/maximum
Status SAP CAMP (Ver. 3.1)	ENDANGERED A2cd+4cd
Rationale	The Red Slender Loris occurs only Sri Lanka most of which is threatened due to human interference (see under threats). Habitat fragmentation over the years has depleted the area available for this dry-zone taxon and restricted it to several small pockets. From 1956-1993 Sri Lanka lost more than 50% of forest cover to human activities, followed by a similar rate of decline in the remaining forest cover between 1994 and 2003. Correlating loss of habitat to populations, rate of decline in population is inferred at more than 50% over 3 generations. Also due to continuing trends past and predicted declines could reduce the population by more than 50% within the next 11 to 22 years due to continuing decline in area, extent and quality of habitat along with actual and potential levels of exploitation of the species observed in the wild.
2001 Red List (Ver. 2.3)	Endangered A1c
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	Protected under the Fauna and Flora Protection Ordinance Act No. 2, 1937 and subsequent amendments including Act No. 49, 1993 at the species level.
CITES	Appendix I
National RDB	Threatened
Presence in Protected Areas	
Sri Lanka	<i>Central Province:</i> Gampola-Ambuluwela Biodiversity Park, Udawattekele Sanctuary, Victoria-Randenigala-Rantembe Sanctuary, Walker Estate <i>Sabaragamuwa Province:</i> Kurulukele Sanctuary, Peak Wilderness Sanctuary; Sinharaja World Heritage site, Udawalawe Sanctuary <i>Western Province:</i> Attidiya-Belanwila Sanctuary, Ingiriya (Dombegaskande) FR, Muthurajawela Wetland Reserve
Recommendations	
Research	Genetic research, taxonomy, life history, survey, epidemiology, limiting factor, trade
Management	Habitat management, wild population management, monitoring, public education, limiting factor management, work in local communities
Captive stocks	Colombo Zoo 1.2.0.3; India in 3 zoos (5.2.1.8); World over 15.13.4.32 in 10 institutions
Comments	If its habitat is preserved, the species will recover naturally The wet zone of Sri Lanka, habitat of <i>L. t. tardigradus</i> , covers 23% of the island (Total size: 66,000 km ²). During a survey in 2001, in four locations visited, 24 actual sightings (excluding carried infants and calls) of <i>L. t. tardigradus</i> were made; densities ranged from 0.86-11.7 animals per kilometer. Despite finding this species

in two isolated forest patches, it has disappeared from much of its range as human settlements have expanded.

- Sources** Brandon-Jones *et al.*, 2002; CZA, 2000-2001; Groves, 2001; Hilton-Taylor (Compiler) (2000); IUCN Sri Lanka (2000); ISIS Abstract Report , 2001; Jenkins, 1987; Phillips, 1935; SAZARC, 2001; Schulze, 2003
Ecology and distributional data (in alphabetical order):
IUCN Sri Lanka. Biodiversity Field Research team (data communicated by R. Somaweera through workshop participants)
Primate Biology Program, Smithsonian Institution and Institute for Fundamental Studies: original data from W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe. University of Jaffna: S. Wijeyamohan
Biological Information Sheet (2002): W. Dittus
- Compilers** Chief compilers: W. Dittus and A. Watson
Working group: J. Dela, W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe, S. Wijeyamohan
- Reviewers** D. Brandon-Jones, W. Dittus, A. Eudey, A. Watson

Distribution range of *Loris tardigradus tardigradus*



Distribution of *Loris tardigradus tardigradus* in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA									
Bandaragama	-	-	-	-	-	-	-	-	Schulze, 2003
Gonapola	-	-	-	-	-	-	-	-	Schulze, 2003
Henaratgoda	-	-	-	-	-	-	-	-	Schulze, 2003
Kesbewa	-	-	-	-	-	-	-	-	Schulze, 2003
Madampe	-	-	-	-	-	-	-	-	Schulze, 2003
Nugegoda	-	-	-	-	-	-	-	-	Schulze, 2003
Wellawatta	-	-	-	-	-	-	-	-	Schulze, 2003
Central Province									
<i>Kandy</i>	07°17	80°39	-	-	-	-	-	-	Probably an intermediate type between <i>L. t. tardigradus</i> and <i>L. t. grandis</i> . Participants from Sri Lanka
<i>Aruppola</i>	~07°09	~80°34	-	-	-	-	-	-	Probably an intermediate type between <i>L. t. tardigradus</i> and <i>L. t. grandis</i> . Participants from Sri Lanka
Gampola – Ambuluwawa Biodiversity Park									
<i>Gannoruwa PR</i>	07°16	80°34	-	-	-	-	-	-	Probably an intermediate type between <i>L. t. tardigradus</i> and <i>L. t. grandis</i> . Participants from Sri Lanka
Hantana									
<i>Hantana</i>	-	-	-	-	-	-	-	-	Probably an intermediate type between <i>L. t. tardigradus</i> and <i>L. t. grandis</i> . Participants from Sri Lanka
Peradeniya	07°15	80°40	-	-	-	-	-	-	Groves, 2001. Participants from Sri Lanka
Udawattekele Sanctuary	07°18	80°39	-	-	-	-	-	-	Participants from Sri Lanka
Udispattuwa	-	-	-	-	-	-	-	-	Probably an intermediate type between <i>L. t. tardigradus</i> and <i>L. t. grandis</i> . Participants from Sri Lanka
VRR Sanctuary	~07°15	~80°47	-	Wet West	-	-	-	-	Probably an intermediate type between <i>L. t. tardigradus</i> and <i>L. t. grandis</i> . Participants from Sri Lanka
Walker estate (Municipal FR)	07°27	80°37	-	-	-	-	-	-	Probably an intermediate type between <i>L. t. tardigradus</i> and <i>L. t. grandis</i> . Participants from Sri Lanka

Distribution of *Loris tardigradus tardigradus* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Matale</i> Meemura	-	-	-	-	-	-	-	-	-	<i>t. grandis</i> . Participants from Sri Lanka
North Western Province <i>Kurunegala</i> Kuliyapitiya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Nathagane	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Polgahawela	07°20	80°19	-	-	-	-	-	-	-	Participants from Sri Lanka Schulze, 2003
Sabaragamuwa Province <i>Kegalle</i> Kitulgala	07°00	80°24	-	Riverine	-	-	-	-	-	Hill, 1933; Phillips, 1935 Participants from Sri Lanka Participants from Sri Lanka
Kurulukalle Sanctuary	-	-	-	Highly disturbed	-	-	-	-	-	Participants from Sri Lanka
<i>Ratnapura</i> Peak Wilderness Sanctuary	06°46	80°32	-	-	-	-	-	-	-	Probably an intermediate type between <i>L.t. tardigradus</i> and <i>L.t. grandis</i> . Participants from Sri Lanka
Sinharaja Research Station	06°24	80°30	-	Rain forest	-	-	-	-	-	Participants from Sri Lanka
Udawalawa NP	06°27	80.°2	-	-	-	-	-	-	-	Participants from Sri Lanka
Southern Province <i>Galle</i> Hinduma	06°19	80°19	-	-	-	-	-	-	-	Participants from Sri Lanka
Neluwa	06°22	80°22	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Matara</i> Masmulah PRF	-	-	-	-	-	-	-	-	-	Schulze, 2003
Western Province <i>Colombo</i> Attidiya	06°49	79°52	-	-	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Loris tardigradus tardigradus* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Sanctuary (in Belanwila)	06°42	79°58	-	-	-	-	-	-	-	Participants from Sri Lanka Schulze, 2003
Bolgoda	06°56	79°51	-	-	-	-	-	-	-	A. Nekaris. Participants from Sri Lanka
Colombo	~06°52	~79°56	-	-	-	-	-	-	-	
Maharagama										
<i>Gampaha</i>										
Gampaha	-	-	-	-	-	-	-	-	-	Schulze, 2003
Mambulakanda	-	-	-	-	-	-	-	-	-	Schulze, 2003
Mirigama	07°15	80°07	-	-	-	-	-	-	-	Participants from Sri Lanka
Muthurajawela	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Wetland Reserve										
<i>Kalutara</i>										
Dombagaskande	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
FR										
Horana	06°43	80°03	-	-	-	-	-	-	-	Participants from Sri Lanka
Ingiriya FR	06°43	80°10	-	-	-	-	-	-	-	Participants from Sri Lanka
Mathugama	06°32	80°05	-	-	-	-	-	-	-	Hill, 1933; Phillips, 1935
Panadura	06°43	79°54	-	-	-	-	-	-	-	Participants from Sri Lanka

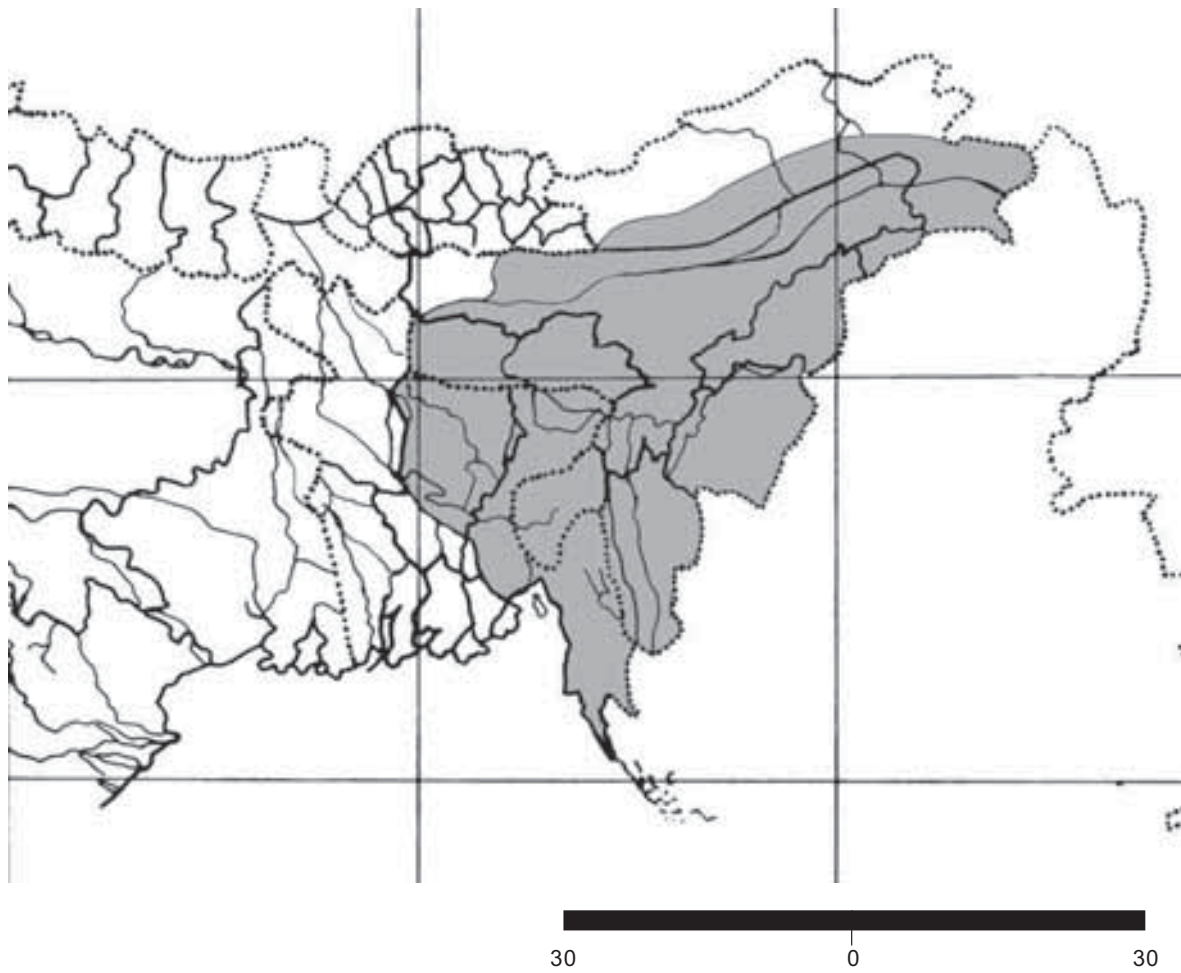
***Nycticebus bengalensis* (Lacépede, 1800)**

DATA DEFICIENT in South Asia

Synonyms	<i>Loris bengalensis</i> Lacépede, 1800 <i>Nycticebus coucang bengalensis</i> Lacépede, 1800 <i>Nycticebus cinereus</i> Milne-Edwards, 1867 <i>Nycticebus tardigradus typicus</i> Lydekker, 1905 <i>Nycticebus tenasserimensis</i> Elliot, 1913 <i>Nycticebus incanus</i> Thomas, 1921
Family	Loridae
Common names	Assamese: <i>Lajuki bandar</i> ; Bengali: <i>Lajiwati bandar</i> ; Hindi: <i>Sharimindi billi</i> ; Nepali: <i>Lajbarti bandar</i> ; English: Bengal Loris, Bengal Slow Loris, Northern Slow Loris, Slow Loris
Level of assessment	Species
Notes on taxonomy	The recognition of <i>Nycticebus bengalensis</i> as a species follows Groves (1998).
Habit	Nocturnal, arboreal
Habitat	Tropical evergreen rain forest, semi-evergreen forest, moist deciduous forest
Niche	Upper and middle canopy dweller.
Elevation	Up to 1,300m.
Distribution	
Global	Bangladesh, India, Myanmar, Cambodia, Laos, Thailand, Vietnam, China
South Asia	Bangladesh, India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,001 km ²
Locations/Subpopulations	25 / Not known. Fragmented.
Habitat status	Decrease in area observed (rate and period of decline not known). Decrease in quality due to encroachment, tree felling and jhooming.
Threats	Fisheries, habitat loss due to building roads, dams, power lines, fragmentation, soil loss/erosion, deliberate fires, hunting and trade for food, traditional medicine, and sport, accidental mortality, trapping, human interference, predators Threats well understood, not reversible, not ceased
Trade	Local trade for meat, food and medicine and live animal as pets.
Population	
Generation time	Not known
Total population	Not known
Mature individuals	Not known
Population trend	Has declined and is predicted to decline (Rate of decline and period not known)

Data source	Field study; observed; minimum/maximum
Status SAP CAMP (Ver. 3.1)	DATA DEFICIENT in South Asia
Rationale	All the data presented here are from captured individuals from the mentioned localities so categorized as Data Deficient. Information on this species from within South Asia is scanty to warrant any confident assessments.
2001 Red List (Ver. 2.3)	Data Deficient
National Status	Bangladesh: Data Deficient India: Data Deficient
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	Bangladesh: Schedule III, Bangladesh Wildlife (Preservation) (Amendment) Act, 1974. India: Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix II
Presence in Protected Areas	
India:	<i>Arunachal Pradesh</i> : Itanagar WLS, Mehao NP, Namdapha NP, Pakhui WLS <i>Assam</i> : Chakrasila WLS, Dibru-Saikhwa WLS, Gibbon WLS, Kaziranga NP, Borajan WLS, Pobitora WLS <i>Meghalaya</i> : Balpakam NP, Nokrek NP <i>Mizoram</i> : Dampa NP, Nengpui WLS <i>Tripura</i> : Sepahijala WLS
Recommendations	
Research	Survey
Management	Habitat management, wild population management, monitoring, public education
Captive stocks	South Asia: 10 zoos (8.9.0.17) 8 zoos in India (6.6.0.12) and 2 zoos in Bangladesh (2.3.0.5) World over: 37 institutions (62.57.6.125) recognized as <i>N. coucang</i> .
Comments	Extensive survey is required for assessing the distribution and status. Threat identification is needed for proper management plan.
Sources	Brandon-Jones <i>et al.</i> , 2002; CZA 2000-2001; Groves, 2001; Hilton-Taylor, 2000; ISIS Abstract Report, 2001; Jenkins, 1987; SAZARC, 2002 C.A.M.P. questionnaire on protected areas (2002): M. Barua, S.S. Chandiramani, S. Debbarma, C. Loma, W.G. Momin, G. Santha, A.K. Sen
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, M.M. Feeroz, Awadesh Kumar, R. Medhi, S. Mitra
Reviewers	D. Brandon-Jones, A. Eudey

Distribution range of *Nycticebus bengalensis* in Bangladesh and India



Distribution of *Nycticebus bengalensis* in Bangladesh and India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BANGLADESH Chittagong Kaptai	22° 21'	92°17'	10	SE	Hunting (P/P/r/F), habitat destruction (P/P/r/F)	Decline 75/10	Decline 10/75	-	-	M.M. Feeroz, pers. comm..
Sylhet Moulvi Bazar West Bhanugach FR	24°21'	91°48'	20	SE	Hunting (P/P/r/F), habitat destruction (P/P/r/F)	Decline	Decline	-	-	Khan & Ahsan, 1984
INDIA Arunachal Pradesh Changlang Namdapha NP?	~27°39'	~96°30'	-	TE	-	-	-	-	-	Found in adjacent areas. S.S. Chandiramani, 2002
Lower Dibang Mehao WLS	~27°39'	~96°15'	-	-	-	-	-	-	-	Rare in adjacent areas, A.K. Sen, 2002
East Kameng Pakhui WLS	27°14'	92°51'	-	ST	Hunting (P/P/r/F), habitat destruction (P/P/r/F)	Decline	Decline	30	-	Jayantha Das, Rekha Medhi in 6 groups. Found in adjacent areas too. C. Loma, 2002
Papum Pare Itanagar WLS	-	-	-	ST	Hunting (P/P/r/F), habitat destruction (P/P/r/F)	Decline	Decline	-	-	Awadesh Kumar pers. comm.
Assam Dhubri Chakrasila WLS	26°20'	90°18'	-	MD	Hunting (P/P/r/F), habitat destruction (P/P/r/F)	Decline	Decline	-	-	IUSPP
Goalpara Goalpara	26°10'	90°38'	-	SE	Hunting (P/P/r/F), habitat destruction (P/P/r/F)	Decline	Decline	-	-	IUSPP
Golaghat Kaziranga NP	~26°37'	~93°18'	-	TMD	Hunting (P/P/r/F), habitat destruction (P/P/r/F)	Decline	Decline	-	-	IUSPP

Distribution of *Nycticebus bengalensis* in Bangladesh and India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Jorhat</i> Gibbon WLS	-	-	-	-	-	-	-	-	-	G. Sanitha, 2002 IUSPP
<i>Kamrup</i> Basistha RF	~26°19'	~91°15'	-	TWE	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP
Ranni RF	-	-	-	MD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP
<i>Karbi Anglong</i> Bonlander RF	-	-	-	TWE	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP
Dhansiri RF	-	-	-	TWE	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP
<i>Marigaon</i> Pobitora WLS	-	-	-	-	-	-	-	>20	-	Found in adjacent areas too. M. Barua, 2002
<i>North Cachar</i> Borail RF	-	-	-	TWE	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP
Innerline RF	-	-	-	TWE	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP
Langting Mupa RF	25°30'	90°07'	-	TWE	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP
<i>Tinsukhia</i> Borajan WLS	27°05'	95°04'	-	TWE	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP. Not sighted recently Helga, 2003 IUSPP
Dibru Saikhuwa NP	27°40'	95°24'	-	TWE	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP
Meghalaya East & West Garo Nokrek NP	-	-	-	TMD	Hunting (P/Pr/F)	-	-	-	-	IUSPP
<i>South Garo</i> Balpakram NP	-	-	-	SE, TMD	Hunting (P/Pr/F), Habitat destruction (P/Pr/F)	-	-	-	-	IUSPP
Mizoram <i>Chintupui</i> Nengpui WLS	-	-	-	-	-	-	-	-	-	IUSPP

Distribution of *Nycticebus bengalensis* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Mamit</i> Dampa WLS	-	-	-	-	-	-	-	-	-	IUSPP
Tripura West Tripura Sepahijala WLS	-	-	-	-	-	-	-	-	-	S. Debbarma, 2002

MD - Moist Deciduous forest; SE - Semi-evergreen forest; ST - Subtropical forest; TE - Tropical Evergreen forest; TMD - Tropical Moist Deciduous forest; TWE - Tropical Wet Evergreen forest

Macaca arctoides (I. Geoffroy Saint-Hilaire, 1830)**CRITICALLY ENDANGERED in South Asia**

Synonyms	<i>Macacus arctoides</i> I. Geoffroy, 1831 <i>Papio melanotus</i> Ogilby, 1839 <i>Macacus ursinus</i> Gervais, 1854 <i>Macacus brunneus</i> Anderson, 1871 <i>Macacus rufescens</i> Anderson, 1872 <i>Macacus speciosus</i> Murie, 1873 <i>Macacus (Magus) arctoides melli</i> Matschie, 1912
Family	Cercopithecidae
Level of assessment	Species
Common names	Assamese: <i>Senduri bandar</i> ; Bengali: <i>Sinduri banar</i> ; Garo: <i>Makre-Khimdonza</i> ; Hindi: <i>Sinduri bandar</i> ; Mizo: <i>Zowng Hmalsen</i> ; Naga: <i>Chantee</i> ; Nepali: <i>Linde bandar</i> ; Riyang: <i>Mukhraeka</i> ; English: Bear Macaque, Red-faced Stump-tailed Macaque, Stump-tailed Macaque
Notes on taxonomy	Association of this species in a clade with <i>M. fascicularis</i> according to Morales and Melnick (1998). According to Delson (1980) and Fooden (1990), there is an association with the <i>M. sinica</i> group. In Napier (1981), 3 subspecies are distinguished: <i>M.a. arctoides</i> in India, Northeast Myanmar, Vietnam and Laos; <i>M.a. melanota</i> in Burma, Thailand and Malaya; and <i>M.a. melli</i> in North Vietnam and South China.
Habit	Terrestrial, arboreal, diurnal, feeds on predominantly seed and fruits.
Habitat	Tropical semi-evergreen forest, tropical wet evergreen forest, tropical moist deciduous forest
Niche	Different strata of the forest.
Elevation	50-1300m.
Distribution	
Global	Bangladesh?, India, Northern Myanmar, China south into West Malaysia, Thailand
South Asia	Bangladesh?, India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	<500 km ²
Locations/subpopulations	21/ 7, Fragmented
Habitat status	Decrease in area of >20% in the last 10 years and predicted to decrease by >30% in the next 10 years due to habitat destruction. Decrease in quality due to habitat alteration and selective felling.
Threats	Selective logging, timber and firewood collection for charcoal, fisheries, building roads, dams, power lines, deliberate fires, fragmentation, soil loss/erosion, hunting and trade for food, sport and traditional medicine, accidental mortality due to trapping.
Trade	Local trade for bones, meat for food and live animal as pets

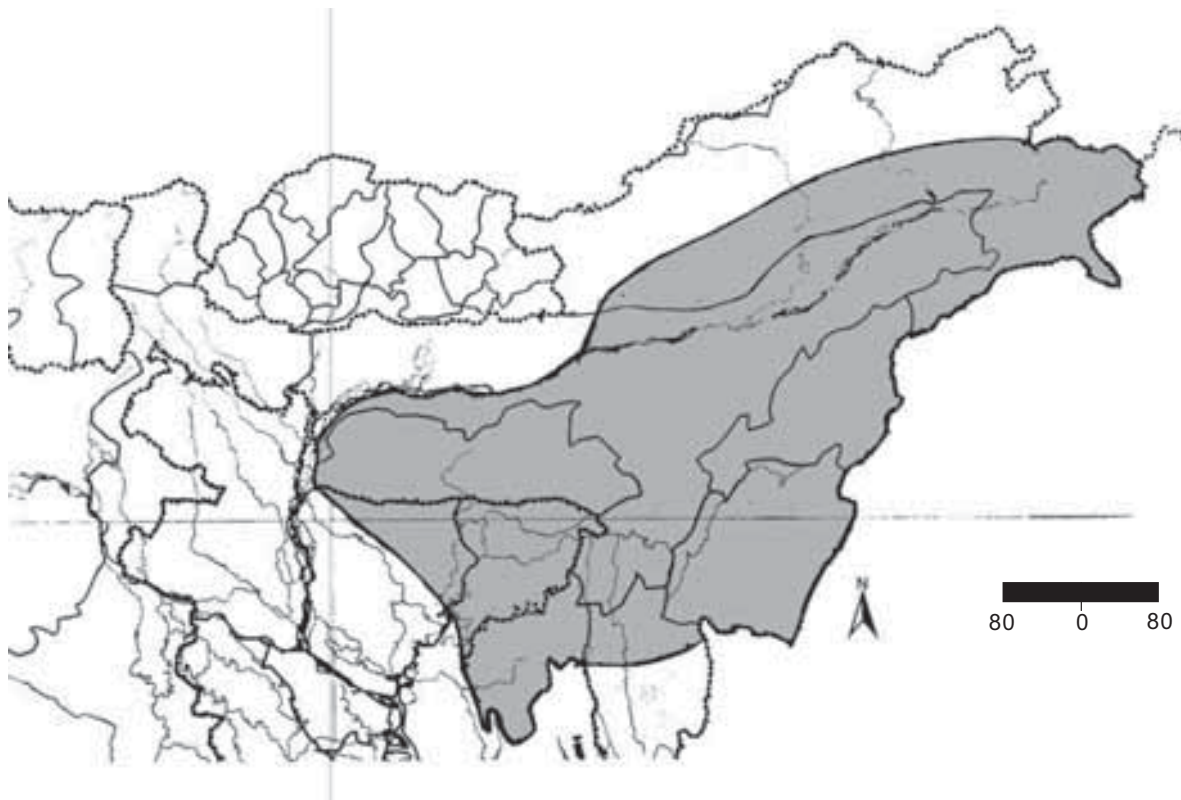
Population	
Generation time	10-12 years
Total population	<250
Mature individuals	<130
Population trend	Declining
Data source	Census or monitoring, field study; observed; 95% confidence
Status	
SAP CAMP (Ver. 3.1)	CRITICALLY ENDANGERED in South Asia C2a(i)
Rationale	<i>Macaca arctoides</i> is found in around 21 locations and 7 subpopulations in India most of which are threatened due to human interference (see under threats). Habitat fragmentation over the years has depleted the area available for this habitat-specific taxon and restricted it to several small pockets that are non-viable. Hunting along with habitat degradation has reduced the total mature population of this species to around 126 in South Asia, a reason why it is categorized as Critically Endangered in the region.
2001 Red List (Ver. 2.3)	Vulnerable A1cd
Justification for change	New / better information available.
National Status	
	Bangladesh: Locally Extinct Occurrence of this species within Bangladesh is doubtful. It was last recorded in 1982 and 1989 and field studies since then have not revealed their presence. India: Critically Endangered C2a(i) The Indian population of this species is Critically Endangered as the numbers are very few and fragmented from the neighbouring Myanmar populations. Continuing decline in the species population and the lack of opportunity for recolonization are factors that favour retaining the status as Critically Endangered in India.
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	Schedule II, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix II
Presence in Protected Areas	
India	<i>Arunachal Pradesh</i> : Mehao WLS, Namdapha WLS?, Pakhui WLS? <i>Assam</i> : Gibbon WLS <i>Meghalaya</i> : Balpakram NP <i>Mizoram</i> : Murlen NP
Recommendations	
Research	Genetic research, survey, ecological studies
Management	Habitat management, wild population management, monitoring, public education
Captive stocks	South Asia: India in 10 zoos (20.21.0.41), World over: 15 institutions (25.26.1.52)
Comments	In Indian context, to ensure more legal protection, the species should be upgraded from Schedule II to Schedule V in Indian Wildlife Protection Act, 1972, more areas with Stump-tailed Macaque must come under PA network. Detailed survey in

northeastern India (Nagaland, Mizoram, Manipur, Arunachal Pradesh, Meghalaya) with proper documentation is needed urgently. The report of sighting by Awadesh Kumar of NERIST in Pakhui WLS in Arunachal Pradesh is not accepted by the researchers of Indo-US Primate Project NE Centre and researchers of Department of Zoology, Guwahati University, Assam.

Macaca arctoides is recorded by Khan (1982) and subsequently by IUCN (2000). Detailed survey is essential in northeastern Bangladesh since there is no sightings since 1990 (M.M. Feeroz, pers. comm.).

Sources	Brandon-Jones <i>et al.</i> , 2002; Champion and Seth, 1968; Chetry <i>et al.</i> , 2001; CZA, 2000-2001; Groves, 2001, ISIS Abstract Report, 2001; Hilton-Taylor, 2000; Napier, 1981; SAZARC, 2001 Biological Information Sheets (2002): J. Biswas, D. Chetry C.A.M.P. questionnaire on protected areas (2002): S.S. Chandiramani, C. Loma, G. Santha, A.K. Sen
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, M.M. Feeroz, R. Medhi, S.K. Sahoo
Reviewers	D. Brandon-Jones, D. Chetry, J. Das, A. Eudey, S. Mitra, M.S. Pradhan

Distribution range of *Macaca arctoides* in Bangladesh? and India



Distribution of *Macaca arctoides* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA										
Arunachal Pradesh										
<i>Lower Dibang</i>	~27°39'	~96°15'	-	-	-	-	-	-	-	Common in adjacent areas too A.K. Sen, 2002
<i>Mehao WLS</i>										
Kameng (East)										
Bhola Nallah (Pakhui WLS?)	~27°14'	~92°51'	-	-	-	-	-	8	3?	IUSPP, Annual reports; C. Loma, 2002
Changlang										
Namdapha NP?	~27°39'	~96°30'	-	-	-	-	-	-	-	Found in adjacent areas. S.S. Chandiramani, 2002
Assam										
Brahmaputra (south)	-	-	-	-	-	-	-	-	-	Groves, 2001
Tipamukh	-	-	-	-	-	-	-	-	-	V. Ramakantha
Cachar										
Bamboo Nallah	~25°31'	~93°17'	<3	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	5	5	Chetry <i>et al.</i> , IUSPP
Barail RF	93°09'	93°09'	<3	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	4	2	Chetry <i>et al.</i> , IUSPP
Jamardagpat (Innerline RF)	-	-	1.6	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	11	6	Chetry <i>et al.</i> , IUSPP
North Cachar RF										
1. Kaladhar	-	-	3.79	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	1	1	Chetry <i>et al.</i> , IUSPP
2. Kalain	-	-	-	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	4	2	Chetry <i>et al.</i> , IUSPP
3. Makhichera	-	-	-	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	2	2	Chetry <i>et al.</i> , IUSPP
4. Manipurpunji	-	-	-	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	35	13	Chetry <i>et al.</i> , IUSPP Annual reports, 1994-99
5. Maruachera	-	-	-	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	7	3	Chetry <i>et al.</i> , IUSPP
Khasi hills										
Laiterai	-	-	-	-	-	-	-	-	-	Napier, 1981
Naga hills										

Distribution of *Macaca arctoides* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Dikho River Merangkong	26°30'	94°45'	-	-	-	-	-	-	-	455m, Napier, 1981
Gibbon WLS	-	-	19.06	TSE	Habitat destruction (P), hunting (P/Pr/F)	Decline	Increase	105	48	Napier, 1981 Chetry <i>et al.</i> , IUSPP, G. Santha, 2002
Meghalaya South Garo hills	-	-	-	-	-	-	-	-	-	-
Balpakram NP	-	-	22	TMD	Habitat destruction (F), hunting (P/Pr)	Decline	Decline	2	2	Chetry <i>et al.</i> , IUSPP
Nokrek RF	-	-	4.75	TMD	Habitat destruction (F), hunting (P/Pr)	Decline	Decline	10	5	Chetry <i>et al.</i> , IUSPP
Mizoram Champai	-	-	-	-	-	-	-	-	-	-
Murlen NP	23°37'	93°18'	20	TMD	Habitat destruction (P/Pr/F), hunting (P/Pr)	Decline	Decline	4	4	Chetry <i>et al.</i> , IUSPP
Tripura No exact location	-	-	46	-	-	-	-	35	30	Gupta, 1994

TMD - Tropical Moist Deciduous forest, TSE - Tropical Semi-evergreen forest, TWE - Tropical Wet Evergreen forest

Macaca assamensis assamensis (McClelland, 1839)

ENDANGERED in South Asia

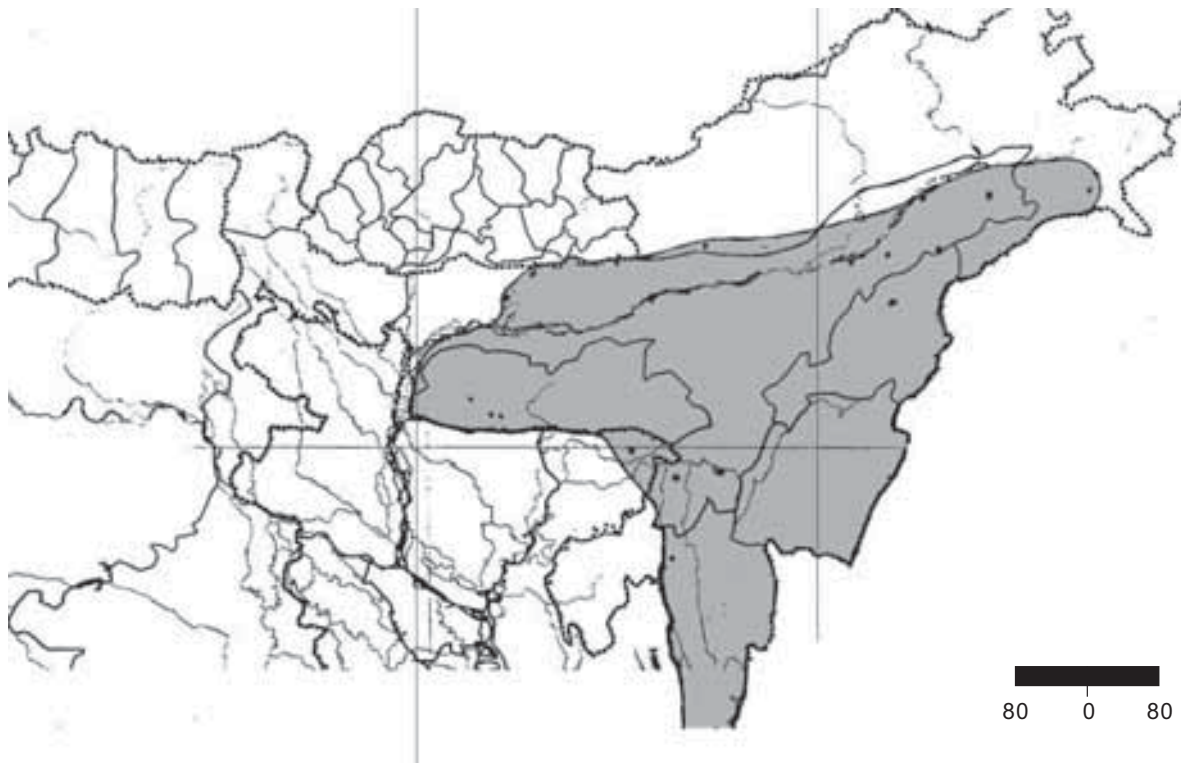
Synonyms	<i>Macacus assamensis</i> McClelland, 1839 <i>Macacus rheso-similis</i> Sclater, 1872 <i>Macaca assamensis coolidgei</i> Osgood, 1932
Family	Cercopithecidae
Level of assessment	Subspecies
Common names	Assamese: <i>Asomia molua</i> ; Barman: <i>Jongak</i> ; Bhutia: <i>Poi</i> ; Garo: <i>Makre-dow</i> ; Lepcha: <i>Sahu</i> ; Mizo: <i>Zwongpu</i> ; Riyang: <i>Taiman ukhra</i> ; English: Assam Macaque, Eastern Assamese Macaque
Notes on taxonomy	The 2 subspecies recognized for <i>M. assamensis</i> are those recognized by Fooden (1982).
Habit	Arboreal, diurnal
Habitat	Tropical evergreen forest, subtropical evergreen forest, semi-evergreen broad-leaved forest
Niche	Broad-leaved evergreen forest, semi-evergreen forest, moist deciduous forest
Elevation	50-1300m.
Distribution	
Global	Bangladesh, India, Myanmar, Laos, Thailand, Vietnam, China
South Asia	Bangladesh, India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,001 km ²
Locations/subpopulations	46 / 32. Fragmented. Declined by 50% in the last 10 years.
Habitat status	Decrease in area by >20% in the last 10 years and predicted to decline by >30% in the next 10 years due to selective logging. Decrease in quality due to loss of fruiting trees, altered habitat, encroachment and habitat shrinkage.
Threats	Selective logging, timber collection and firewood for charcoal production, fisheries, building roads, dams, power lines, deliberate fires, fragmentation, soil loss/erosion, hunting for sport, hunting and trade for food and traditional medicine, accidental mortality by trapping, alien invasive species, predators, hybridization.
Trade	Local trade for bones, meat for food and live animal as pets. Trade for meat is resulting in population decline.
Population	
Generation time	10 years
Total population	<475 [Bangladesh = <50; India = <425]
Mature individuals	<300 [Bangladesh = <30; India = <280]

Population trend	Population is declining at an unknown rate and is predicted to decline by >30% in the next 10 years	
Data source	Census or monitoring, field study; observed; 95% confidence	
Status SAP CAMP (Ver. 3.1)	ENDANGERED in South Asia	C2a(i)
Rationale	<i>Macaca assamensis assamensis</i> is found in around 46 locations and 32 subpopulations in India and Bangladesh, most of which are threatened due to human interference (see under threats). Habitat fragmentation over the years has depleted the area available for this habitat-specific taxon and restricted it to several small pockets that are nonviable. Hunting along with habitat degradation has reduced the total mature population of this species to around 300 in South Asia, a reason why it is categorized as Endangered in the region, although there are some populations that are contiguous with neighbouring Myanmar.	
2001 Red List (Ver. 2.3)	Vulnerable (Global)	A1cd
National Status	Bangladesh: Critically Endangered C2a(i); D This taxon is highly restricted and fragmented in Bangladesh with very few individuals, making it vulnerable to a high risk of local extinction due to changes in habitat and other threats. Since the taxon is equally threatened in the neighbouring locations in India, its status in Bangladesh is Critically Endangered and retained as such. India: Endangered C2a(i) The threats to this taxon in India are as severe making it Endangered. Since there are some populations bordering Myanmar that are contiguous, habitat and population protection within the country to lower the probability of extinction of this taxon within India. It is therefore retained as Endangered.	
Uncertainty	Assessment not based on full range of plausible values and it is based on evidence. Assessment derived based on the consensus of the entire working group and all the participants.	
Wildlife Legislation	Bangladesh: Schedule III, Bangladesh Wildlife (Preservation) (Amendment) Act, 1974. India: Schedule II, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002	
CITES	Appendix II	
Presence in Protected Areas	India: <i>Arunachal Pradesh</i> : Namdapha NP, Pakhui WLS <i>Assam</i> : Bherjan WLS, Borajan WLS, Dibru-Saikhowa NP, Garampani WLS, Gibbon WLS, Kaziranga NP, Manas NP <i>Meghalaya</i> : Nokrek NP, Balpakram NP, Siju WLS <i>Mizoram</i> : Dampa NP, Nengpui WLS, Phawngpui Blue Mountain WLS	
Recommendations		
Research	Taxonomic research, survey, life history, limiting factor research	
Management	Habitat management, wild population management, monitoring, public education, limiting factor management, PHVA	
Captive stocks	12 zoos in India (52.37.10.99), 1 zoo in Bangladesh (1.0.0.1) and 1 zoo in Nepal (1.1.0.2). World over: 1 institution (2.2.0.4). Subspecies not known.	
Comments	More survey essential for the accurate evaluation of the status of this species. This is based on the actual figures of this species of northeastern India only with proper	

documentation. The forest department personnel in Assam do not differentiate this taxon from the more common Rhesus Macaque. There is also an occasional trade in meat of this taxon as food in Nagaland (P. Sarkar, BIS). This taxon was recorded twice during the last 11 years of field survey of primates only in one area of northeast of Bangladesh (M.M. Feeroz, BIS).

Sources	Brandon-Jones <i>et al.</i> , 2002; CZA, 2000-2001; Hilton-Taylor, 2000; ISIS Abstract Report, 2001; IUSPP Annual reports, 1994-99; Napier, 1981; SAZARC, 2001
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, M.M. Feeroz, Awadesh Kumar, R. Medhi, Biological Information Sheets (2002): M.M. Feeroz, P. Sarkar C.A.M.P. questionnaire on protected areas: S.S. Chandiramani, C. Loma, W.G. Momin, G. Santha
Reviewers	D. Brandon-Jones, D. Chetry, J. Das, A. Eudey, S. Mitra, M.S. Pradhan

Distribution range of *Macaca assamensis assamensis* in Bangladesh and India



Distribution of *Macaca assamensis* in Bangladesh and India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BANGLADESH Sylhet <i>Moulvi Bazar</i> Pathalia RF	-	-	5	SE	Habitat destruction (P/Pr/F)	-	-	15-25	8-17	Ahsan, 1984; Feeroz <i>et al.</i> , 1995
<i>Patiala</i> Bonolakale	-	-	5	SE	Habitat destruction (P/Pr/F)	Decline	Decline	25	8-17	Ahsan, 1984; Feeroz <i>et al.</i> , 1995
INDIA Arunachal Pradesh <i>Changlang</i> Namdapha NP	~27°39'	~96°30'	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99 Found in adjacent areas. S.S. Chandiramani, 2002
<i>East Kameng</i> Ladung Nallah Pakhui WLS	27°14'	92°51'	-	-	-	Decline	Decline	85	-	IUSPP Annual reports, 1994-99 Awadesh Kumar and Prabal Sarkar, pers. comm. In 5 groups. Found in adjacent areas too. C. Loma, 2002
<i>Tirap district</i> <i>West Siang</i>	27°10'	95°48'	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Assam <i>Bokakhat</i> Garampani WLS	-	-	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99 Groves, 2001
<i>Bongaigaon</i> Manas RF	26°93'	93°52'	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
<i>Dibrugarh</i> Dihang river alongside	26°43'	90°59'	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Jakai RF Joypur RF	-	-	-	-	-	-	-	-	-	Groves, 2001
<i>Goalpara</i> Kaziranga NP Nambor North	27°14'	95°34'	-	TWE TWE	-	Decline Decline	Decline Decline	- -	- -	IUSPP Annual reports, 1994-99 IUSPP Annual reports, 1994-99
	~26°37'	~93°18'	-	-	-	Decline Decline	Decline Decline	- -	- -	IUSPP Annual reports, 1994-99 IUSPP Annual reports, 1994-99

Distribution of *Macaca assamensis assamensis* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Indo-block RF	-	-	-	-	-	-	-	-	-	6 groups. Found in adjacent areas too. G. Santha, 2002
<i>Jorhat</i>										IUSPP Annual reports, 1994-99
Gibbon WLS										
<i>Karimganj</i>										
Longai RF	- 24°11	- 24°31	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Patharia RF						Decline	Decline	-	-	IUSPP Annual reports, 1994-99
<i>Kokrajhar</i>										
Chirang RF	- 31°58	- 76°50	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Guma RF	26°43	90°59	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Manas NP	26°45	90°09	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Ripu RF										
<i>Naga hills</i>										
Mokokchung	26°19	94°31	-	-	-	Decline	Decline	-	-	Napier, 1981
<i>Nagoan</i>										
North Cachar Hills										IUSPP Annual reports, 1994-99
North Cachar Hills										
Khurimung RF	- 25°30	- 90°07	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Langting Mupa RF										IUSPP Annual reports, 1994-99
North Cachar Hills RF	25°30	93°00	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
<i>Sibsagar</i>										
Sibsagar	26°58	94°39	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
<i>Silchar</i>										
Innerline RF	-	-	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
<i>Tinsukia</i>										
Bherjan WLS	~27°30	~95°22	-	TWE	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Borajan WLS	27°05	95°04	-	TMD	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Dehingmukh RF	-	-	-	TWE	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Dibang Valley RF	~28°00	~95°38	-	TWE	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Dibru Saikhowa NP	27°40	95°24	-	TWE	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Hahkhathi RF	27°44	95°40	-	TWE	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Katakhal RF	-	-	-	TWE	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Kumsang RF	27°44	95°44	-	TWE	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Tarani RF	-	-	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99

Distribution of *Macaca assamensis assamensis* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Telpani RF	-	-	-	TWE	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Meghalaya East, West & South Garo Hills Nokrek NP	-	-	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99 Found in adjacent areas too. W.G. Momin, 2002
<i>South Garo Hills</i> Balpakram NP	-	-	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Songsek Tasek RF	25°38	90°35	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Siju WLS	25°32	90°14	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Mizoram <i>Chintulpui</i> Ngengpui WLS	-	-	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Phawngpui Blue Mountain WLS	-	-	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
<i>Mamit</i> Dampa NP	-	-	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Nagaland Khonoma Yuapik	25°39	94°02	-	-	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99 IUSPP Annual reports, 1994-99

SE - Semi-evergreen forest; TMD - Tropical Moist Deciduous forest; TWE - Tropical Wet Evergreen forest

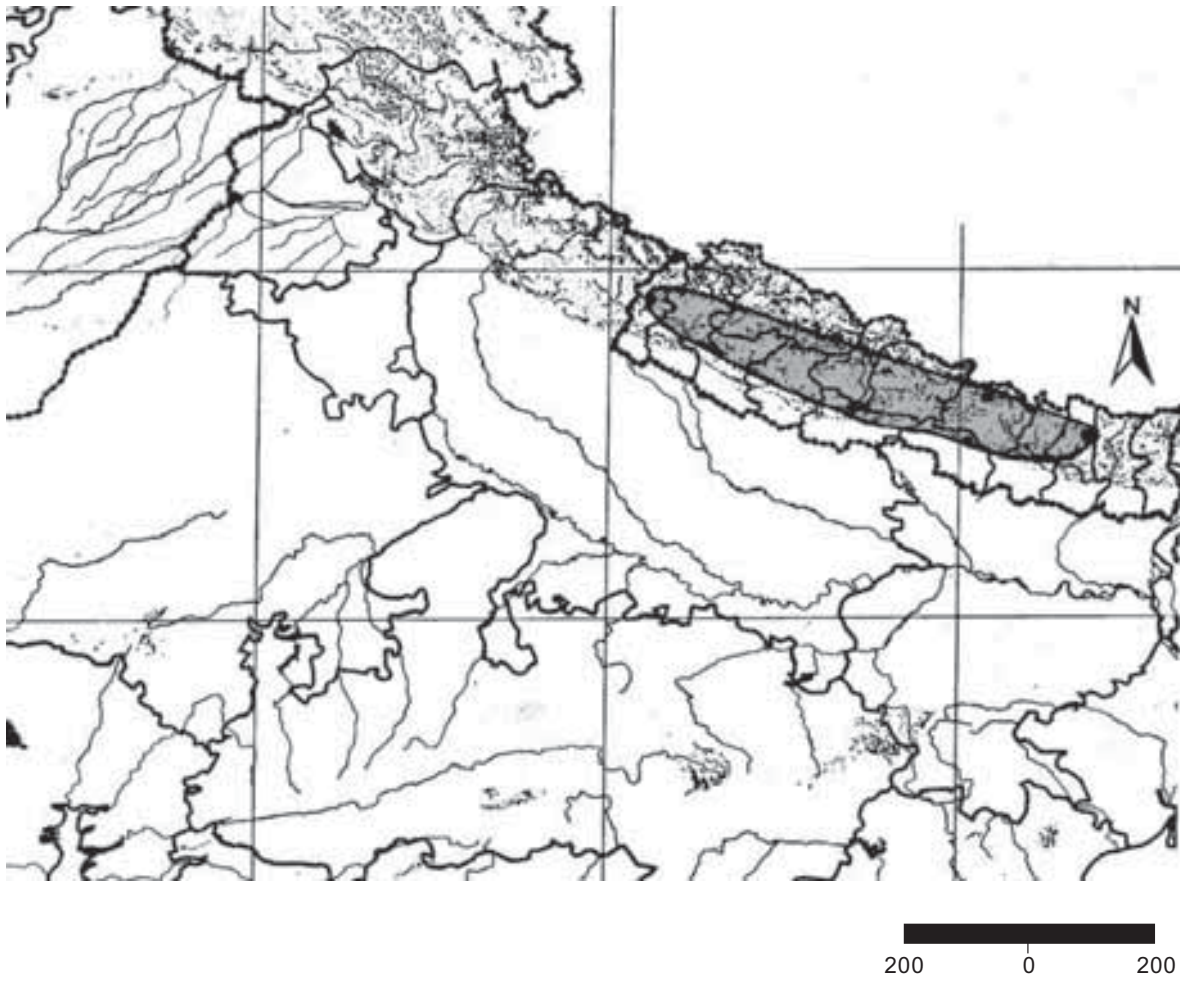
Macaca assamensis (Hodgson, 1840) [Nepal population]

ENDANGERED

Family	Cercopithecidae
Common names	Nepali: <i>Pahare Bandar</i> ; Rai: <i>Pupa</i> ; Tamang: <i>Thimnyau</i> ; English: Assamese Macaque
Level of assessment	Population
Notes on taxonomy	No synonyms due to taxonomic confusion. This population is different from Assamese monkey in respect to the head-body length, tail length, T/HB and weight. It also differs by general body colouration. It has darker fur with purple snout. This population is considered a new subspecies. Further taxonomic clarification is sought. Assessment has been carried out at the population level to highlight the status of this unique form endemic to Nepal.
Habit	Arboreal, terrestrial, diurnal, omnivorous, multi-male - multi-female group.
Habitat	Hill sal forest, mixed deciduous forest, temperate broadleaved forest, rocky outcrops along rivers
Niche	Middle canopy.
Elevation	380-2336m.
Distribution	
Global	Endemic to Nepal
Extent of Occurrence	2,175 km ²
Area of Occupancy	920 km ²
Locations/subpopulations	25 / 8. Fragmented.
Habitat status	Decrease in area by <10% in the last 10 years due to habitat alteration, encroachment outside protected area, jhum and limited use of habitat by locals and is predicted to decrease by <10% in the next 10 years. Decrease in quality due to habitat alteration because of selective logging, fodder, timber and firewood collection.
Threats	Past threats: Grazing, shifting agriculture, firewood and charcoal production, selective logging, habitat loss, jhuming Present threats: Fodder collection, landslide
Trade	Not in trade
Population	
Generation time	10 years
Total population	<550
Mature individuals	<300
Population trend	Declined by <10% in the last 10 years and is predicted to decline by <10% in the next 10 years
Data source	Census/monitoring, field study, literature; observed; 95% confidence

Status	ENDANGERED	B1a+b(i,ii,iii,v); C2a(i)
SAP CAMP (Ver. 3.1)		
Rationale	The taxon is threatened due to its restricted distribution of less than 2200km ² extent of occurrence and 914km ² area of occupancy and continuing decline in area, extent and quality of habitat, number of locations and in the number of mature individuals, the latter two inferred from threats to habitat and population from degradation and hunting, respectively. The taxon is also restricted to less than 300 mature individuals distributed in 25 locations and 8 subpopulations with no subpopulation having more than 50 mature individuals. Given its restricted extent of occurrence, threats on its population and habitat, and small numbers in fragmented patches, the Nepal population of this macaque is categorized as Endangered.	
2001 Red List (Ver. 2.3)	Not assessed	
Justification	New information available currently. Change in species / subspecies taxonomy.	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Department of National Parks and Wildlife Conservation Act, 1973	
CITES	Appendix II	
Presence in Protected Areas	<i>Central Province:</i> Langtang NP <i>Eastern Nepal:</i> Makalu Barun NP	
Recommendations		
Research	Taxonomy, genetic research, life history, survey	
Management	Habitat management, wild population management, monitoring, public education	
Captive stocks	12 zoos in India (52.37.10.99), 1 zoo in Bangladesh (1.0.0.1) and 1 zoo in Nepal (1.1.0.2). World over: 1 institution (2.2.0.4). Subspecies not known.	
Comments	Nepalese specimen has to be investigated for its status in subspecies level. Habitat is steep slopes and the population is very thin. High mountain east and west populations seem like different subspecies.	
Sources	Chalise, 1997; Chalise, 1999a; Chalise, 1999b; Chalise, 2000; Chalise, 2000-2001; Chalise and Ghimire, 1998; CZA, 2000-2001; Hilton-Taylor, 2000; Karki and Ghimere, 2001; SAZARC, 2001 Biological Information Sheet (2002): M.K. Chalise	
Compilers	M.K. Chalise, M.K. Ghimere, S.C. Ghimere, B.J. Karki, Awadesh Kumar, H. Kumar, M. Misra, S.K. Sahoo, P. Srivastava	
Reviewers	D. Brandon-Jones, M.K. Chalise, A. Eudey, M.S. Pradhan	

Distribution range of *Macaca assamensis* [Nepal population]



Distribution of *Macaca assamensis* [Nepal population] from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
NEPAL										
Central Nepal										
<i>Bagmati</i>			400							
Langtang NP			-	HS, RO, StBL	Selective logging (Pr), firewood collection (Pr)	-	-	20	12	EOO: 1200 km ² . Present pop. trend: stable. Chalise <i>et al.</i> , 1997-2002
1. Ghatte-Khola (Dhunche)	28°20'	81°15'	-	HS, RO, StBL	Selective logging (Pr), firewood collection (Pr)	-	-	43	24	EOO: 1200 km ² . Present pop. trend: stable. Chalise <i>et al.</i> , 1997-2002
2. Brabal-Sole (Dhunche)	28°20'	81°15'	-	HS, RO, StBL	Selective logging (Pr), firewood collection (Pr)	-	-	30	17	EOO: 1200 km ² . Present pop. trend: stable. Chalise <i>et al.</i> , 1997-2002
3. Melung (Ramche)	28°20'	81°20'	-	HS, RO, StBL	Selective logging (Pr), firewood collection (Pr)	-	-	10	6	EOO: 1200 km ² . Present pop. trend: stable. Chalise <i>et al.</i> , 1997-2002
4. Rimiche (Syafu)	28°20'	81°20'	-	HS, RO, StBL	Selective logging (Pr), firewood collection (Pr)	-	-	32	19	EOO: 1200 km ² . Present pop. trend: stable. Chalise <i>et al.</i> , 1997-2002
5. Syafu- Besi	28°20'	81°20'	-	HS, RO, StBL	Selective logging (Pr), firewood collection (Pr)	-	-	5	3	EOO: 1200 km ² . Present pop. trend: stable. Chalise <i>et al.</i> , 1997-2002
6. Dahal Phedi (Timure)	28°20'	81°20'	-	HS, RO, StBL	Selective logging (Pr), firewood collection (Pr)	-	-	12	7	EOO: 1200 km ² . Present pop. trend: stable. Chalise <i>et al.</i> , 1997-2002
7. Pranjal fall (Helambu)	28°20'	81°20'	-	HS, RO, StBL	Selective logging (Pr), firewood collection (Pr)	-	-			
<i>Janakpur</i>										
Hariharpurgadhi (Sindhuli)	27°08'	85°30'	2	HS	Agriculture (P/F), Jhoom cultivation (P/F)	Unknown recently	May decline	11	5	Chalise <i>et al.</i> , 2000
Tapke Danda (Harihaspur)	27°18'	85°30'	spotted 2	HS	Agriculture (P), overuse of resources (Pr)	Decline	Decline	11	5	-
Eastern Province										
<i>Sankhuwasabha</i>										
(Makalu Barun NP)			500							
1. Magtewa Besi (Apsuwa)	27°28'	87°10'	-	Tm D, HS, RO	Agriculture (P), slash and burn (F), overuse of resources (F)	Decline 10/10	Decline	17	9	EOO: 900 km ² Chalise <i>et al.</i> , 2000
2. Pikhua – I (Apsuwa)	27°28'	87°10'	-	Tm D, HS, RO	Agriculture (P), slash and burn (F), overuse of resources (F)	Decline 10/10	Decline	14	-	Chalise <i>et al.</i> , 2000

Distribution of *Macaca assamensis* [Nepal population] from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
3. Pikuwa – II (Apsuwa)	27°28	87°10	-	TmD, HS, RO	Agriculture (P), slash and burn (F), overuse of resources (F)	Decline 10/10	Decline	20	10	Chalise <i>et al.</i> , 2000
4. Bhumling-Tar (Apsuwa)	27°28	87°10	-	TmD, HS, RO	Agriculture (P), slash and burn (F), overuse of resources (F)	Decline 10/10	Decline	16	9	Chalise <i>et al.</i> , 2000
5. Dhongla Vir (Tamku)	27°28	87°10	-	TmD, HS, RO	Agriculture (P), slash and burn (F), overuse of resources (F)	Decline 10/10	Decline	17	9	Chalise <i>et al.</i> , 2000
6. Evang Dovan (Tamku)	27°28	87°10	-	TmD, HS, RO	Agriculture (P), slash and burn (F), overuse of resources (F)	Decline 10/10	Decline	24	15	Chalise <i>et al.</i> , 2000
7. Kampek Vir (Tamku)	27°28	87°10	-	TmD, HS, RO	Agriculture (P), slash and burn (F), overuse of resources (F)	Decline 10/10	Decline	37	27	Chalise <i>et al.</i> , 2000
8. Sankhuwa (Tamku)	27°28	87°10	-	TmBL	Agriculture (P/F), Jhoom cultivation (P/F)	Decline 10/10	Decline	13	7	Chalise <i>et al.</i> , 2000
9. Khonglewa (Tamku)	27°28	87°10	-	TmD, HS, RO	Agriculture (P), slash and burn (F), overuse of resources (F)	Decline 10/10	Decline	14	10	Chalise <i>et al.</i> , 2000
10. Wayang (Tamku)	27°28	87°10	-	TmBL	Agriculture (P/F), Jhoom cultivation (P/F)	Decline 10/10	Decline	27	10	Chalise <i>et al.</i> , 2000
11. Balabridge (Tamku)	27°28	87°10	-	TmD, HS, RO	Agriculture (P), slash and burn (F), overuse of resources (F)	Decline 10/10	Decline	18	9	Chalise <i>et al.</i> , 2000
12. Sintup (Tamku)	27°28	87°10	-	TmD, HS, RO	Agriculture (P), slash and burn (F), overuse of resources (F)	Decline 10/10	Decline	31	20	Chalise <i>et al.</i> , 2000
13. Dankhila (Tamku)	27°28	87°10	-	TmD, HS, RO	Agriculture (P), slash and burn (F), overuse of resources (F)	Decline 10/10	Decline	26	14	Chalise <i>et al.</i> , 2000
Far Western Province Dadedhura Api Mountain (South)	29°25	81°20	2	TmR	Habitat loss (P/F), Selective logging (P/F), fuel wood collection (P/F), agriculture (P/F)	-	May decline	6	3	Chalise, 2001; Karki <i>et al.</i> , 1998
<i>Sethi</i> Kimmi (Acham)	29°15	80°45	3	TmBL, RO	Habitat loss (P/F), Selective logging (P/F), fuel wood collection (P/F), agriculture (P/F)	Decline 10/10	May decline	35	16	EOO: 5 km ² . Chalise, 2001; Karki <i>et al.</i> , 1998
Western Province Lumbini Palpa Ramdi	27°34	83°50	5	HS	Agriculture overuse (P/P/F) Known	Not decline	May	30	18	Chalise <i>et al.</i> , 2000

HS - Hill Sal forest, RO - Rocky Outcrops, St BL - Subtropical Broadleaved forest, Tm D - Temperate Deciduous forest, Tm R - Temperate riverine forest

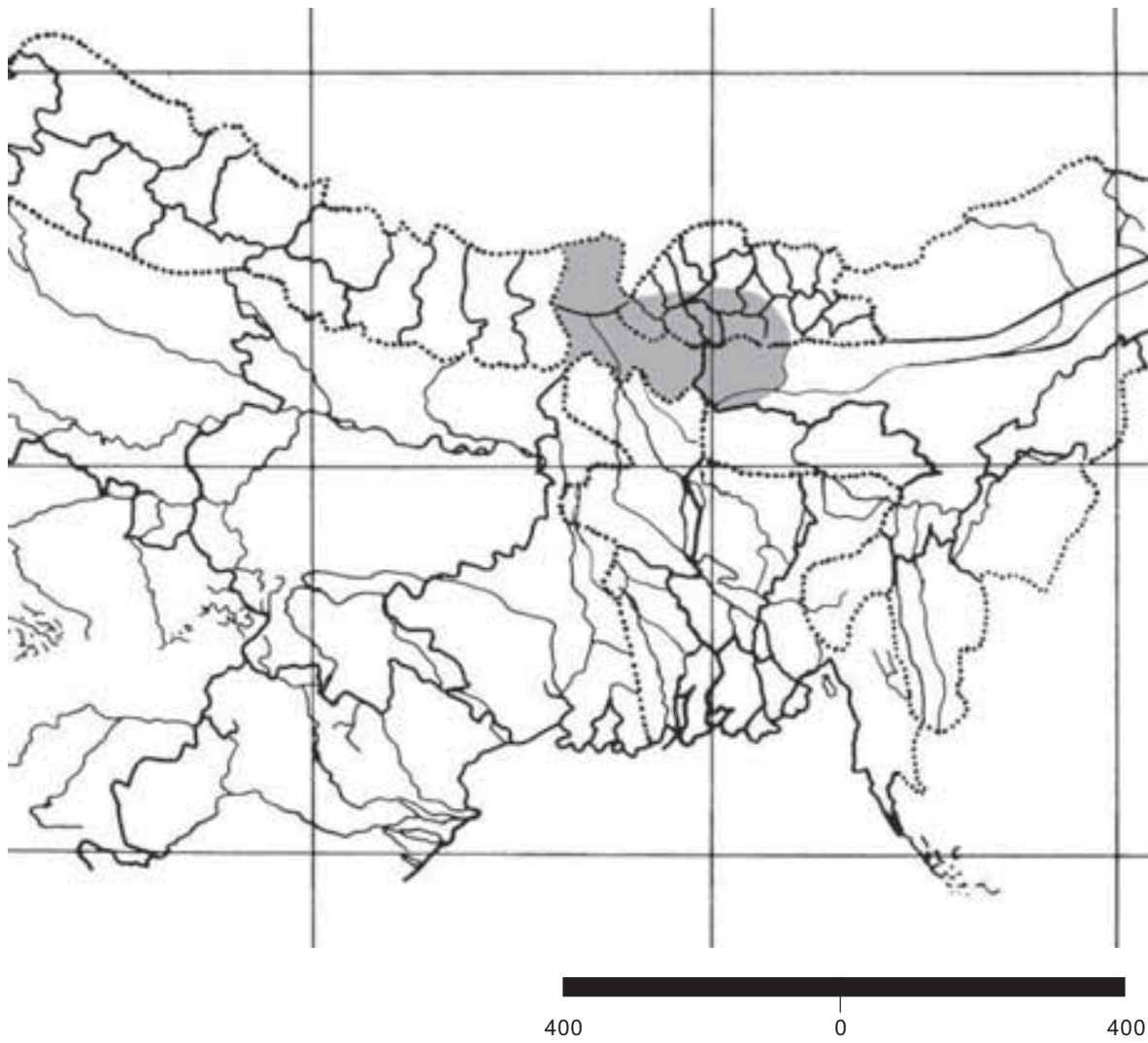
***Macaca assamensis pelops* (Hodgson, 1841)**

ENDANGERED

Synonyms	<i>Macacus (Phitex) pelops</i> Hodgson, 1840 <i>Macacus macclellandii</i> Gray, 1846 <i>Macacus sikimensis</i> Hodgson, 1867 <i>Macacus problematicus</i> Gray, 1870 <i>Macaca rheso-similis</i> Sclater, 1872
Family	Cercopithecidae
Common names	Bengali: <i>Assame bandar</i> , <i>Pahari bandar</i> ; Bhotia: <i>Pio</i> ; Lepcha: <i>Sahu</i> ; Myanmari: <i>Myauk-sar</i> ; English: Western Assamese Macaque
Level of assessment	Subspecies
Notes on taxonomy	The population is found in the eastern most limit of the Western Assamese Macaque's distribution range. In case, the Nepalese population is found to be a separate subspecies, then this subspecies will be endemic to India. Taxonomic confirmation is required.
Habit	Arboreal and terrestrial, omnivore, diurnal
Habitat	Broadleaved evergreen forest
Niche	Middle and higher canopy.
Elevation	180-2270m.
Distribution	
Global	Bhutan, India
Extent of Occurrence	<5,000 km ²
Area of Occupancy	<100 km ²
Locations/subpopulations	32 / 12. Fragmented
Habitat status	Decrease in area by <10% in the last 6-7 years and is predicted to decrease by <10% in the next 10 years due to deforestation, landslides etc. Decrease in quality due to loss of fruiting trees, habitat modification, encroachment, change in land-use pattern
Threats	Past threats: Hunting, expansion of human settlement, habitat shrinkage, jhuming Present and future threats: Agriculture, firewood and charcoal production, selective logging, intentional poisoning (control), accidental mortality, road kills, trapping, landslide, changing human attitudes, man-animal conflict
Trade	Local trade as pets, domestic trade in bushmeat
Population	
Generation time	10-12 years
Total population	<600 [Bhutan = <100; India = <500]
Mature individuals	<350 [Bhutan = <50; India = <300]
Population trend	Population and mature individuals declining and is predicted to decline by <10% in the next 10 years.
Data source	Census or monitoring, field study, literature; observed; 95% confidence

Status	ENDANGERED	B1ab(i,ii,iii)+2ab(i,ii,iii); C2a(i)
SAP CAMP (Ver. 3.1)		
Rationale	The taxon is threatened due to its restricted distribution of less than 5000km ² extent of occurrence and 60km ² area of occupancy and continuing decline in area, extent and quality of habitat, and in the number of mature individuals, the latter inferred from threats to habitat and population from degradation and hunting. The taxon is also restricted to less than 300 mature individuals distributed in 20 locations and 12 subpopulations with no subpopulation having more than 50 mature individuals. Given its restricted extent of occurrence, threats on its population and habitat, and small numbers in fragmented patches, the <i>M. assamensis pelops</i> population in South Asia is categorized as Endangered.	
2001 Red List (Ver. 2.3)	Vulnerable	A1cd
Justification for change	Better / new information available at the workshop.	
National Status	Bhutan: Critically Endangered C2a(i); D	↓ Endangered
	The Bhutan population is very highly restricted and very few in numbers as to be categorised as Critically Endangered using the global criteria. However, since the adjoining populations in India is fairly contiguous with the Bhutan population, there is a possibility of recolonisation. Further, threats to the taxon in Bhutan is not as high as in India, hence the national category of Critically Endangered is downgraded to Endangered in Bhutan.	
	India: Endangered	B1ab(i,ii,iii)+2ab(i,ii,iii); C2a(i)
	The Indian population of this taxon is restricted in its distribution and in numbers, but since the taxon faces serious threats it is Endangered due to restricted distribution and continuing decline and small numbers. Endangered category is retained as the Indian population is more than 75% of the global population of this taxon.	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	India: Schedule II, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002	
CITES	Appendix II	
Presence in Protected Areas		
India	<i>West Bengal</i> : Buxa NP, Mahananda WLS	
Recommendations		
Research	Taxonomy (inter-breeding between <i>M. assamensis</i> and <i>M. mulatta</i>), genetic research, survey in Sikkim in India, Bangladesh and Bhutan, limiting factor research	
Management	Habitat management, wild population management, monitoring, public education, PHVA	
Captive stocks	12 zoos in India (52.37.10.99), 1 zoo in Bangladesh (1.0.0.1) and 1 zoo in Nepal (1.1.0.2). World over: 1 institution (2.2.0.4). Subspecies not known.	
Comments	Besides 2 protected areas in West Bengal, the hilly tracts and foothills of north Bengal region are the only resort for this subspecies. Nearly 550 individuals were recorded during the study covering an area of 1,552.50 km ² . Several aspects of its ecology and behavior were studied, which recorded several mortality factors. Survival of this taxon is threatened due to loss of habitat and a growing trend in man-animal conflict is a major concern (S. Mitra, BIS).	
Sources	Brandon-Jones <i>et al.</i> , 2002; CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2000; Mitra, 2000; Mitra (in press); Napier, 1981; SAZARC, 2001	
Compilers	M.K. Chalise, M.K. Ghimere, S.C. Ghimere, B.J. Karki, Awadesh Kumar, H. Kumar, M.K. Misra, S. Mitra, S. Ram, S.K. Sahoo, M. Singh, P. Srivatsava Biological Information Sheets (2002): S. Mitra, P. Sarkar, M.M. Feeroz	
Reviewers	D. Brandon-Jones, A. Eudey, S. Mitra, M.S. Pradhan	

Distribution range of *Macaca assamensis pelops* in Bhutan and India



Distribution of *Macaca assamensis pelops* in Bhutan and India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BHUTAN Central Bhutan	-	-	-	-	-	-	-	-	-	Groves, 2001
INDIA Tebang River (Mishmi Hills)	-	-	-	-	-	-	-	-	-	606m.
Sikkim Chuntang	27°38	88°35	-	-	-	-	-	-	-	1621m. Napier, 1981
Dalamcote Fort (Daling)	-	-	-	-	-	-	-	-	-	Groves, 2001
Rongli	27°17	88°45	-	-	-	-	-	-	-	818m. Napier, 1981
West Bengal <i>Darjeeling</i> Andherijar	26°53	88°17	2	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Decline	Decline	14	7	Groves, 2001 Sangita Mitra
Batasia (Tonglu) Berrick	26°36 ~26°53	88°11 ~88°17	- 1.9	- BLE	- Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	- Decline	- Decline	- 21	- 12	1212m. Napier, 1981 Sangita Mitra
Bijombari	~27°02	~88°16	3	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Decline	Decline	22	10	Sangita Mitra
Chitrey	-	-	-	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Stable	Stable	14	7	Sangita Mitra
Ghoom (adjacent area)	~27°01	~88°16	3.5	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Decline	Decline	21	12	Sangita Mitra
Gopaldhara (Rungbong Valley) Hanumanjara	-	-	-	-	-	-	-	-	-	1576m. Napier, 1981
	-	-	1.4	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F)	Stable	Stable	25	16	Sangita Mitra

Distribution of *Macaca assamensis pelops* in Bhutan and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Kalijhora	-	-	2.3	BLE	pet trade (Pr/F) Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Stable	18	11	Sangita Mitra
Lepchajagat	-	-	3.6	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Decline	15	9	Sangita Mitra
Mahanadi	-	-	3	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Decline	23	11	Sangita Mitra
Melli	27°06	88°17	1.8	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Stable	23	12	Sangita Mitra
Merik (adjacent area)	-	-	4.5	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Decline	14	8	Sangita Mitra
Mong Pong	-	-	3.8	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Decline	19	9	Sangita Mitra
Pagaljhora	-	-	3.6	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Stable	51	24	Sangita Mitra
Pashok Rabijhora	27°05	88°24	-	-	-	-	-	-	1060m. Napier, 1981
	-	-	1.9	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Stable	12	8	Sangita Mitra
Rambi (adjacent area)	-	-	2.6	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Stable	29	17	Sangita Mitra
Sepoydhura	-	-	1.9	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Stable	17	10	Sangita Mitra

Distribution of *Macaca assamensis pelops* in Bhutan and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Sevok	-	-	3.5	BLE	pet trade (Pr/F) Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Stable	Stable	48	23	Sangita Mitra
Sukiapokhri Swetijhora	27°01' -	88°06' -	- 3.5	- BLE	- Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	- Stable	- Stable	- 29	- 16	1515m. Napier, 1981 Sangita Mitra
Tarjomjhara	-	-	3	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Stable	Stable	18	10	Sangita Mitra
Teesta Bazar	26°31'- 27°13'	87°59'- 88°53'	3	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Stable	Stable	32	10	Sangita Mitra
Tindharia	-	-	2.9	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Decline	Decline	12	7	Sangita Mitra
Zero Point	-	-	1.8	BLE	Anthropogenic activities (P), habitat loss (P/Pr/F), landslides (P/Pr/F), accidental loss (P/Pr/F), Predation (Pr/F), pet trade (Pr/F)	Stable	Stable	8	6	Sangita Mitra

BLE - Broad-leaved Evergreen forest

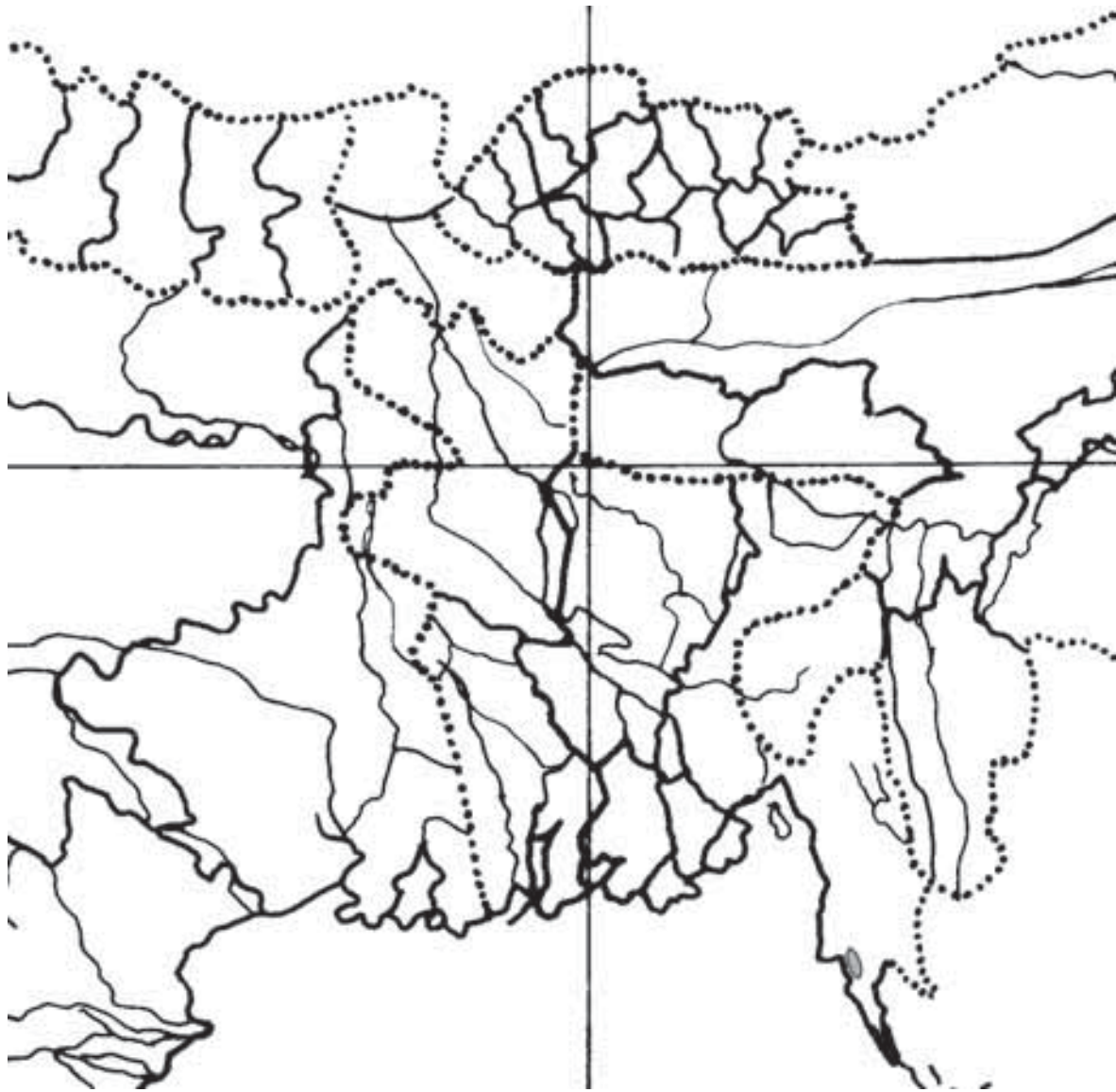
Macaca fascicularis aurea I. Geoffroy Saint-Hilaire, 1830

CRITICALLY ENDANGERED in South Asia

Synonyms	<i>Macacus aureus</i> E. Geoffroy, 1831 <i>Pithecus vitiis</i> Elliot, 1910
Family	Cercopithecidae
Common names	Bengali: <i>Parailla Bandor</i> ; English: Burmese Crab-eating Macaque, Burmese Long-tailed Macaque, Crab-eating Macaque, Long-tailed Macaque
Level of assessment	Subspecies
Notes on taxonomy	Commonly cited as E. Geoffroy, 1831, <i>M.f. aurea</i> was first published in abstract by I. Geoffroy Saint-Hilaire, 1830.
Habit	Terrestrial, arboreal
Habitat	Evergreen forests, coastal mangroves
Niche	Ground and lower canopy.
Elevation	Up to 50m.
Distribution	
Global	Bangladesh, Myanmar
South Asia	Bangladesh
Extent of Occurrence	<5,000 km ²
Area of Occupancy	5 km ²
Location/subpopulations	2 / 2. Fragmented and one population holds >95% of the total population. Declined by 95% in the last 10 years.
Habitat status	Decrease in area by >80% in the last 10 years and is predicted to decrease by >40% in the next 10 years due to logging and commercial shrimp culture. Decrease in quality due to deforestation for conversion of land for shrimp culture.
Threats	Aquaculture, agriculture, mangrove removal, human settlement, deforestation. Teknaf Peninsula population is completely decimated due to development activities (ship-building).
Trade	Not in trade
Population	
Generation time	10-12 years (M.M. Feeroz, BIS, and inferred from <i>M. sinica</i>)
Total population	<100
Mature individuals	<50
Population trend	Mature individuals have declined by >90% in the last 10 years. The taxon is predicted to become locally extinct in Bangladesh in the next 10 years.
Data source	Census/monitoring, field study; observed; 95% confidence

Status	CRITICALLY ENDANGERED in South Asia	A2c+3c+4c; B2ab(i,ii,iii,iv,v); D
SAP CAMP (Ver. 3.1)		
Rationale	The South Asian population of this subspecies is Critically Endangered because of population reduction (>80% in 3 generations), restricted distribution because it is found in only two locations in the Teknaf mangroves, which are under threat, and because of few numbers (<50 mature individuals) that are declining continuously. The Bangladesh population is fragmented from the Myanmar population, making it vulnerable to local extinction.	
2001 Red List (Ver. 2.3)	Lower Risk - near threatened (Globally)	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Schedule III, Bangladesh Wildlife (Protection) Act A 1974	
CITES	Appendix II	
Presence in Protected Areas	None	
Recommendations		
Research	Life history studies, survey, limiting factor research, ecology and behaviour	
Management	Habitat management, wild population management, public education, captive breeding, PHVA. A coordinated Species Management Program is recommended for South Asia.	
Captive breeding	For reintroduction	
Captive stocks	None	
Comments	Initiate <i>ex situ</i> program within 3 years. Techniques for captive breeding are known for this taxon or similar taxa. Sites in Bangladesh are the north-western-most geographical distribution of this subspecies. Among the two sites where this species were found, one is already completely destroyed and only one known population is present at the moment. However, there are some chances of this species to be found in nearby areas. A systematic survey is essential in all its distribution areas in Bangladesh. An action plan should be prepared for the conservation and management of this species.	
Sources	Brandon-Jones <i>et al.</i> , 2002; Groves, 2001; Hilton-Taylor, 2000; Napier, 1981 Biological Information Sheet (2002): M.M. Feeroz	
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, M.M. Feeroz, Awadesh Kumar, R. Medhi, S. Mitra	
Reviewers	D. Brandon-Jones, A. Eudey, M.S. Pradhan	

Distribution range of *Macaca fascicularis aurea* in Bangladesh



400

0

400

Distribution of *Macaca fascicularis aurea* in Bangladesh from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BANGLADESH Chittagong Cox's Bazar Fashia Khali Teknaf	- 20°52'	- 92°18'	3 2	SE, CM SE, CM	Habitat destruction (P/Pr/F) Habitat destruction (P/Pr/F)	Decline Decline	Decline Decline	11 <50	7 -	Feeroz <i>et al.</i> , 1995 Khan, 1987

CM - Coastal Mangrove forest; SE - Semi-evergreen forest

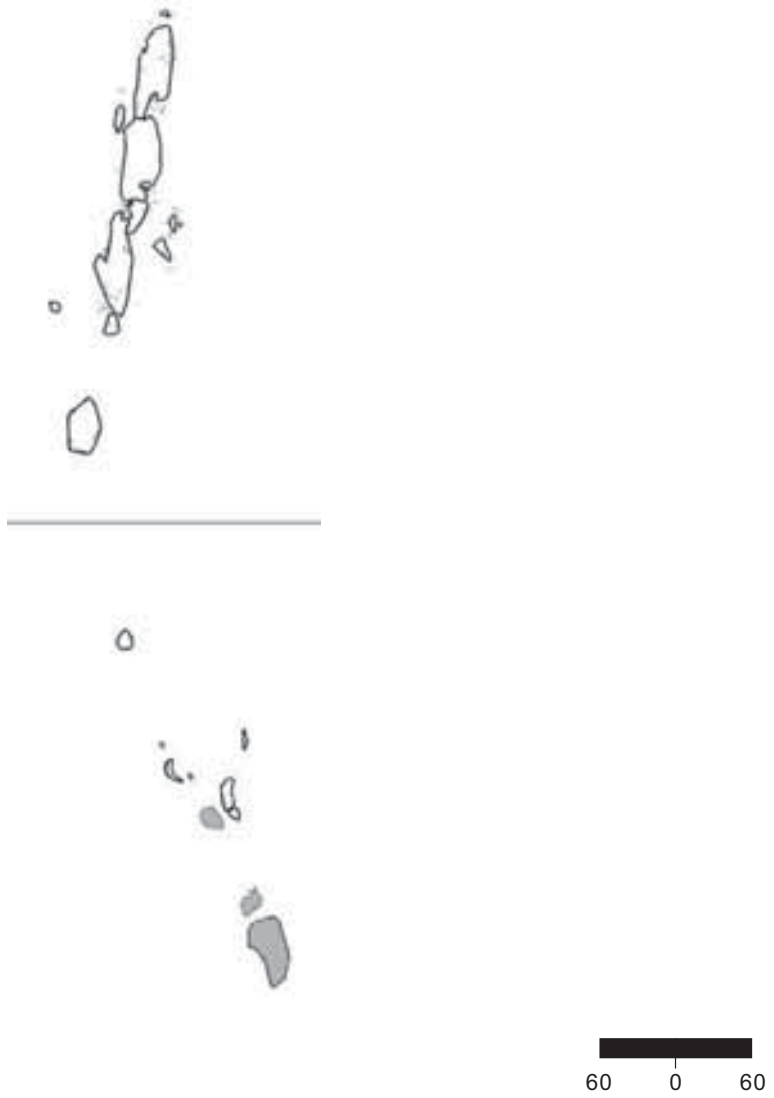
Macaca fascicularis umbrosa (Miller, 1902)

NEAR THREATENED

Synonym	<i>Macacus umbrosa</i> Miller, 1902
Family	Cercopithecidae
Common names	English: Crab-eating Macaque, Long-tailed Macaque, Nicobar Long-tailed Macaque
Level of assessment	Subspecies
Habit	Semi-terrestrial, arboreal, diurnal, omnivorous
Habitat	Mangroves, coastal forests predominantly dominated by <i>Pandanus</i> species
Niche	Tends to be arboreal in inland forests and terrestrial in coastal forests.
Elevation	Up to 600m.
Distribution	
Global	Endemic to India (Nicobar Islands)
Extent of Occurrence	1,378 km ²
Area of Occupancy	1,241 km ²
Locations/subpopulations	Fragmented. Three distinct populations are on three islands.
Habitat status	Stable in area. Increase in quality of habitat (Coconut plantations).
Threats	Past threats: Human settlement, habitat loss Present and future threats: Construction of roads on Katchal island and Great Nicobar island, hunting.
Trade	Not known
Population	
Generation time	10-12 years (inferred from <i>M. sinica</i>).
Total population	About 4800
Mature individuals	<3000
Population trend	Stable
Data source	Field study; observed; minimum/maximum
Status	
SAP CAMP (Ver. 3.1)	NEAR THREATENED
Rationale	Although restricted to 3 islands in the Nicobars (EOO = 1378km ² ; AOO = 1241km ²), the habitat is improving which probably makes the population stable. The subspecies is categorized as Near Threatened as a precautionary measure due to perceivable threats from human habitation and influence in the long-term future.
2001 Red List (Ver. 2.3)	Data Deficient
Justification for change	Better / new information available at the workshop.

Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix II
Presence in Protected Areas	
India	<i>Greater Nicobar</i> : Campbell Bay NP, Galathea NP
Recommendations	
Research	Life history, survey
Management	Public education, monitoring, PHVA
Captive stocks	1 zoo in India (9.7.0.16)
Comments	Another likely threat to the taxon is Tsunami or cyclones for small island populations, but the probability is very low. Developmental activities on Katchal Island is likely to cause urbanisation of the groups in the vicinity. The taxon is hunted mainly for subsistence living by Shompen tribals and also to protect coconut plantations. The category is derived based on threats and trade. Based on the data available the working group is forced to conclude that this is of Least Concern. It must be stressed that this conclusion derives from data gathered on one very small survey and no extensive effort has been made recently to do more elaborate surveys. The working group is also concerned that if this is resolved the listing if the species under the Wildlife Protection Act may be diluted. Therefore the status of NT is suggested since any inaccuracy may result in the species being reclassified.
Sources	Brandon-Jones <i>et al.</i> , 2002; CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2000; SAZARC, 2001 Biological Information Sheet (2002): G. Umapathy
Compilers	R. Ali, H. Andrews, H.R. Bhat, S. Ganapathiappan, G.K. Joseph., R. Krishnamani, H. Kumar, P.O. Nameer, M.S. Pradhan, S. Ram., K.K. Ramachandran, G. Ramaswamy, A.K. Sharma
Reviewers	R. Ali, D. Brandon-Jones, A. Eudey

Distribution range of *Macaca fascicularis umbrosa*



Distribution of *Macaca fascicularis umbrosa* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA Andaman and Nicobar Islands Great Nicobar Island	07°00	93°49	1045.1	T	Hunting	Increase	Not Known	2500-3500 (3000)	1500-2100 (1800)	Present pop. trend: Increasing (Coconut plantations) Rauf Ali, Harry Andrews and Ravi Shankaran - pers. obs. IUSPP Annual reports, 1994-97
Katchal Island	~07°58	~93°20	174.4	T	None	Stable	Stable	800-1000 (900)	480-600 (540)	IUSPP Annual reports, 1994-97
Little Nicobar Island	~07°18	~93°40	159.1	T	None	Stable	Stable	800-1000 (900)	480-600 (540)	IUSPP Annual reports, 1994-97

T - Tropical forests

Macaca leonina (Blyth, 1863)

ENDANGERED in South Asia

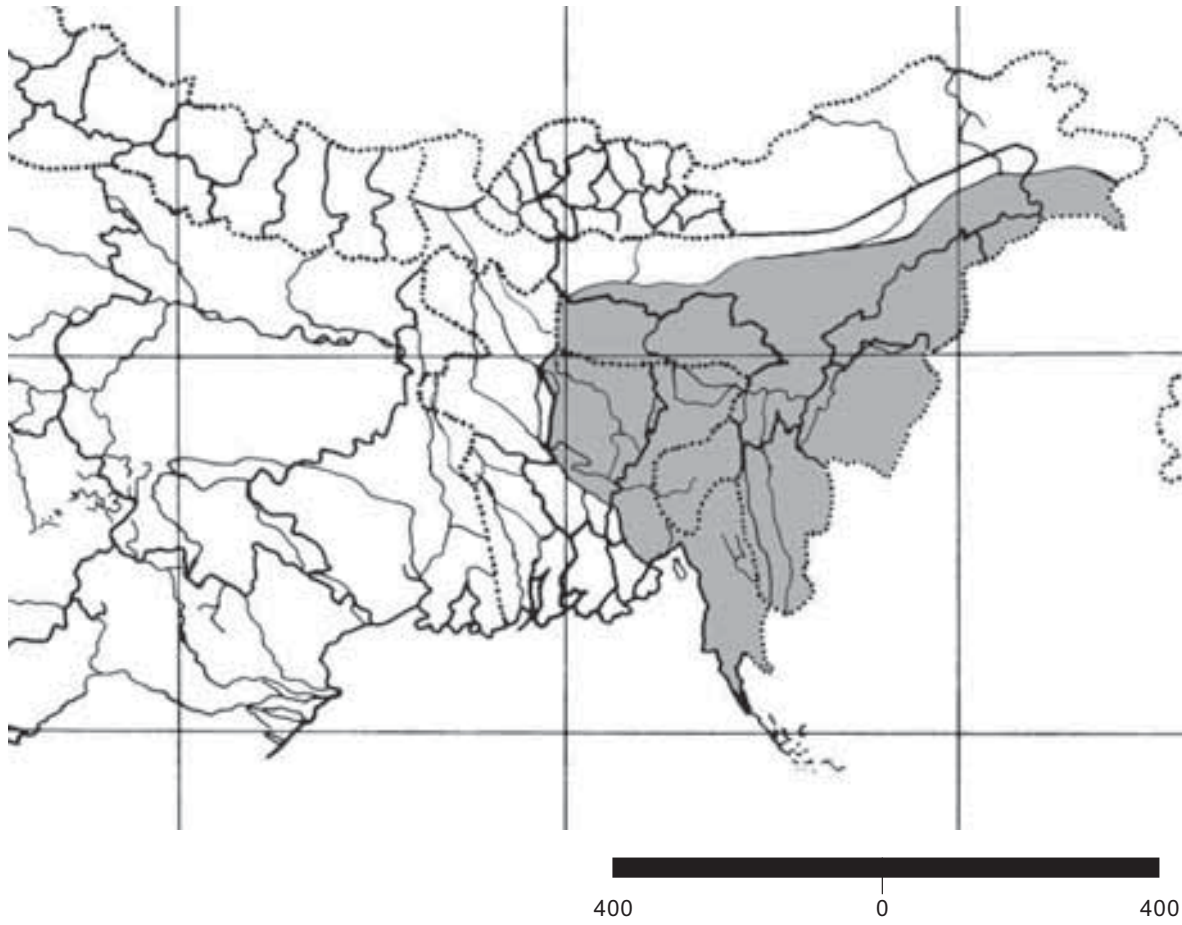
Synonyms	<i>Inuus leoninus</i> Blyth, 1863 <i>Macacus andamanensis</i> Bartlett, 1869 <i>Macacus coininus</i> Kloss, 1903 <i>Macaca adusta</i> Miller, 1906 <i>Macaca insulana</i> Miller, 1906 <i>Macaca nemestrina indocinensis</i> Kloss, 1919 <i>Macaca nemestrina blythii</i> Pocock, 1931
Family	Cercopithecidae
Common names	Assamese: <i>Gahari nejia bandar</i> ; Bengali: <i>Baraholeji banar</i> ; Bengali (in Bangladesh): <i>Chhotoleji banar</i> ; Garo: <i>Peko</i> ; Mizo: <i>Zawangmuat</i> ; Naga: <i>Kangh</i> ; Nepali: <i>Sungur puchero bandar</i> ; Riyang: <i>Stongbora</i> ; English: Burmese Pig-tailed Macaque, Long-haired Pig-tailed Macaque, Northern Pig-tailed Macaque
Level of assessment	Species
Notes on taxonomy	Fooden (1975) found evidence of apparently very restricted hybridization between this species and <i>M. nemestrina</i> . The British Museum recognizes this species as the subspecies <i>M. nemestrina leonina</i> .
Habit	Predominantly arboreal, diurnal, frugivorous
Habitat	Tropical semi-evergreen forest, tropical wet evergreen forest, tropical moist deciduous forest, coastal forest, swamp forest, montane forest
Niche	Middle canopy.
Elevation	50-1700m.
Distribution	
Global	Bangladesh, India, Myanmar, Thailand, Yunnan, China, Cambodia, Laos, Vietnam
South Asia	Bangladesh, India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,000km ² [Bangladesh = 65 km ² ; India = >2,000 km ²]
Locations/subpopulations	145 / Not known. Fragmented. Declined by 35% in the last 8 years.
Habitat status	Decrease in area by >40% in the last 10 years and is predicted to decline by >20% in the next 10 years due to habitat destruction. Decrease in quality due to loss of fruiting trees, sleeping sites, monoculture and plantation, selective felling and increase in canopy gap.
Threats	Selective logging, firewood and charcoal production, fisheries, timber extraction, building roads, dams, power lines, forest fragmentation, soil loss/erosion, deliberate fires, hunting and trade for sport, food and medicine cultural use, accidental mortality, deliberate fires, predators, habitat loss, jhuming, encroachment
Trade	Local trade for bones, meat for food and medicine, and live animal as pets and for zoos.

Population		
Generation time	10-12 years	
Total population	<5,000 [Bangladesh = <350; India = <5,000]	
Mature individuals	<2,500 [Bangladesh = <110; India = <2,400]	
Population trend	Has been declining (Rate of decline not known) and is predicted to decline by >10% in the next 5 years.	
Data source	Census or monitoring, field study, indirect information, literature; observed; subjective	
Status		
SAP CAMP (Ver. 3.1)	ENDANGERED in South Asia	C2a(i)
Rationale	This species in South Asia is restricted to many fragmented locations and a few numbers. Threats affecting the species in the region make it Endangered due to the negative effects on area, quality of habitat, number of locations and number of mature individuals.	
2001 Red List (Ver. 2.3)	Vulnerable (Globally)	A1cd
National Status		
	Bangladesh: Critically Endangered	C2a(i)
	Very few individuals in the country isolated from neighbouring Indian locations. The habitat is degrading rapidly thereby causing a continuing decline in mature individuals in the country. The status is therefore more critical in Bangladesh compared to the global status. Hence the status in Bangladesh is retained as Critically Endangered.	
	India: Endangered	C2a(i)
	The Indian population though widely distributed is under severe threats of habitat loss and fragmentation and continuing decline in the population over years. The taxon is retained as Endangered for the country due to very less probability of species recovery from neighbouring countries of Bangladesh and Myanmar.	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Bangladesh: Schedule III, Bangladesh Wildlife (Preservation) (Amendment) Act, 1974. India: Schedule II, Indian Wildlife (Protection) Act, 1972 amended up to 2002	
CITES	Appendix II	
Presence in Protected Areas		
Bangladesh	Chittagong: Chunati WLS Sylhet: Lawachara NP, Rema-Kelanga WLS	
India	Arunachal Pradesh: Kamlang WLS, Mehao WLS, Namdapha NP Assam: Dibru-Saikhowa WLS, Garampani WLS, Gibbon WLS, Padumoni-Bherjan-Borajan WLS Manipur: Yangoupokpi-Lokchao WLS Meghalaya: Balpakhrum NP, Nongkhylliem WLS, Siju WLS Mizoram: Dampa WLS, Lengteng WLS, Murlen NP, Ngengpui WLS, Phawngpui Blue Mountain NP Nagaland: Fakim WLS, Intanki NP Tripura: Gumti WLS, Sepahijala WLS, Trishna WLS	

Recommendations

Research	Taxonomy, life history, survey studies, limiting factor research
Management	Habitat management, wild population management, monitoring, public education, limiting factor management, participatory management planning
Captive stocks	South Asia: 10 zoos (14.13.0.27). India in 7 zoos (11.9.0.20); 2 zoos in Bangladesh (3.3.0.6); 1 zoo in Sri Lanka (0.1.0.1); Coordinated Species Management Program is recommended for South Asia.
Comments	In the Indian context, Pig-tailed Macaque should be upgraded from Schedule II to I (WPA, 1972) to ensure more legal protection. Detailed survey with proper documentation is urgently needed in northeastern India (Arunachal Pradesh, Meghalaya, Mizoram, Manipur, Tripura).
Sources	Brandon-Jones <i>et al.</i> , 2002; Chetry <i>et al.</i> , 2002; Choudhury, 1989; Choudhury, 2003; CZA 2000-2001; Feeroz <i>et al.</i> , 1995; Feeroz, 1999b; Feeroz and Islam, 2000; Groves, 2001; Gupta, 1994; Hilton-Taylor, 2000; ISIS Abstract Report, 2001; IUSPP Annual reports, 1994-99; Napier, 1981; SAZARC, 2002 Biological Information Sheets (2002): J. Biswas, D. Chetry, M.M. Feeroz C.A.M.P. questionnaire on protected areas: S.S. Chandiramani, S. Debbarma, G. Santha
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, M.M. Feeroz, R. Medhi.
Reviewers	D. Brandon-Jones, D. Chetry, J. Das, A. Eudey, S. Mitra, M.S. Pradhan

Distribution range of *Macaca leonina* in Bangladesh and India



Distribution of *Macaca leonina* in Bangladesh and India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BANGLADESH										
Chittagong										
<i>Cox's Bazar</i>	-	-	12	-	Hunting (P/F), habitat destruction (P/Pr/F)	Decline	Decline	81	23	Feeroz, 1990
Bhomarighona										
<i>Lohagana</i>	21°58'	92°04'	11	E	Hunting (P/F), habitat destruction (P/Pr/F)	Decline	Decline	27	11	Feeroz, 1990
Sylhet										
<i>Moulvi Bazar</i>										
Adampur	23°18'	89°52'	10	SE	Hunting (P/F), habitat destruction (P/Pr/F)	Decline	Decline	38	19	Feeroz, 1990
Rama Kalenga WLS	-	-	12	SE	Hunting (P/F), habitat destruction (P/Pr/F)	Decline	Decline	67	27	Feeroz, 1999b
West Bhanuguch FR (Lawachara)	24°21'	91°48'	20	SE	Hunting (P/F), habitat destruction (P/Pr/F)	Decline	Decline	103	29	Feeroz, 1990; Feeroz and Islam, 2000
INDIA										
Arunachal Pradesh										
<i>Changlang</i>	~27°39'	~96°30'	1985	-	-	-	-	-	-	IUSPP Annual reports, 1994-99 Found in adjacent areas. S.S. Chandiramani, 2002.
Namdapha NP, Deban										Choudhury, 2003
Diyun RF										Choudhury, 2003
Konkap RF										Choudhury, 2003
Miao RF										Choudhury, 2003
Namchik RF										Choudhury, 2003
Namdang RF										Choudhury, 2003
Nimphuk RF										Choudhury, 2003
Pangsau RF										Choudhury, 2003
Rima RF										Choudhury, 2003
<i>Dibang Valley</i>										Choudhury, 2003
Mehao WLS			281.5	-	-	-	-	-	-	Choudhury, 2003
<i>Lohit</i>										Choudhury, 2003
Digar RF										Choudhury, 2003
Kamlang RF										Contiguous with Namdapha NP.
Kamlang WLS			783	-	-	-	-	-	-	Choudhury, 2003
Manabum RF										Choudhury, 2003
Tengapani RF										Choudhury, 2003
Turung RF										Choudhury, 2003

Distribution of *Macaca leonina* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Tirap</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Namsang Village RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Borduria Village RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Assam										
<i>Cachar</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Barail RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Barak RF	-	-	-	-	-	-	-	-	-	IUSPP Annual reports, 1994-99
Innerline RF	-	-	13.52	TWE	Hunting (P/F), habitat destruction (P/Pr/F)	Decline	Decline	8	3	Choudhury, 2003
Lower Jiri RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Sonai RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Upper Jiri RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Dibrugarh</i>										
Joypur RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Goalpara</i>										
Garo hills border	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Golaghat</i>										
Daigurung RF (Upper)	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Daigurung RF (Lower)	-	-	-	-	-	-	-	-	-	Continued existence doubtful. Choudhury, 2003
Nambor RF	-	-	37	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	8	8	IUSPP Annual reports, 1994-99 Contiguous with Garampani WLS. Choudhury, 2003
Nambhor RF,	-	-	-	-	-	-	-	-	-	Choudhury, 2003 north block
Nambhor RF, west block	-	-	16.63	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
<i>Hailakandi</i>										
Katakhal RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Jorhat</i>										
Disoi RF	-	-	-	-	-	-	-	80	-	2 groups. G. Santha, 2002
Gibbon WLS	-	-	-	-	-	-	-	-	-	Continued existence doubtful. Choudhury, 2003
Compartment I, II, III, V	-	-	19.06	TSE	Selective felling (P), Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Increase	44	28	IUSPP Annual reports, 1994-99

Distribution of *Macaca leonina* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Tiru Hill RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Kamrup</i> Amcheng RF	-	-	-	-	-	-	-	-	-	Continuous existence not known. Choudhury, 2003
Amcheng RF (south)	-	-	-	-	-	-	-	-	-	Continuous existence not known. Choudhury, 2003
Apricola RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Apricola (east) RF (proposed)	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Bogaikhas RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Gorbhanga RF	-	-	-	-	-	-	-	-	-	Continuous existence not known. Choudhury, 2003
Khanapara RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Rani RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Karbi Anglong</i> Amreng RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Balasure RF (proposed)	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Daldeli RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Dhansiri RF	-	-	7.04	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	Choudhury, 2003
Disama RF	-	-	-	-	-	-	-	-	-	IUSPP Annual reports, 1994-99
Garampani WLS	-	-	6.05	-	-	-	-	-	-	Choudhury, 2003
Jimikinding area	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Jungthung RF	-	-	3.26	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	11	4	IUSPP Annual reports, 1994-99
Kaki RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Kaliyoni RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Karbi Anglong	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Langlakso RF (proposed)	-	-	53.47	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Longnit RF	-	-	11.76	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	20	10	IUSPP Annual reports, 1994-99
Mikir Hills RF	~26°25'	~93°20'	29.98	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	2	2	IUSPP Annual reports, 1994-99
Patradisa RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Singason area	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Umjakani RF (proposed)	-	-	-	-	-	-	-	-	-	Choudhury, 2003

Distribution of *Macaca leonina* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Karimganj</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Badshahitilla RF	-	-	-	-	-	-	-	-	-	Continued occurrence doubtful.
Dohalia RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Longai RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Patharia Hill RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Shingla RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Tilbhum RF	-	-	-	-	-	-	-	-	-	Continued occurrence doubtful.
										Choudhury, 2003
<i>Marigaon</i>										
Kolakhat RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Sonaikuchi RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Nagaon</i>										
Bagser RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Borpani RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Doboka RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Lumding RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>North Cachar Hills</i>										
Borail PRF	-	-	1.76	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Borail RF	-	-	1.04	TWE	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	5	4	IUSPP Annual reports, 1994-99
Borail RF	-	-	1.59	TWE	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	4	4	Choudhury, 2003
Khurimming RF	-	-	10.84	TWE	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Langtingmupa RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Tinsukhia</i>										
Bherjan WLS	~27°30'	~95°22'	7.21	TSE	Habitat destruction (P/Pr/F)	Decline	Decline	14	12	IUSPP Annual Report, 1994-97
Borajan WLS	27°05'	95°04'	-	TSE	Habitat destruction (P/Pr/F), selective felling (P)	Decline	Decline	29	16	IUSPP Annual Report, 1994-97
Burni-Dihing RF (north & south blocks)	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Dangori RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Dibru-Saikhowa NP	-	-	340	-	-	-	-	-	-	Choudhury, 2003
Digboi RF (West block)	-	-	-	-	-	-	-	-	-	Choudhury, 2003

Distribution of *Macaca leonina* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Dirok RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Dum Duma RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Hahkhathi RF	-	-	-	-	-	-	-	-	-	Continued occurrence doubtful.
Kakojan RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Kumsang RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Kundil Kaliya RF	-	-	-	-	-	-	-	-	-	Continued occurrence doubtful.
Mesaki RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Namphai RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Padumoni WLS	-	-	-	TSE	Habitat destruction (P/Pr/F)	Decline	Decline	10	7	IUSPP Annual Report, 1994-97
Saleki RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
(proposed)	-	-	-	-	-	-	-	-	-	-
Tinkopani RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Tirap RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Torani RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Upper Dihing RF (East & West blocks)	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Sivasagar	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Abhoypur RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Dilli RF	-	-	-	-	-	-	-	-	-	Perhaps extinct. A. Choudhury, 2003
Geleky RF	-	-	-	-	-	-	-	-	-	-
Manipur										
<i>Chandel</i>										
Moreh PRF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Yangoupokpi-Lokchao WLS	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Churachandpur</i>										
Keilam Hill	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Sanctuary	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Tolbung RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Senapati</i>										
<i>Tamenglong</i>										
Irangmukh RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Ukhrul</i>										
Anko range	-	-	-	-	-	-	-	-	-	Choudhury, 2003

Distribution of *Macaca leonina* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Shiroi range	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Meghalaya										
East Garo	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Songsek RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Jaintia Hills</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Narpu RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Saipung RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Khasi hills (East and West)</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Ri-Bhoi</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Nongkhyilem WLS & RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
South Garo	-	-	1.6	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	27	21	IUSPP Annual Report, 1994-97
Arangiri	-	-	-	-	-	-	-	-	-	
Mahadeo (Balpakhrum NP)	-	-	22	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual Report, 1994-97
Siju WLS	-	-	5.2	-	-	-	-	-	-	Contiguous with Balpakram NP. Choudhury, 2003
West Garo	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Mizoram										
Aizawl	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Champai</i>										
Murlen NP	-	-	200	-	-	-	-	-	-	Choudhury, 2003
Lengteng WLS	-	-	120	-	-	-	-	-	-	Choudhury, 2003
<i>Kolasib</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Lunglei</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Lawngtlai</i>	-	-	110	-	-	-	-	-	-	Choudhury, 2003
Ngengpui WLS	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Mamit</i>										
Dampa WLS	-	-	500	-	-	-	-	-	-	Choudhury, 2003
Irangmukh RF	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Saiha</i>										
Palak-dui	-	-	-	-	-	-	-	-	-	Choudhury, 2003

Distribution of *Macaca leonina* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Phanwgpu WLS	-	-	50	-	-	-	-	-	-	Choudhury, 2003
Nagaland										
<i>Dimapur</i>	-	-	202	-	-	-	-	-	-	Choudhury, 2003
<i>Itanki NP</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Kohima</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Mokokchung</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Mon</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Phek</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Tuensang</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Fakim WLS</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Wokha</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>Satoi in Zunheboto</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
Tripura										
<i>North Tripura</i>	-	-	-	-	-	-	-	-	-	Choudhury, 2003
<i>South Tripura</i>	-	-	46	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	56	34	Gupta, 1994
<i>Gunti WLS</i>	-	-	389.5	-	-	-	-	-	-	Choudhury, 2003
<i>Trishna WLS</i>	-	-	170.6	-	-	-	-	-	-	Choudhury, 2003
<i>West Tripura</i>	-	-	46	TMD	Hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	29	19	Gupta, 1994
<i>Sepahjiala WLS</i>	-	-	18.53	-	-	-	-	308	-	14 groups. Found in adjacent areas too. S. Debbarma, 2002; Choudhury, 2003

E - Evergreen forest, SE - Semi-evergreen forest, TMD - Tropical Moist Deciduous forest, TWE - Tropical Evergreen forest, TSE - Tropical Semi-evergreen forest

Macaca mulatta mulatta (Zimmermann, 1780)

LEAST CONCERN

Synonyms	<i>Cercopithecus mulatta</i> Zimmermann, 1780 <i>Simia (Cercopithecus) fulvus</i> Kerr, 1792 <i>Simia resus</i> Audebert, 1798 <i>Simia erytraea</i> Shaw, 1800 <i>Macaca (Pitheca) nipalensis</i> Hodgson, 1840 <i>Macaca (Pitheca) oinops</i> Hodgson, 1840 <i>Macaca mulatta vestita</i> Milne-Edwards, 1892 <i>Macaca mulatta villosa</i> (True, 1894) <i>Macaca siamica</i> Kloss, 1917 <i>Macaca mulatta mcmahoni</i> Pocock, 1932
Family	Cercopithecidae
Common names	Bengali: <i>Banar</i> ; Hindi: <i>Bandar</i> , <i>Lal bandar</i> , <i>Lal mukh ka bandar</i> , <i>Lal mukhwala bandar</i> ; Hindko: <i>Baojha</i> ; Marathi: <i>Makad</i> ; Nepali: <i>Rato Bandar</i> , <i>Hajaria Bandar</i> ; Oriya: <i>Mankad</i> ; Pashto: <i>Shado</i> , <i>Beszoo</i> ; Rai: <i>Pupa</i> ; Telugu: <i>Kothi</i> ; Urdu: <i>Bandur</i> ; English: Indian Rhesus Macaque, Rhesus Monkey
Level of assessment	Subspecies
Habit	Arboreal and terrestrial, diurnal, social, female biased ratio, multi male-multi female group, omnivorous
Habitat	Temperate coniferous, moist and dry deciduous forests, mangroves, scrub, rain forest, cropland, human habitation, roadside, temples, openland, agricultural lands, mixed forests, bamboo forests
Niche	Open canopy forest, ground dwelling, forest fringe, human settlements.
Elevation	Up to 4,000m.
Distribution	
Global	Afghanistan?, Bangladesh, Bhutan, India, Nepal, Pakistan, Myanmar, Thailand, Laos, Vietnam
South Asia	Bangladesh, Bhutan, India, Nepal, Pakistan
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,001 km ² [Bangladesh = <60 km ² ; India = >2,000 km ² ; Nepal = <150 km ²]
Locations/subpopulations	Many / Many. Fragmented. Decline of locations and subpopulation has not been worked out.
Habitat status	Stable in area. Predicted to decline by <10% in the next 10 years. Quality of habitat stable.
Threats	Past threats: Hunting, trade, accidental mortality, road kills, trapping, ecological imbalance (changes in native species dynamics), habitat loss, forest fire Present and future threats: Poisoning in Himachal Pradesh, human-animal conflict, wildfire, human settlement in Nepal terai
Trade	Local trade for meat for food and whole animal for pets and road shows. Hunted for sustenance living in northeastern and central India and mid western Nepal. In northeastern India, monkey brain is a delicacy. Tribals eat these macaques in

Bhamragarh (Maharashtra, India) and the population is almost wiped out.

Population

Generation time

12 years

Total population

>1,00,000

Mature individuals

>10,000

Population trend

Not known. Predicted to decline in future (Rate of decline not known)

Data source

Census or monitoring, field study, informal sightings, literature; observed, estimated; 95% confidence

Status

SAP CAMP (Ver. 3.1)

LEAST CONCERN

Rationale

Category based on population number and geographic distribution. Widely distributed in South Asia and more than 10,000 mature individuals estimated, which makes this taxon Least Concern. Even though a few threats are identified, they are not suspected to cause sharp changes to the population.

2001 Red List (Ver. 2.3)

Lower Risk - near threatened

Justification for change

Better / new information available at workshop

National Status

Bangladesh: **Endangered B2ab(iii)** ↓ **Near Threatened**
Restricted in distribution in Bangladesh and some locations are subject to change in quality as also persecution by humans due to human-animal conflicts. Since the taxon can adapt well, the national status of Endangered is lowered to Near Threatened.

Bhutan: **Endangered B2ab(iii)** ↓ **Near Threatened**
Restricted in distribution in Bhutan and some locations are subject to change in quality as also persecution by humans due to human-animal conflicts. Since the taxon can adapt well, the national status of Endangered is lowered to Near Threatened.

India: **Least Concern**
The Indian population of this taxon is widely distributed. As the taxon is well adapted to changing environments, the status is Least Concern

Nepal: **Endangered B2ab(iii)** ↓ **Near Threatened**
Restricted in distribution in Nepal and some locations are subject to change in quality as also persecution by humans due to human-animal conflicts. Since the taxon can adapt well, the national status of Endangered is lowered to Near Threatened.

Pakistan: **Near Threatened**
Widely distributed in Pakistan and the trends are similar to the Indian situation. However,

Uncertainty

The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.

Wildlife Legislation

Bangladesh: Schedule III, Bangladesh Wildlife (Preservation) (Amendment) Act, 1974

India: Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002

Nepal: National Parks and Wildlife Conservation Act, 1973 under common species list, but considered as protected (All primates)

CITES

Appendix II

Presence in Protected Areas

Bangladesh	<i>Chittagong</i> : Chunathi WLS <i>Sylhet</i> : Rama Kalanga WLS
India	<i>Andhra Pradesh</i> : Coringa WLS, Eturnagaram WLS, Kawal WLS, Kinnerasani WLS, Lanja Madugu Sivaram WLS, Manjira WLS, Pakhal WLS, Pocharam WLS, Pranahita WLS <i>Arunachal Pradesh</i> : Eagle Nest WLS, Itanagar WLS, Mehao WLS, Mouling NP, Namdapha NP, Pakhui WLS, Sessa Orchid Sanctuary, Tale Valley WLS <i>Assam</i> : Bherjan WLS, Chakrasila WLS, Gibbon WLS?, Manas NP, Nameri NP, Pabitora WLS, Podumoni WLS <i>Bihar</i> : Valmiki NP <i>Haryana</i> : Bir Sikargarh WLS <i>Himachal Pradesh</i> : Chail WLS, Great Himalayan NP <i>Jharkand</i> : Palamau WLS <i>Maharashtra</i> : Chaprala WLS, Bhamragarh WLS <i>Meghalaya</i> : Balphakram NP, Namdapha NP, Nokrek NP, Nongkhylliem NP, Siju WLS <i>Tripura</i> : Sepahijala WLS
Nepal	<i>Central Province</i> : Lang Tang NP <i>Eastern Province</i> : Makalu Barun NP
Pakistan	<i>Islamabad</i> : Margallah Hills NP <i>NWFP</i> : Ayubia NP

Recommendations

Research	Taxonomy, survey, limiting factor research
Management	Habitat management, wild population management, monitoring, translocation, sustainable utilization, public education, genome resource banking, limiting factor management, work in local communities, management of commensal population to reduce man-animal conflict. In Himachal Pradesh, the government is developing an Act to translocate the monkeys from urban areas to forested areas.

Captive stocks

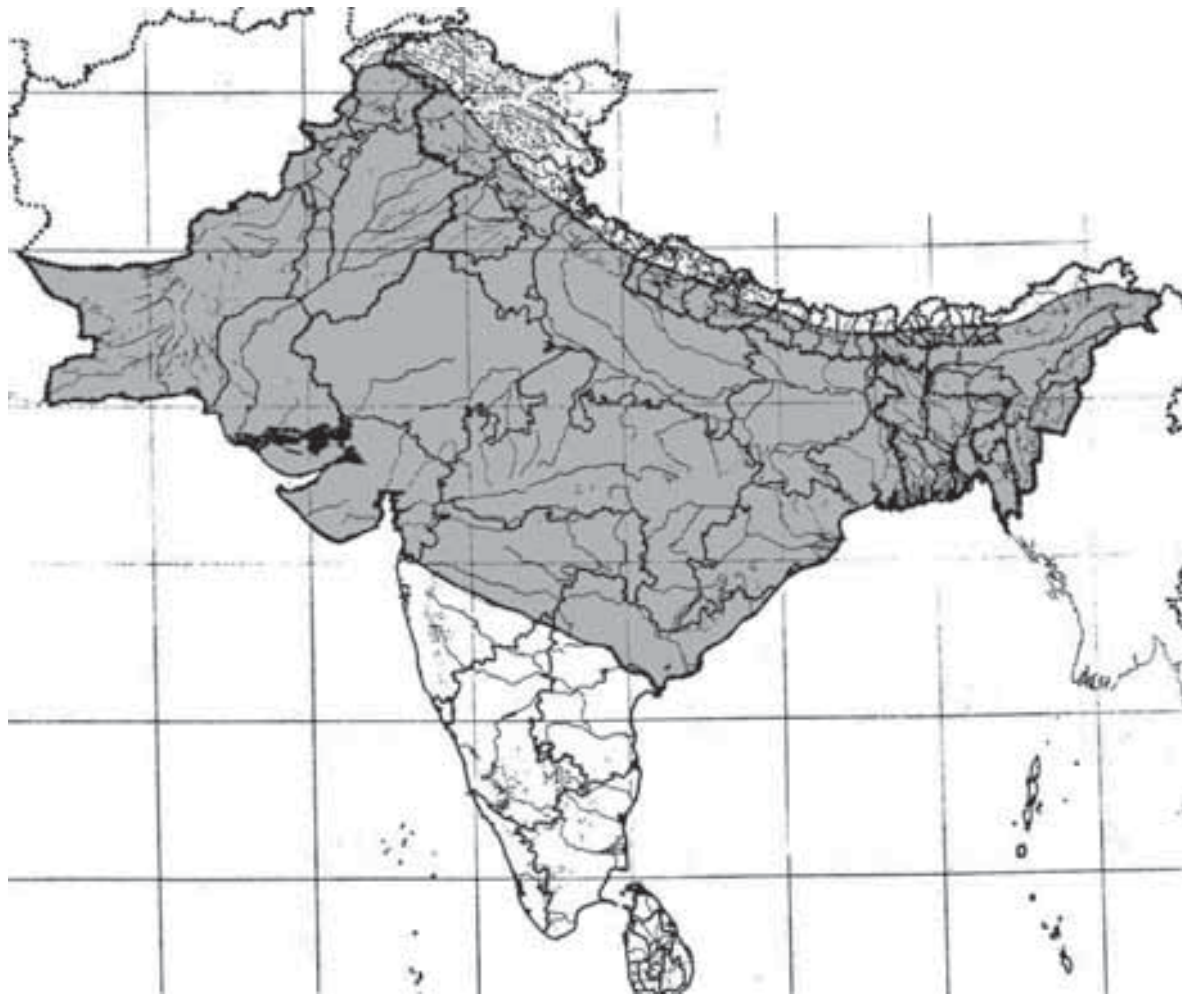
South Asia: 55 zoos (232.269.82.611)
5 zoos in Bangladesh (>21.>38.>8.>95), 42 zoos in India (184.192.70.446), 7 zoos in Pakistan (27.37.4.68) and 1 zoo in Sri Lanka (0.2.0.2).
World over: 2 institutions which hold 2 females in total.

Comments

Population moving towards city in the Himalayan range. Most of the monkeys were trapped from the forests to export to USA, as urban monkeys were not preferred for research. Identification and distribution of subspecies needs further research to resolve taxonomic confusion. A survey to delineate boundaries of subspecies is required. Studies of population dynamics in forested and urban areas needed. This group has focused primarily on forest dwellers since those animals are of significance to conservation. On the other hand, the group recognises the fact that a significant decline in the number of forest dwellers is due to their migration to nearby human habitation where they seem to enjoy the more attractive yet extremely unstable habitat. In addition this phenomena is resulting in increasing man-animal conflict and is a serious problem which requires attention at the earliest. The group also understands that the management strategies for the animals in forest and the commensal animals would have to be different. Initiate *ex situ* Program within 3 years in Nepal. From some areas (Nepal, Himachal Pradesh, Andhra Pradesh, parts of Maharashtra, Dehra Dun) good data is available (reference cited). Other areas assessment is subjective based on known forested areas. Changing human tolerance levels towards macaques is a threat. Population in Bangladesh is under threat due to continuous conflict with humans. Main rproblem is due to increasing commensalism and population growth in urban and agricultural growth. This is stimulated by a loss of forest habitat and tendency of humans to feed monkeys oin villages, temples and urban areas.

- Sources** Brandon-Jones *et al.*, 2002; Chalise and Ghimire, 1998; CZA 2000-2001; Ghimire, 2000; Groves, 2001; Hilton-Taylor, 2000; ISIS Abstract Report 2001; Mohnot and Sahoo, 2002; Preetha and Singh, 1978; Preetha and Singh, 1981; Mammals of Pakistan C.A.M.P., 2003 (unpub.); Roberts, 1997; SAZARC 2002 Biological Information Sheets (2002): P.S. Bhatnagar, M.K. Chalise, M.M. Feeroz, E. Imam, S.K. Sahoo, T.K. Shreshta, C.H. Southwick, C. Srinivasulu C.A.M.P. questionnaire on protected areas (2002): M. Barua, S.S. Chandiramani, S. Debbarma, C. Loma, S. Mahadev, M.A. Parsa, P. Ram, Sada Ram, S.P. Samant, G. Santha, A.K. Sen, B. Srinivas, P. Srivastava, W.G. Momin
- Compilers** M. K. Chalise, M.K. Ghimere, S.C. Ghimere, B.J. Karki, Awadesh Kumar, H. Kumar, M.K. Misra, S. Ram, S.K. Sahoo, M. Singh, P. Srivatsava.
- Reviewers** D. Brandon-Jones, M.K. Chalise, A. Eudey, S. Mitra, S.K. Sahoo, M.S. Pradhan

Distribution range of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan



400 0 400

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BANGLADESH										
Chittagong										
Chandpur Bazar	- 21°58	- 92°04	5	HuS	Human animal conflict (P/Pr/F)	Decline	Decline	88	51	Feeroz <i>et al.</i> , 1995
Chunathi WLS	-	-	3	E	Habitat destruction (P/Pr/F)	Decline	Decline	70	39	Feeroz <i>et al.</i> , 1995
Hazarikhil	- 22°21	- 92°17	8	E	Habitat destruction (P/Pr/F)	Decline	Decline	97	48	Feeroz <i>et al.</i> , 1995
Kaptai	-	-	10	E	Habitat destruction (P/Pr/F)	Decline	Decline	91	61	Feeroz <i>et al.</i> , 1995
Cox's Bazar										
Fashia Khali	-	-	3	E	Habitat destruction (P/Pr/F)	Decline	Decline	39	17	Feeroz, 1999
Himchani	-	-	7	E	Habitat destruction (P/Pr/F)	Decline	Decline	79	39	Feeroz, 1999
Padua	22°03	92°07	2	E	Habitat destruction (P/Pr/F)	Decline	Decline	77	31	Feeroz <i>et al.</i> , 1995
Satghar	~22°00	~92°00	2	E	Habitat destruction (P/Pr/F)	Decline	Decline	47	21	Feeroz, 1999
Sitakunda	22°37	91°39	1	H, SE	Habitat destruction (P/Pr/F)	Decline	Decline	41	22	Feeroz <i>et al.</i> , 1995
Teknaf	20°52	92°18	5	E	Habitat destruction (P/Pr/F)	Decline	Decline	87	41	Feeroz, 1999
Ukhia	21°15	92°07	5	E	Habitat destruction (P/Pr/F)	Decline	Decline	65	31	Feeroz, 1999
Dhaka										
Dhaka										
Bangasal	~23°43	~90°45	1	HuS	Human animal conflict (P/Pr/F)	Decline	Decline	10	6	Ahsan, 1984, Feeroz <i>et al.</i> 1995
S.A. factory	~23°43	~90°25	2	HuS	Human animal conflict (P/Pr/F)	Decline	Decline	49	2?	Ahsan, 1984, Feeroz <i>et al.</i> 1995
Shakani Bazaar	-	-	2	HuS	Human animal conflict (P/Pr/F)	Decline	Decline	15-20	8-9	Ahsan, 1984, Feeroz <i>et al.</i> 1995
Gagifera										
Boroni	-	-	5	HuS	Human animal conflict (P/Pr/F)	Decline	Decline	117	69	Feeroz <i>et al.</i> 1995
Khulna										
(Sundarbans)										
Hiron point	-	-	15	M	Habitat destruction (P/Pr/F)	Decline	Decline	167	97	Feeroz <i>et al.</i> 1995, Sharmin pers. comm., R. Khan, 2000
Kotka	-	-	20	M	Habitat destruction (P/Pr/F)	Decline	Decline	297	139	Feeroz <i>et al.</i> 1995, Sharmin pers. comm., R. Khan, 2000
Mandarbari	23°01	90°01	10	M	Habitat destruction (P/Pr/F)	Decline	Decline	97	37	M.M. Feeroz pers. comm.
Madanifena										
Chanmugonia	-	-	7	HuS	Human animal conflict (P/Pr/F)	Decline	Decline	212	130	Feeroz <i>et al.</i> 1995, Sharmin pers. comm., R. Khan, 2000
Manikgong										
Dhamrai	-	-	5	HuS	Human animal conflict (P/Pr/F)	Decline	Decline	52	33	M.M. Feeroz pers. comm.
Narayanagong										
Narayanagong	23°37	90°30	6	HuS	Human animal conflict (P/Pr/F)	Decline	Decline	73	47	M.M. Feeroz pers. comm.

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Tangail</i> Rasulpur (in Madhupur)	23°16	89°52	9	D	Human animal conflict (P/P/r/F)	Decline	Decline	119	51	Feeroz <i>et al.</i> , 1995, Ahsan, 1994
Sylhet <i>Moulvi Bazar</i> Rama Kalanga WLS	-	-	10	SE	Habitat destruction (P/P/r/F)	Decline	Decline	-	-	Feeroz <i>et al.</i> 1995
Phatuntula West Bhanugach FR	24°21	91°48	2 20	HuS SE	Human animal conflict (P/P/r/F) Habitat destruction (P/P/r/F)	Decline Decline	Decline Decline	97 77	49 39	Feeroz, 1999 Feeroz, 1999
BHUTAN	-	-	-	-	-	-	-	-	-	
INDIA										
Andhra Pradesh <i>Adilabad</i> Adilabad & adj. forests	15°46 -20	78- 79°42	>2000	DD	Trapping (P/F), fire (P/F)	Decline	Decline	>10000	>400	EOO: > 20,000 km ²
Asifabad & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Basar Temple town	-	-	-	Temple	-	-	-	-	-	C. Srinivasulu, BIS
Khanapur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Kausa gutta Kawal WLS	19°07	78°42	-	F	-	-	-	26	-	300m. Fooden <i>et al.</i> , 1981 C. Srinivasulu, BIS
Khanpur	19°04	78°37	-	F	-	-	-	18	-	3-5 km west. 550m. Fooden <i>et al.</i> , 1981 C. Srinivasulu, BIS
Nirmal & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nirmal	19°05	78°30	-	F	-	-	-	>90	-	16 km east, 360m. Fooden <i>et al.</i> , 1981 C. Srinivasulu, BIS C. Srinivasulu, BIS
Pranahita WLS Sirpur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS C. Srinivasulu, BIS
<i>Chittoor</i> Sri Kalahasti & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Sri Venkateswara	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
NP Tirupathi & adj. forests	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Cuddapah Prodattur & adj. forests	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
East Godavari Addatigala & adj. forests	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Coringa WLS	17°03	81°52	-	F	-	-	4	-	C. Srinivasulu, BIS
Rajamundry & adj. villages	17°02	81°49	-	Farm	-	-	4	-	75m. 13 km north east. Fooden et al., 1981. C. Srinivasulu, BIS
Rajamundry				Orchard	-	-	100	-	50m. 3 km north east. Fooden et al., 1981
<i>Guntur</i>									
Angaluru	16°12	79°47	-	Village	-	-	12	-	125m. Fooden et al., 1981
Jaggyyapet	16°55	80°07	-	Village	-	-	18	-	75m. 4 km north. Fooden et al., 1981
Jaggyyapet	16°53	80°06	-	Village	-	-	4	-	50m. Fooden et al., 1981
Kotnemalipuri	16°28	79°56	-	Village	-	-	12	-	100m. Fooden et al., 1981
Kondra Mutla	16°08	79°46	-	Village	-	-	>23	-	125m. Mixed with <i>M. radiata</i> . Fooden et al., 1981
Macherla & adj. forests	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Nallamala hills	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Narasaraopet	16°14	80°02	-	Road	-	-	25	-	75m. 2 km north-west. Fooden et al., 1981
Sattenapalle	16°23	80°09	-	Village	-	-	10	-	75m. Fooden et al., 1981
Siddelbar	16°33	79°16	-	Temple	-	-	1	-	Fooden et al., 1981
Tenali	16°14	80°37	-	Farm	-	-	>50	-	10m. 5.5 km west. Fooden et al., 1981
Velatur	16°08	80°52	-	Farm	-	-	18	-	5m. Fooden et al., 1981
Venukonda	16°03	79°45	-	Town	-	-	50	-	150m. Fooden et al., 1981
Hyderabad	-	-	-	U	-	-	>11	-	C. Srinivasulu, BIS
Hyderabad	-	-	-	Temple	-	-	15	-	560m. Fooden et al., 1981
Osmania Univ. campus	-	-	-	.	-	-	.	-	C. Srinivasulu, BIS
<i>Kammam</i>									

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Kimmerasani WLS	-	-	-	-	-	-	-	~400	-	In 50 groups. Found in adjacent areas too. S. Mahadev, 2002, C. Srinivasulu, BIS
Yellandu & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Karimnagar</i> Karimnagar & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Lanja Madugu	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Sivaram WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Manthani & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Mahadevpur RF	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Peddapalli & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Vemulavada Temple town	-	-	-	Temple	-	-	-	-	-	C. Srinivasulu, BIS
<i>Khammam</i> Kolhagudem	17°34	80°38	-	Orchard Town	-	-	-	11 25	-	100m. 4 km north. Fooden <i>et al.</i> , 1981
Tallada	17°13	80°25	-	Road	-	-	-	12	-	100m. Fooden <i>et al.</i> , 1981
Wira	17°11	80°22	-	Road	-	-	-	4	-	100m. 1 km south. Fooden <i>et al.</i> , 1981
Yellandu	17°35	80°20	-	Town	-	-	-	11	-	200m. Fooden <i>et al.</i> , 1981
<i>Krishna</i> Gokavaram	16°16	81°13	-	Village	-	-	-	>43	-	Fooden <i>et al.</i> , 1981
Hanuman junction	16°38	80°58	-	Village	-	-	-	25	-	20m. Fooden <i>et al.</i> , 1981
Kondapalle	16°37	80°33	-	Town	-	-	-	20	-	70m. Fooden <i>et al.</i> , 1981
Mudhalaparaval	16°56	80°45	-	Orchard	-	-	-	250	-	120m. Fooden <i>et al.</i> , 1981
Muttugudem	17°07	80°37	-	Village	-	-	-	>27	-	80m. Fooden <i>et al.</i> , 1981
Vijayawada & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Vijayawada	16°32	80°38	-	Temple	-	-	-	19	-	80m. Mixed with <i>M. radiata</i> . Fooden <i>et al.</i> , 1981
<i>Kurnool</i> Adoni & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Atmakur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Dhone & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Katam & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Mahanandhi & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nallamala hills	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nandyal & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Medak</i>	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Manjira WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Pocharam WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Siddipet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Toopran & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Zaheerabad & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Mehbubnagar</i>	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Achampet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Charakonda	16°42	78°43	-	Village	-	-	-	1	-	420m. Fooden <i>et al.</i> , 1981
Gadwel & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Jadcherla & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Kalawakurthi & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Kolhapur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Mahbubnagar & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Nallamala hills	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Velchichara	16°37	78°07	-	Village	-	-	-	75	-	500m. Fooden <i>et al.</i> , 1981
Wanaparthi & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Nalgonda</i>	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Bhongir & adj. forests	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Miryalguda & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Nallamala hills Warangal	- 18°08	- 79°53	-	F Town Temple	-	-	-	-	-	C. Srinivasulu, BIS
Yadagirigutta & adj. forests	-	-	-	F	-	-	-	3	-	C. Srinivasulu, BIS
Yadagirigutta	17°32	78°55	-	Temple	-	-	-	17	-	350m. Fooden <i>et al.</i> , 1981
<i>Nizamabad</i>										C. Srinivasulu, BIS
Ali Sagar	18°42	78°00	-	G	-	-	-	100	-	530m. Fooden <i>et al.</i> , 1981
Balkonda	18°52	78°20	-	F	-	-	-	45	-	440m. Fooden <i>et al.</i> , 1981
Kamareddi & adj. forests	-	-	-	F	-	-	-	-	-	Fooden <i>et al.</i> , 1981
Lingampet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Lingareddi & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Mustapur	18°17	78°10	-	F	-	-	-	-	-	560m. 0.5 km east. Fooden <i>et al.</i> , 1981
Pocharam WLS	- 18°35	- 77°53	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Rudrur Agri. stat.	-	-	-	Farm	-	-	-	1	-	440m. Fooden <i>et al.</i> , 1981
<i>Ongole</i>										
Darsi	15°46	79°41	-	Village	-	-	-	6	-	100m. Mixed with <i>M. mulatta</i> . Fooden <i>et al.</i> , 1981
<i>Prakasam</i>										
Giddalur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Markapur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nallamala hills	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Rangareddy</i>										
Ibrahimpatnam & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Medchal & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Vikarabad & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Srikakulam</i>										
Tekkali	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Warangal</i>	17°55	79°57	-	Temple	-	-	-	8	-	340m. Fooden <i>et al.</i> , 1981
Ashok Nagar	-	-	-	F	-	-	-	~1500	-	In 100 groups. B. Srinivas, 2002
Etumagaram WLS	18°08	79°53	-	F	-	-	-	100	-	C. Srinivasulu, BIS
Jakram	-	-	-	-	-	-	-	-	-	4 km southwest. 325m. Fooden <i>et al.</i> , 1981
Jangaon & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Mulung & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Narsampet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Pakkhal Lake	17°56	79°58	-	Park	-	-	-	50	-	340m. Fooden <i>et al.</i> , 1981
Pakkhal WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Palampet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Warangal & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
<i>Visakhapatnam</i>	-	-	-	-	-	-	-	-	-	-
Padem & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Visakhapatnam & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
<i>Vizianagaram</i>	-	-	-	-	-	-	-	-	-	-
Vizianagaram & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>West Godavari</i>	-	-	-	-	-	-	-	-	-	-
Demeru	17°02	81°41	-	Farm	-	-	-	25	-	40m. Fooden <i>et al.</i> , 1981
Tadepalleudem & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Arunachal Pradesh	-	-	-	-	-	-	-	-	-	-
Mishmi Hills	~28°15	~96°00	-	-	-	-	-	-	-	Groves, 2001
<i>Lower Dibang</i>	-	-	-	-	-	-	-	-	-	-
Mehao WLS	~27°39	~96°15	-	-	-	-	-	-	-	Common in adjacent areas too A.K. Sen, 2002
<i>East Kameng</i>	-	-	-	-	-	-	-	-	-	-
Daiman RF	-	-	-	E	Hunting (Pr)	Decline	Decline	-	-	A. Kumar and G. S. Solanki

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Eagle Nest WLS	27°09'	92°21'	-	E	Hunting (Pr)	Decline	Decline	-	-	A. Kumar and G.S. Solanki
Itanagar WLS	-	-	-	SD	Hunting (Pr)	Decline	Decline	-	-	A. Kumar and G.S. Solanki
Mouling NP	28°32'	94°46'	-	E	Hunting (Pr)	Decline	Decline	-	-	A. Kumar and G.S. Solanki
Namdapha NP	~27°39'	~96°30'	-	E	Hunting (Pr)	Decline	Decline	560	-	A. Kumar and G.S. Solanki
Pakhui WLS	27°14'	92°51'	-	TE	Habitat destruction (P/Pr/F)	Decline	Decline	500	-	S.S. Chandiramani, 2002 IUSPP, Annual reports. In 25 groups. Found in adjacent areas too. C. Loma, 2002
1. Bhola Nallah	~27°14'	~92°51'	5	SE	Hunting (P/Pr/F), Habitat destruction (P/Pr/F)	Decline	Decline	65	-	A. Kumar and G.S. Solanki
2. Bomdila way	27°15'	92°24'	0	E	Hunting (Pr)	Decline	Decline	-	-	A. Kumar and G.S. Solanki
3. Dichu Nallah	-	-	4	TE	Hunting (P/Pr/F), Habitat destruction (P/Pr/F)	Decline	Decline	19	-	A. Kumar and G.S. Solanki
4. Mithun Nallah	-	-	2	E	Hunting (P/Pr/F), Habitat destruction (P/Pr/F)	Decline	Decline	15	-	A. Kumar and G.S. Solanki
5. Phool Nallah	-	-	1.5	E	Hunting (P/Pr/F), Habitat destruction (P/Pr/F)	Decline	Decline	21	-	A. Kumar and G.S. Solanki
6. Sukha Nallah	-	-	3.4	R	Hunting (P/Pr/F), Habitat destruction (P/Pr/F)	Decline	Decline	20	-	A. Kumar and G.S. Solanki
Papmpara RF	-	-	-	SD	Hunting (Pr)	Decline	Decline	-	-	A. Kumar and G.S. Solanki
Sessa Orchid Sanctuary	27°11'	92°32'	-	SE	Hunting (Pr)	Decline	Decline	-	-	A. Kumar and G.S. Solanki
Tale WLS	-	-	-	E	Hunting (Pr)	Decline	Decline	-	-	A. Kumar and G.S. Solanki
Upper Dehing East block RF	27°25'	95°42'	4	SD	Hunting (Pr) Habitat destruction (P/Pr/F)	Decline	Decline	22	-	A. Kumar and G.S. Solanki
Assam										
<i>Bongaigaon</i>										
Bamungaon RF	26°55'	94°10'	1.5	-	Habitat destruction (P/Pr/F)	-	-	-	-	IUSPP Annual reports
Kakarjan	-	-	2.4	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Manas NP	26°43'	90°59'	48.9	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
<i>Cachar Hills</i>										
Innerline RF	-	-	13.52	SE, MD	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
<i>Dhubri</i>										
Chakrasila WLS	26°20'	90°18'	4.5	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Mohagaya	-	-	13.9	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
<i>Dibrugarh</i>										
Bherjan WLS	~27°30'	~95°00'	0.1	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Dehingmukh	-	-	6.6	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Jokai	-	-	2.6	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Joypur RF	27°14'	95°34'	10,869	TMD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Namdang RF	27°20'	94°55'	2.6	TSE	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Podumani WLS	-	-	0.1	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Teljam	-	-	1.6	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
<i>Golaghat</i>	-	-	-	-	-	-	-	-	-	-
Hogaghar RF	-	-	0.373	TMD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Nambor West	-	-	3	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Panbhari RF	-	-	1.2	TMD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
<i>Jorhat</i> (Gibbon WLS?)	-	-	-	-	-	-	-	~200	-	5 groups. Found in adjacent areas too. G. Santha, 2002
<i>Kamrup</i>	-	-	-	-	-	-	-	-	-	-
Kulsi Plantation RF	~25°50'	~91°20'	1,855	TMD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Badshahia RF	-	-	8.8	TSE	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Chandhubi USF	-	-	12	TMD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Gorbhanga RF	-	-	1,146	TMD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Kuwasingh RF	-	-	9.98	TMD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Norgang RF	-	-	1,256	TMD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Pantani RF	-	-	11,285	TMD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Ranni RF	-	-	4,369	TMD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
<i>Karbi Anglong</i>	-	-	-	-	-	-	-	-	-	-
Amreng RF	25°43'	92°60'	5.69	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Amsolong PRF	26°00'	93°30'	1	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Balasure PRF	06°30'	80°0'	1	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Bokajan PRF	26°00'	93°43'	0.98	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Borjuri PRF	-	-	21	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Boriander DC RF	-	-	0	SE, MD	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Daldali RF	-	-	12.33	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Dhansiri RF	-	-	7.03	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Disama RF	-	-	69.1	TSE, MD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Dolanoro PRF	-	-	0.55	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Englonggiri DC RF	-	-	1,125	TSE, MD	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Hafjan PRF	-	-	-	TSE, MD	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Haitapahar DCRF	-	-	5	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Jungthung RF	-	-	3	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Kaki RF	-	-	14	TSE	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Kalaphar PRF	-	-	0.97	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99
Kaltoni RF	-	-	5	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual Reports, 1994-99

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

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Kaziranga RF	~26°37'	~93°18'	3.38	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Kaziranga RF	~26°37'	~93°18'	20	TSE	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Khonbanon RF	-	-	1	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Langlako PRF	-	-	53.46	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Longnit DCRF	-	-	12	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Mahmaya DCRF	-	-	-	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Miyungdisa DCRF	-	-	-	TSE, MD	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Nambor North block RF	-	-	3	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Patradisa DCRF	-	-	7	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Tikok PRF	-	-	2.589	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Ujkir RF	-	-	23	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Umjakani PRF	-	-	1	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Western Mikir Hills PRF	-	-	3.96	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
<i>Karimganj</i>									
Longai RF	-	-	2.12	TSE, MD	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Dohali RF	-	-	9	TSE	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
North Cachar Hills RF	25°30'	93°00'	37.9	SE, MD	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Patharia RF	24°11'	24°31'	1.07	SE, MD	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Singla RF	~27°02'	~88°19'	1.92	SE, MD	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Tilbhum RF	-	-	2.08	TSE	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
<i>Kokrejhar</i>									
Kachugaon Ripu RF	-	-	84.7	-	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Barail PRF	26°45'	90°09'	-	-	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Barail RF	25°08'	93°09'	1.76	SE, MD	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Khurimung RF	25°08'	93°09'	1.59	SE, MD	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Langting Mupa RF	-	-	10.84	SE, MD	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Panimur PRF	90°07'	90°07'	49.33	SE, MD	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
Upper Jiri RF	-	-	-	SE, MD	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
<i>Mariagaon</i>									
Pobitora WLS	-	-	8.9	TSE	Habitat destruction (P/Pr/F)	Decline	-	-	IUSPP Annual Reports, 1994-99
<i>Sonitpur</i>									
Nameri NP	27°01'	92°43'	25	Dg	Habitat destruction (Pr)	Decline	-	-	In 5 groups. Found in adjacent areas too. M. Barua, 2002
<i>Tinsukhia</i>									
Kumsong RF	27°44'	95°44'	2.252	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	-	-	A. Kumar and G.S. Solanki

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Borajan WLS	27°05'	95°04'	4.5	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	A. Kumar and G.S. Solanki
Dangori RF	27°38'	95°38'	5.02	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Dibang RF	~28°00'	~95°38'	4	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Doomdooma RF	27°33'	95°33'	4	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Hahkhati RF	27°44'	95°40'	0.67	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Hollagaon	-	-	0.5	TSE	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Kukaramora	-	-	0.5	TSE	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Mesaki RF	~27°42'	~95°40'	1.366	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Torami	-	-	2.9	-	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Upper Dehing	27°24'	95°33'	1	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
West block RF	27°25'	95°42'	1	TWE	Habitat destruction (P/Pr/F), Pets (Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Upper Dehing	-	-	-	-	-	-	-	16, 943	-	In 1200 groups. Found in adjacent areas too. P. Ram, 2002
East block RF	-	-	-	-	-	-	-	-	-	-
Bihar										
<i>Champaran</i>										
Valmiki TR	-	-	-	-	-	-	-	-	-	-
Gujarat										
<i>Dangs</i>	20°51'	73°33'	-	F	-	-	-	20	-	325m. Fooden <i>et al.</i> , 1981
Ghori Hills	20°56'	76°37'	-	F	-	-	-	50	-	200-275m. 2-5 km northwest. Fooden <i>et al.</i> , 1981
Mahal	21°05'	73°78'	-	F	-	-	-	40	-	250m. Fooden <i>et al.</i> , 1981
Hadya	20°43'	73°38'	-	F	-	-	-	-	-	3 km west. 420m. Fooden <i>et al.</i> ,
Vasunia 1981										
<i>Surat</i>										
Hadya	21°05'	73°78'	-	F	-	-	-	40	-	250m. Fooden <i>et al.</i> , 1981
Kerwada forest	21°20'	73°30'	-	F	-	-	-	-	-	Fooden <i>et al.</i> , 1981
<i>Valsad</i>										
Sadard devi	20°48'	73°29'	-	F	-	-	-	50	-	1 km west. 75m. Fooden <i>et al.</i> , 1981
Haryana										
<i>Punchkula</i>										
Bir Sikargarh WLS	-	-	-	-	-	-	-	95	-	In 2 groups. Found in adjacent areas too. Sada Ram, 2002
Himachal Pradesh										
	30°12'	75°47'	50,000	Tm, SA, C, D, S,	Collection for bio-medical research (P), trapping for road shows (P), Man-made	Decline 10 yrs	Decline 10 yrs	12000	5000	5 km ² per group totally 1500 km ² surveyed. S.K. Sahoo, S.M.
	-33°12'	-79°44'	& more							

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Bilaspur</i>	-	-	-	AF, UA	fire (P/Pr/F), man-animal conflict (F)	-	-	4	-	Monhot, IUSPP
Barasule	31°05	76°12	-	F	-	-	-	23	-	All male group
Badha Ghate	-	-	-	F	-	-	-	41	-	
Chhanjijiar	-	-	-	F	-	-	-	-	-	
<i>Chamba Valley</i>	32°09	76°02	-	F	-	-	-	30	-	
Bairagarh	32°09	76°02	-	F	-	-	-	31	-	
Bakkoh	32°09	76°02	-	F	-	-	-	26	-	
Banikhet	32°09	76°02	-	F	-	-	-	85	-	
Bharmouri	32°09	76°02	-	F	-	-	-	16	-	
Chowari	32°09	76°02	-	F	-	-	-	77	-	
Dalhouse	32°51	79°58	-	F	-	-	-	49	-	
Kakira	32°09	76°02	-	F	-	-	-	17	-	
Kalatop	32°09	76°02	-	F	-	-	-	-	-	
<i>Kangra</i>	32°01	76°08	-	F	-	-	-	-	-	
Beijnath	-	-	-	F	-	-	-	51	-	
Chhota Bangal	32°01	76°08	-	F	-	-	-	65	-	
Dharmasala	-	-	-	F	-	-	-	44	-	
Kori	-	-	-	F	-	-	-	2	-	All male group
Ranikot	32°09	76°02	-	F	-	-	-	-	-	
Saho	32°36	76°13	-	F	-	-	-	14	-	
Satrundi	32°09	76°02	-	F	-	-	-	46	-	
Shimot	32°09	76°02	-	F	-	-	-	-	-	
<i>Kullu</i>	31°37	77°20	-	F	-	-	-	-	-	
Banjar	31°50	77°26	-	F	-	-	-	53	-	
Great Himalayan NP	-	-	-	F	-	-	-	-	-	
Malana	32°06	77°04	-	F	-	-	-	27	-	
Manali	32°07	77°10	-	F	-	-	-	19	-	
Naggar	-	-	-	F	-	-	-	-	-	
Nirmund	-	-	-	F	-	-	-	17	-	
<i>Mandi</i>	~31°43	~76°55	-	F	-	-	-	31	-	
Karsog	-	-	-	F	-	-	-	49	-	
Suni	-	-	-	F	-	-	-	-	-	
Tattapani	-	-	-	F	-	-	-	-	-	
Thogi	-	-	-	F	-	-	-	41	-	
<i>Shimla</i>	~31°06	~77°10	-	F	-	-	-	31	-	
Baldayan	~31°06	~77°10	-	F	-	-	-	10	-	
Bamta	-	-	-	F	-	-	-	-	-	

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Bharari	~31°06	~77°10	-	F	-	-	-	42	-	
Chharbara	-	-	-	F	-	-	-	11	-	
Chopal	-	-	-	F	-	-	-	64	-	
Dasholi	-	-	-	F	-	-	-	34	-	
Durgapur	-	-	-	F	-	-	-	21	-	
Junga	-	-	-	F	-	-	-	31	-	
Kackrog	-	-	-	F	-	-	-	40	-	
Koti	31°06	77°07	-	F	-	-	-	1	-	
Kufri	-	-	-	F	-	-	-	56	-	
Mushobra	-	-	-	F	-	-	-	59	-	
Narkanda	-	-	-	F	-	-	-	27	-	
Ollan	-	-	-	F	-	-	-	14	-	
Simla Rural	31°07	77°09	-	F	-	-	-	86	-	
Simla Urban	31°07	77°09	-	F	-	-	-	402	-	
<i>Sirmour</i>	31°02	77°08	-	F	-	-	-	27	-	
Bodhan	-	-	-	F	-	-	-	27	-	
Chamora	-	-	-	F	-	-	-	51	-	
Choodhara	-	-	-	F	-	-	-	-	-	
Ganesh Ka Bagh	31°02	77°08	-	F	-	-	-	8	-	
Gumma	31°02	77°08	-	F	-	-	-	16	-	
Haripur	-	-	-	F	-	-	-	-	-	
Kotibonch	-	-	-	F	-	-	-	-	-	
Malwala	-	-	-	F	-	-	-	41	-	
Renuka	31°02	77°08	-	F	-	-	-	49	-	
Rohnot	31°02	77°08	-	F	-	-	-	23	-	
Sarahan	31°31	77.48	-	F	-	-	-	21	-	
Sataun	-	-	-	F	-	-	-	23	-	
Shilai	31°02	77°08	-	F	-	-	-	-	-	
Thal Ka Nola	-	-	-	F	-	-	-	-	-	
Uchh Ghat	-	-	-	F	-	-	-	38	-	
<i>Solan</i>	31°08	76°58	-	F	-	-	-	36	-	
Arki	~30°55	~77°07	-	F	-	-	-	33	-	
Barog	30°56	77°12	-	F	-	-	-	72	-	
Chail WLS	31°54	76°57	-	F	-	-	-	58	-	
Kasauli	-	-	-	F	-	-	-	23	-	
Kummarhati	-	-	-	F	-	-	-	23	-	
Parwanoo	-	-	-	F	-	-	-	23	-	
Sabathu	-	-	-	F	-	-	-	30	-	
Solan	30°54	77°06	-	F	-	-	-	41	-	
Jharkhand										

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Population Past %/yr	Population Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Palamau</i> Palamau TR	-	-	-	-	-	-	-	37,184	-	Found in adjacent areas too. S.P. Samant, 2002
Madhya Pradesh <i>Bastar</i> Orche	19°10	81°10	-	-	-	-	-	-	-	Fooden <i>et al.</i> , 1981
<i>Nagpur</i> Nagpur	21°10	79°05	-	G	-	-	-	39	-	300m. Fooden <i>et al.</i> , 1981
Maharashtra <i>Amravati</i> Punch Bol	16°23	77°23	-	F	-	-	-	100	-	825m. Fooden <i>et al.</i> , 1981
Bhim Kund Point	21°24	77°20	-	F	-	-	-	100	-	875m. Fooden <i>et al.</i> , 1981
<i>Gadchiroli</i> Chaprala WLS	18°20	80°81	15	DD	Fire (P/Pr/F) logging (P), deforestation (P), Hunting for meat (Pr)	Decline	Decline	47	-	P. Srivastava, Maharashtra forest dept. census, BIS P. Srivastava, BIS
Bhamragarh WLS	-	-	-	-	-	-	-	-	-	-
Meghalaya <i>Changlang</i> Namdapha NP	~27°39	~96°30	17.7	TMD	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
<i>Khasi hills</i> Nongkhylem NP	-	-	29	TMD	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
<i>South Garo Hills</i> Balpakram NP	-	-	22	TMD	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
<i>Siju WLS</i>	25°32	90°14	5.18	TMD	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
<i>West & East Garo hills</i> Nokrek NP	-	-	4.86	TMD	Habitat destruction (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports Found in adjacent areas too. W.G. Momin, 2002
Kapilas	-	-	8.5	-	-	Stable	Stable	20-25	13-15	Sangita Mitra, Awadesh Kumar
Orissa <i>Koraput</i> Malakanagiri	18°22	81°54	-	-	-	-	-	1	-	Fooden <i>et al.</i> , 1981

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Tripura	~23°45'	~91°30'								
North Tripura	-	-	-	-	-	-	-	540	214	Sangita Mitra, Awadesh Kumar
No exact location	-	-	-	-	-	-	-	2425	1045	Sangita Mitra, Awadesh Kumar
South Tripura	-	-	-	-	-	-	-	419	172	Sangita Mitra, Awadesh Kumar
No exact location	-	-	-	-	-	-	-	-	-	38 groups. Found in adjacent areas too. S. Debbarma, 2002
West Tripura	-	-	-	-	-	-	-	-	-	
No exact location	-	-	-	-	-	-	-	-	-	
Sepahijala WLS	-	-	-	-	-	-	-	-	-	
Uttaranchal										
<i>Dehra Dun</i>	-	-	74	MD, Sal	Collection (P), Road kills (Pr/F)	Decline	Decline	1496	600	Pirta & Singh, 1978; Pirta, et al., 1978
Sivaliks	-	-	-	-	-	-	-	-	-	
West Bengal										
<i>Darjeeling</i>	~27°02'	~88°16'	3.5	-	Tea cultivation (P/Pr/F), Encroachment (P/Pr)	Stable	Decline	-	-	Sangita Mitra, Awadesh Kumar
Bengdubi	27°10'	88°40'	6	-	Anthropogenic activities (P/Pr/F)	Stable	Decline	20-30 (25)	25	Sangita Mitra, Awadesh Kumar
Lava (adjacent area, Kalimpong)	-	-	-	-	-	-	-	-	-	
Mahakal temple	-	-	2	Temple	Anthropogenic activities (P/Pr/F)	Stable	Stable	-	-	Sangita Mitra, Awadesh Kumar
NEPAL										
Nagarcot	-	-	-	-	-	-	-	-	-	Up to 2,400m. Groves, 2001
Tarai, Bhutan	-	-	-	-	-	-	-	-	-	Groves, 2001
Duars	-	-	-	-	-	-	-	-	-	
Central Nepal										
<i>Lumbini</i>	27°34'	83°15'	1	Tm	-	Decline 10%	Stable	67	52	Chalise, 1998
Matin Danda	27°34'	85°10'	3	Schima, Pine Forest	-	Stable	-	330	158	Chalise, 1998
Pashupati	-	-	-	-	-	-	-	-	-	
Kathmandu										
Bajsayogini	27°34'	85°10'	1	Schima-Almus	-	Decline 10%	Decline 10%	96	53	Chalise et al., 2000
(Sanku)	27°30'	85°30'	2	M sal	Agriculture (P), Firewood (Pr), timber collection (F)	Decline 10%	Decline 10%	55	30	Chalise M.K., 2000
Balthali (Kavre)	-	-	-	-	-	-	-	-	-	
LangTang NP	-	-	-	-	-	-	-	-	-	

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
1. Bhadaure	28°20	85°15	30	Tm HS village	-	-	-	29	16	M.K. Chalise and M.K. Ghimire
2. Rite Khola	28°20	85°15	30	Tm HS	-	-	-	20	10	M.K. Chalise and M.K. Ghimire
Samundratar	28°20	85°15	30	Hill Sal	-	-	-	6	2	M.K. Chalise and M.K. Ghimire
Swayambhu	27°34	85°10	2	Pine Dg	-	Decline 10%	-	308	145	Chalise <i>et al.</i> , 2000
Tripureshwar	27°34	85°10	0.4	G	-	Decline 10%	-	308	145	Chalise <i>et al.</i> , 2000
Trisuli	28°20	85°15	30	Hill Sal	-	-	-	10	3	M.K. Chalise and M.K. Ghimire
Eastern Nepal Lakuwa (Makalu Barun NP)	27°28	87°08	3	Schima-Castanopsis Forest	-	Decline 10%	-	44	22	Ghimire, S.K. 2000
Mid Western Nepal Berj, Bardia Thakurdwara	-	-	2	Sal	-	-	-	20	10	Ghimire, M.K. 2000
Far Western Province Mahakali Ghodaghodi (Sukla-Panta Wildlife Cons. area)	28°41	80°56	1	Mixed Sal	-	Decline 10%	-	50	22	Ghimire, S.K. 2000
Western Nepal Gandaki Medical college, Kaili River	28°15	84°00	2	Tm	-	Decline 10%	-	125	60	
PAKISTAN NWFP Abbotabad Ayubia NP	-	-	-	MT	-	-	-	400-500	-	M. Ayaz, 1996; M. Farooque, 1999
Khurespur town	-	-	-	MT	-	-	-	10	-	Rizwan, 2002
<i>Southern Chitral</i>										

Distribution of *Macaca mulatta mulatta* in Bangladesh, Bhutan, India, Nepal and Pakistan from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Kanti	35°35'	71°41'	-	Dry forest	-	-	-	-	-	T.J. Roberts, 1997
Utzun	35°30'	71°40'	-	Dry forest	-	-	-	-	-	T.J. Roberts, 1997
Shishi Koh	-	-	-	Dry forest	-	-	-	-	-	T.J. Roberts, 1997
<i>Hazara</i> Lower Kaghan Valley	-	-	-	-	-	-	-	-	-	T.J. Roberts, 1997
Paras	34°39'	73°31'	-	-	-	-	-	-	-	T.J. Roberts, 1997
Shogran	34°37'	73°28'	-	-	-	-	-	-	-	T.J. Roberts, 1997
<i>Kohistan</i> Dewan Nallah	-	-	-	MT	-	-	-	5	-	T.J. Roberts, 1997
Kuz Paro (Pallas)	-	-	50	St-Oak	-	-	-	-	-	M. Ayaz, 2003
<i>Northern Dir</i> Landrai valley	-	-	-	-	-	-	-	-	-	T.J. Roberts, 1997
Kundlia Shahi (Kumraf)	-	-	-	MT	-	-	-	30-40	-	M. Ayaz, 2003
Gwaldri valley	35°30'	71°40'	-	-	-	-	-	-	-	T.J. Roberts, 1997
Dokdhusra	35°32'	72°13'	-	-	-	-	-	-	-	T.J. Roberts, 1997
Azad Kashmir <i>Muzaffarbad</i> NP in Muzaffarbad	-	-	20	MT	Habitat loss, trapping live animals (P/Pr/F)	-	-	~550	-	I. Ahmad, 2002
<i>Neelum Valley</i> Murree hills	~33°54'	~73°22'	-	-	-	-	-	-	-	T.J. Roberts, 1997
Margalla hills NP	~33°48'	~73°10'	120	S	Habitat degradation (P/Pr/F)	-	-	~150	-	T.J. Roberts, 1997; M. Anwar
Islamabad Pir Sohara Road	-	-	-	S	-	-	-	5	-	Rizwan, 2002

AF - Agricultural fields, C - Coniferous forest, D - Deciduous forest, DD - Dry Deciduous forest, Dg - Degraded forest, E - Evergreen forest, F - Forest, G - Garden, HuS - Human Settlement, M - Mangrove, M Sal - Montane Sal forest, MD - Moist Deciduous forest, R - Riverine forest, S - Scrub jungle, SA - Sub-Alpine forest, SD - Semi-deciduous forest, SE - Semi-evergreen forest, St HS - Subtropical forest, St HS - Sub-tropical Hill forest, TE - Tropical Evergreen forest, Tm - Temperate forest, Tm HS - Temperate Hill Sal forest, TMD - Tropical Moist Deciduous forest, TSE - Tropical Semi-evergreen forest, TWE - Tropical Wet Evergreen forest, UA - Urban Areas

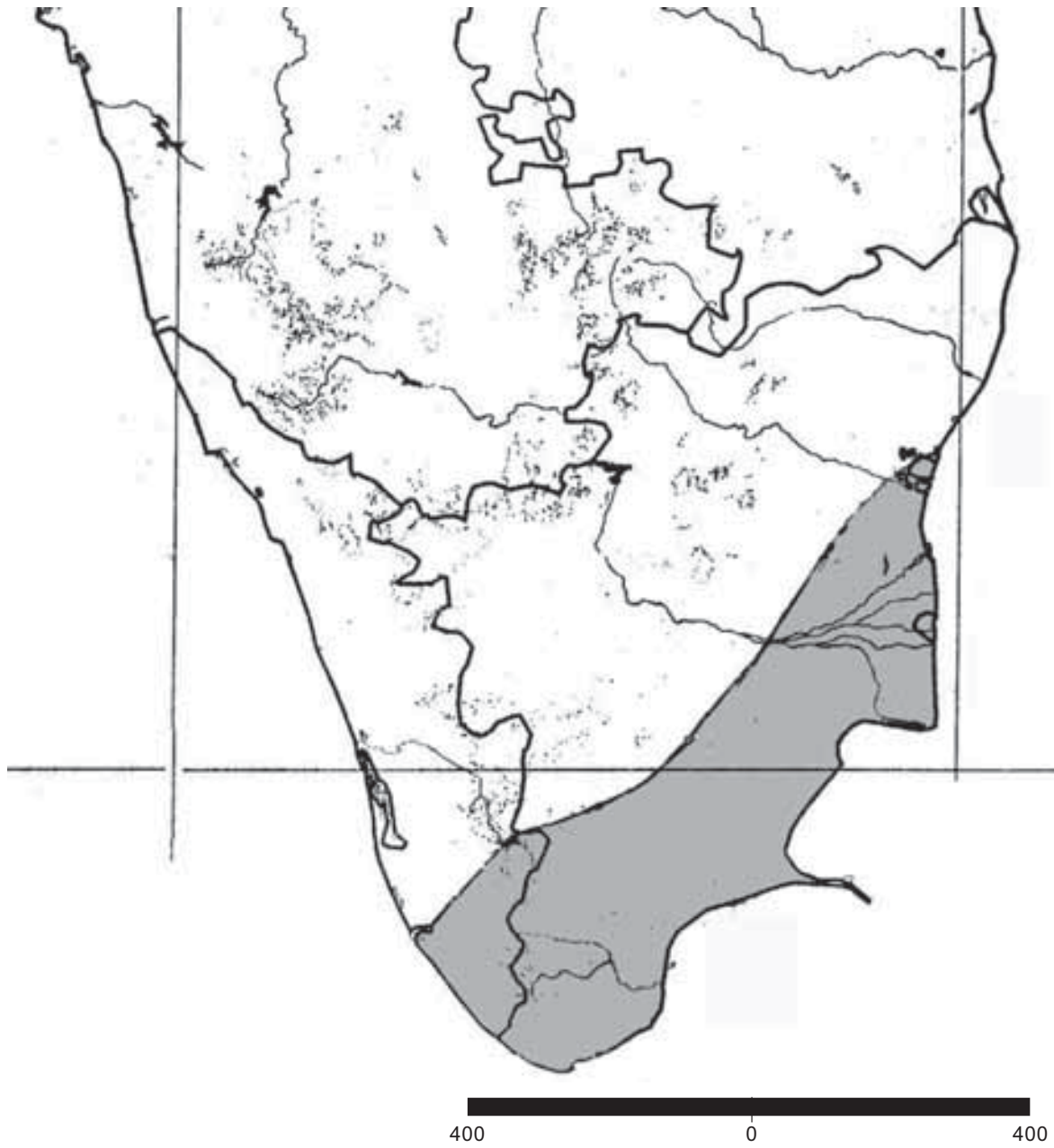
Macaca radiata diluta Pocock, 1931

LEAST CONCERN

Synonyms	None
Family	Cercopithecidae
Common names	Malayalam: <i>Vella Kurangu</i> ; Tamil: <i>Kulla Kurangu</i> ; English: Bonnet Macaque, Pale-bellied Bonnet Macaque
Level of assessment	Subspecies
Notes on taxonomy	The subspecies for <i>M. radiata</i> are those recognized by Fooden (1981). This subspecies may have to be elevated to full species status because its life history pattern is different from <i>M. r. radiata</i> .
Habit	Ubiquitous, diurnal, omnivorous, terrestrial
Habitat	All forest types from scrub to evergreen, forest, plantations, agricultural lands, urban areas
Niche	Terrestrial in low canopy vegetation, arboreal in high canopy vegetation
Elevation	Up to 2000m.
Distribution	
Global	Endemic to India
Extent of Occurrence	60,000 km ²
Area of Occupancy	>2,001 km ²
Locations/subpopulations	40 / Not known. Contiguous. This species occur everywhere in all habitats including urban areas.
Habitat status	Not known. Decline predicted due to urbanization. Decrease in quality due to loss of fruiting trees and urbanization.
Threats	Past threats: Hunting, trade, research, habitat loss Present threats: Road kills Future threats: Human interference
Trade	Local trade in live animals for research and road shows.
Population	
Generation time	10-12 years
Total population	<5,000
Mature individuals	Not known
Population trends	Increasing
Data source	Indirect information, field study, informal sightings; projected; 95% confidence

Status	
SAP CAMP (Ver. 3.1)	LEAST CONCERN
Rationale	Widely distributed in South Asia with around 5000 mature individuals. This subspecies is categorized as Least Concern because there is an increasing trend in the population and the threats are not serious.
2001 Red List (Ver. 2.3)	Lower Risk - least concern
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	Schedule II, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix I
Presence in Protected Areas	
India	<i>Kerala</i> : Neyyar WLS, Peechi-Vazhani WLS, Peppara WLS, Periyar NP, Periyar WLS, Shendurney WLS <i>Tamil Nadu</i> : Grizzled Giant Squirrel WLS, Kalakkad WLS, Mundanthurai WLS, Point Calimere WLS
Recommendations	
Research	Taxonomy, survey (for subspeciation)
Management	None
Captive Stocks	36 zoos in India (254.204.168.626). Subspecies not known
Comments	Male known to migrate between fragmented locations
Sources	Ali, 1981; Brandon-Jones <i>et al.</i> , 2002; CZA, 2000-2001; Easa and Jayaraman, 1998; Groves, 2001; Hilton-Taylor, 2000; Kerala Forest Department, 2001; KFRI, 1993; Napier, 1981; Ramachandran and Joseph, 2001a; SAZARC, 2002; Singh <i>et al.</i> , 1997a; Singh <i>et al.</i> , 1997b Biological Information Sheets (2002): Ajith Kumar, Sunita Ram C.A.M.P. questionnaire on protected areas (2002): A.D. Baruah, G.K. Joseph, T.U. Uthup
Compilers	R. Ali, H.R. Bhat, S. Ganapathiappan, G.K Joseph, R. Krishnamani, Ajith Kumar, P.O. Nameer, M.S. Pradhan, S. Ram, K.K. Ramachandran, G. Ramaswamy, A.K. Sharma, M. Singh, S.F.W. Sunderraj
Reviewers	R. Ali, D. Brandon-Jones, A. Eudey, G.K. Joseph, M.S. Pradhan

Distribution range of *Macaca radiata diluta*



Distribution of *Macaca radiata diluta* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA									
Kerala									
Punalur	09°00	76°55	-	MD-E	Habitat degradation (Pr), over-exploitation (Pr), fragmentation (Pr)	Increase 10 yrs Increase 10 yrs	150-175 (151)	75-90 (75)	KFRI, 1993
Ranni	-	-	-	MD-E	Habitat degradation (Pr), over-exploitation (Pr), fragmentation (Pr)	Increase 10 yrs Increase 10 yrs	250-300 (130)	125-150 (270)	KFRI, 1993
Buthapandi (Travancore)	08°15	77°27	-	-	-	-	-	-	North of Aramboly: Buthapandi; holotype of <i>M.r. diluta</i> . Napier, 1981
Idukki									
Penyar NP&WLS	09°32	77°12	400	MD-E	Habitat degradation (Pr), tourism (Pr)	Increase 10 yrs Increase 10 yrs	100-150 (128)	50-75 (70)	Population increase in tourism zone. G. K. Joseph, 2002
Kollam									
Thenmalai	-	-	-	MD-E	Habitat degradation (Pr), over-exploitation (Pr), fragmentation (Pr)	Increase 10 yrs Increase 10 yrs	700-800 (360)	350-400 (725)	KFRI, 1993
Pathanamthitta									
Konni RF	09°30	76°52	-	MD-E	Habitat degradation (Pr), over-exploitation (Pr), fragmentation (Pr)	Increase 10 yrs Increase 10 yrs	100-150 (125)	50-75 (65)	KFRI, 1993
Thiruvananthapuram									
Neyyar WLS and Peppara WLS	-	-	-	MD-E	-	Increase 10 yrs Increase 10 yrs	240-275 (243)	120-140 (125)	KFRI, 1993
Shendumey WLS	-	-	-	-	-	-	-	-	KFRI, 1993; T.U. Uthup, 2002
Thiruvananthapuram RF	08°41	76°57	-	MD-E	-	Increase 10 yrs Increase 10 yrs	240-275 (259)	175-200 (180)	KFRI, 1993
Pondicherry									
Pondicherry	11°59	79°50	-	-	-	-	-	-	Intermediate form. Groves, 2001
Tamil Nadu									
Shernelly (Nelliampathy Plateau)	10°30	76°45	-	-	-	-	-	-	455m. Napier, 1981
Dindugal									
Kodaikanal, 23 miles away	10°14	77°29	-	-	-	-	-	-	1667m. Napier, 1981
Palni Hills	~10°18	~77°31	600	MD, P	Habitat alterations (Pr)	-	1500-3000 (2500)	-	Present pop. trends: Increasing. Rauf Ali, pers. comm.
Palni Hills	10°15	77°30	-	-	-	-	-	-	910m. Napier, 1981

Distribution of *Macaca radiata diluta* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
(northern slopes) Palni foothills (southwest)	-	-	-	-	-	-	-	-	-	Groves, 2001
<i>Madurai</i> Alagar Koil	09°49'	77°49'	5	S	-	-	-	75-125 (100)	-	G. Ramaswamy, pers. comm.
<i>Nagapattinam</i> Point Calimere WLS	10°17'	79°52'	6	S	Habitat degradation (Pr), over-exploitation (Pr), fragmentation (Pr)	Increase 10 yrs	Increase 10 yrs	45-55 (49)	22-28 (25)	Ramaswamy, 1994 Found in adjacent areas too. A.D. Bharuah, 2002
<i>Tirunelveli</i> Couttrallam RF	-	-	40	S-MD	Habitat degradation (Pr), over-exploitation (Pr), fragmentation (Pr)	Increase 10 yrs	Increase 10 yrs	150-250 (200)	75-125 (100)	Rauf Ali pers. comm.
Grizzled Giant Squirrel WLS	-	-	125	S	Habitat degradation (Pr), over-exploitation (Pr), fragmentation (Pr)	Increase 10 yrs	Increase 10 yrs	500-700 (600)	250-350 (300)	U. Kumar, 1990
Kalakad-Mundanthurai TR	~08°30'	~77°34'	800	S, WE	Habitat degradation (Pr), over-exploitation (Pr), fragmentation (Pr)	Increase 10 yrs	Increase 10 yrs	1500-2500 (2000)	750-1250 (1000)	Ali, 1981
Kambam	09°44'	77°18'	-	-	-	-	-	-	-	Groves, 2001

MD-E - Moist Deciduous to Evergreen forest, S - Scrub jungle, S-MD - Scrub to Moist Deciduous forest, WE - Wet Evergreen forest

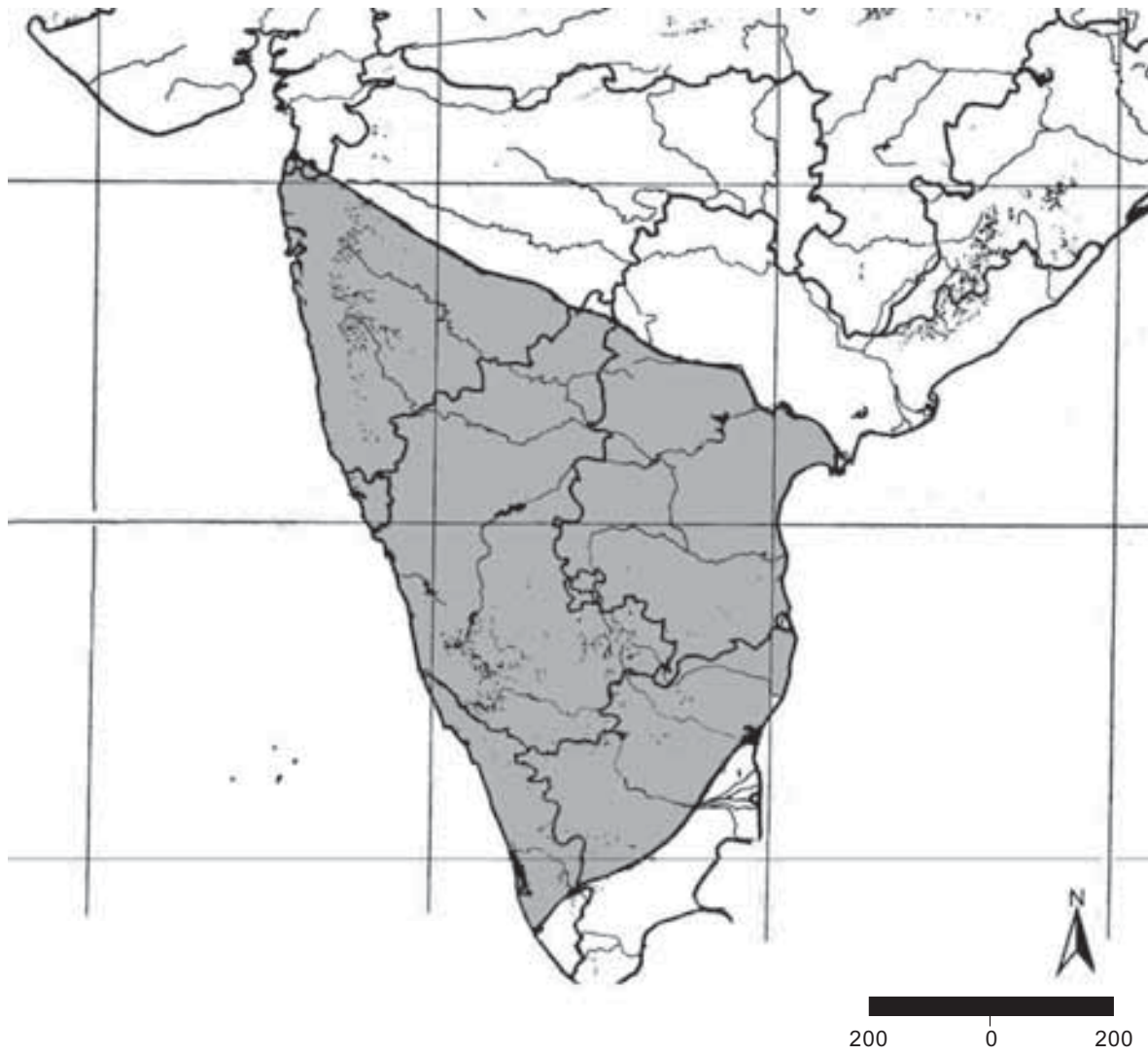
Macaca radiata radiata (E. Geoffroy Saint-Hilaire, 1812)

LEAST CONCERN

Synonyms	<i>Cercocebus radiatus</i> E. Geoffroy Saint-Hilaire, 1812 <i>Simia sinica</i> Griffith, 1821
Family	Cercopithecidae
Common names	Marathi: <i>Makad</i> ; English: Bonnet Macaque, Dark-bellied Bonnet Macaque
Level of assessment	Subspecies
Notes on taxonomy	The subspecies for <i>M. radiata</i> are those recognized by Fooden (1981). This subspecies <i>Macaca radiata radiata</i> shows migration between groups where as <i>M. r. diluta</i> shows female migration. <i>M. r. diluta</i> is much paler than <i>M. r. radiata</i> . Taxonomists may consider elevating these two subspecies to two species.
Habit	Diurnal, omnivorous, terrestrial
Habitat	Ubiquitous. All forest types including scrub to evergreen forests, agricultural lands and urban areas
Niche	Terrestrial in low canopy vegetation and arboreal in high canopy vegetation
Elevation	Up to 2600m.
Distribution	
Global	Endemic to India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,001 km ²
Locations/subpopulations	72 / Many. Contiguous.
Habitat status	Not known. Decrease in quality due to urbanization and loss of fruiting trees
Threats	Past threats: Agriculture, hunting, trade, road kills Present and future threats: Infrastructure, road kills, research, pathogens/parasites, storms/flooding
Trade	Domestic and commercial trade for research and road shows
Population	
Generation time	10-12 years
Total population	>1,50,000
Mature individuals	>10,000
Population trend	Total population and mature individuals are increasing (Rate and period not known).
Data source	Census or monitoring, field study, indirect information, literature; projected, observed; 95% confidence

Status	
SAP CAMP (Ver. 3.1)	LEAST CONCERN
Rationale	Widely distributed in southern India with more than 10,000 mature individuals estimated, which makes this taxon Least Concern. Even though a few threats are identified, they are not suspected to cause sharp changes to the population
2001 Red List (Ver. 2.3)	Lower Risk - least concern
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	Schedule II, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix II
Presence in Protected Areas	
India	<i>Andhra Pradesh:</i> Eturnagaram WLS, Lanja Madugu Sivaram WLS, Nellapattu WLS, Sri Venkateswara NP <i>Goa:</i> Bondla WLS, Mollem NP, Mollem WLS <i>Karnataka:</i> Bandipur NP, Bannerghatta NP, Kudremukh NP, Nagerhole NP <i>Kerala:</i> Aralam WLS, Chimmony WLS, Idukki WLS, Silent Valley NP, Thattekkad WLS, Wynaad WLS <i>Maharashtra:</i> Radhanagari WLS; Sanjay Gandhi NP, Tansa WLS
Recommendations	
Research	Taxonomy, life history, survey
Management	Sustainable utilization
Captive Stocks	36 zoos in India (254.204.168.626). Subspecies not known
Comments	Taxonomic status needs revision. Females are known to migrate
Sources	Ali, 1981; Bhat, 1970; Brandon-Jones <i>et al.</i> , 2002; CZA 2000-2001; D' Souza and Singh, 1992; Easa and Jayaraman, 1998; Groves, 2001; Hilton-Taylor (Compiler), 2000; KFRI, 1993; Krishnamani, 1994; Napier, 1981; Ramachandran and Joseph 2001a; SAZARC 2002; Singh <i>et al.</i> , 1997a; Singh <i>et al.</i> , 1997b; Singh and Pirta, 1980 Biological Information Sheet (2002): A.K. Chakraborty, Ajith Kumar, Sunitha Ram, C. Srinivasulu
Compilers	R. Ali, H. Andrews, H.R., Bhat, S. Ganapathiappan, G. K Joseph, R. Krishnamani, H. Kumar, P.O. Nameer, M.S., Pradhan, S. Ram, K.K. Ramachandran, G. Ramaswamy, A.K. Sharma, W. S. F. Sunderraj.
Reviewers	R. Ali, D. Brandon-Jones, A. Eudey, M.S. Pradhan

Distribution range of *Macaca radiata radiata*



Distribution of *Macaca radiata radiata* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA										
Andhra Pradesh										
<i>Adilabad</i>	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Adilabad & adj. forests				Temple						C. Srinivasulu, BIS
Basar Temple town										
<i>Anantapur</i>										
Dhamavaram & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Guntakal & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Kadri & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Chittoor</i>										
Sri Kalahasti & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Sri Venkateswara NP	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Tirupathi & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Cuddapah</i>										
Prodattur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Raychoti & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Rejampet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>East Godavari</i>										
Addatigala & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Rajamundhry & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
<i>Guntur</i>										
Kondra Mutla	16°08	79°46	-	Village	-	-	-	>23	-	125m. Mixed with <i>M. mulatta</i> . Fooden et al., 1981
Macherla & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS

Distribution of *Macaca radiata radiata* in India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
forests Nallamala hills	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Hyderabad</i>	-	-	-	U	-	-	-	>11	-	C. Srinivasulu, BIS
Osmania Univ. campus	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
<i>Karimnagar</i>	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Lanja Madugu	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Sivaram WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Manthani & adj. forests	-	-	-	Temple	-	-	-	-	-	C. Srinivasulu, BIS
Vemulavada Temple town	-	-	-	-	-	-	-	-	-	-
<i>Krishna</i>	16°32	80°38	-	Temple	-	-	-	19+40	-	80m. Mixed with <i>M. mulatta</i> . Fooden <i>et al.</i> 1981. C. Srinivasulu, BIS
Vijayavada & adj. forests	16°45 16°37	80°38 80°33	-	Village Village	-	-	-	3 3	-	80m. Fooden <i>et al.</i> , 1981 70m. Fooden <i>et al.</i> , 1981
Mailavaram Kondapalle	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Kurnool</i>	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Adoni & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Atmakur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Dhone & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Katam & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Malakondapenta	15°30	78°50	-	-	-	-	-	-	-	Napier, 1981
Mahanandhi & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nallamala hills	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nandyal & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Srisaillam	16°05	78°52	-	F	-	-	-	10	-	460m. Fooden <i>et al.</i> , 1981
Srisaillam	16°03	78°53	-	Temple	-	-	-	75	-	570m. 4km south east. Fooden <i>et al.</i> , 1981
Nandyal	15°30	78°30	-	Town	-	-	-	15	-	Fooden <i>et al.</i> , 1981

Distribution of *Macaca radiata radiata* in India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Mehbubnagar</i> Gadwal & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Maneswaram	16°32	78°44	-	Temple	-	-	-	50	-	670m. Fooden <i>et al.</i> , 1981
Nallamala hills	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Wanaparthy & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Nalgonda</i>	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nallamala hills	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Yadagirigutta &	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Nellore</i>	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Gudur & adj. villages	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nellapattu WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Sriharikota island	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Eastern Ghats	14°45	79°10	-	-	-	-	-	-	-	Fooden <i>et al.</i> , 1981
<i>Ongole</i>	-	-	-	-	-	-	-	-	-	100m. Mixed with <i>M. radiata</i> .
Darsi	15°46	79°41	-	Village	-	-	-	6	-	Fooden <i>et al.</i> , 1981
Malakondapenta	15°48	79°01	-	-	-	-	-	3	-	Fooden <i>et al.</i> , 1981
Cumbum	15°35	79°08	-	Town	-	-	-	43	-	280m. Fooden <i>et al.</i> , 1981
Singarayakonda	15°14	80°02	-	Village	-	-	-	10	-	35m. Fooden <i>et al.</i> , 1981
Ulavapad	15°12	80°01	-	Road side	-	-	-	19	-	10m. 2km north. Fooden <i>et al.</i> , 1981
Ulavapad	15°11	80°01	-	Road side	-	-	-	13	-	10m. 1km north. Fooden <i>et al.</i> , 1981
<i>Prakasam</i>	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Giddalur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Markapur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nallamala hills	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Warangal</i>	-	-	-	F	-	-	-	-	-	In 100 groups. B. Srinivas, 2002
Eturnegaram	-	-	-	F	-	-	-	~1500	-	C. Srinivasulu, BIS
WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Narsampet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Palampet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS

Distribution of *Macaca radiata radiata* in India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Warangal & adj.	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
<i>Visakhapatnam</i>	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
<i>Visakhapatnam</i> & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
<i>West Godavari</i>	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Tadepallegudem & adj. forests	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Goa										
<i>North Goa</i>	15°35	74°00	-	DD	-	-	-	50-70	-	M.S. Pradhan, pers. comm.
Bondla WLS	15°20	74°15	-	MD-DD	-	-	-	50-70	-	M.S. Pradhan, pers. comm.
Molem WLS	-	-	-	-	-	-	-	-	-	-
Gujarat										
<i>Dangs</i>	20°44	73°54	-	F	-	-	-	50	-	800m. Fooden <i>et al.</i> , 1981
Babur Ghat	20°47	73°55	-	F	-	-	-	20	-	1000m. Fooden <i>et al.</i> , 1981
Bhambai	20°43	73°53	-	F	-	-	-	7	-	950m. Fooden <i>et al.</i> , 1981
Mogar Bara Hills	-	-	-	-	-	-	-	-	-	-
Karnataka										
Kolar town	13°08	78°08	-	-	-	-	-	-	-	256-370m. Napier, 1981
<i>Bangalore</i>	-	-	-	-	-	-	-	-	-	-
Bannerghatta NP	-	-	-	-	-	-	-	-	-	-
<i>Bellary</i>	15°19	76°28	-	-	-	-	-	2	-	450m. Fooden <i>et al.</i> , 1981
Vijayanagar	-	-	-	-	-	-	-	-	-	-
<i>Bijapur</i>	16°31	75°18	-	Town	-	-	-	31	-	570m. Fooden <i>et al.</i> , 1981
Jamkhandi	16°24	75°17	-	Road side	-	-	-	10	-	600m. 11km south Fooden <i>et al.</i> , 1981
Jamkhandi	-	-	-	-	-	-	-	-	-	-
Badami	15°57	75°42	-	Town	-	-	-	48	-	590m. Fooden <i>et al.</i> , 1981
Badami	15°57	75°42	-	Cave	-	-	-	42	-	590m. Fooden <i>et al.</i> , 1981
Badami	15°57	75°42	-	Temple	-	-	-	1	-	650m. Fooden <i>et al.</i> , 1981
Badami	15°57	75°42	-	Fort	-	-	-	>24	-	600m. Fooden <i>et al.</i> , 1981
Badami	15°57	75°42	-	Temple	-	-	-	17	-	600m. Fooden <i>et al.</i> , 1981
<i>Chamarajnagar</i>	-	-	-	-	-	-	-	-	-	-
Bandipur NP	-	-	-	-	-	-	-	-	-	-

Distribution of *Macaca radiata radiata* in India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Chikmagalur & Dakshina Kannada</i>	-	-	-	-	-	-	-	-	-	-
Kudremukh NP	-	-	-	-	-	-	-	-	-	-
<i>Dharwar</i>	15°08	74°56	-	-	-	-	-	1	-	600m. Fooden <i>et al.</i> , 1981
Devikop	15°28	75°02	-	-	-	-	-	4	-	700m. Fooden <i>et al.</i> , 1981
Dharwar	15°25	74°55	-	Road side	-	-	-	9	-	4.4-17.5 km southwest Fooden <i>et al.</i> , 1981
Dharwar	15°20	74°50	-	F	-	-	-	3	-	18.4-29.5 km southwest Fooden <i>et al.</i> , 1981
Gadag	15°25	75°37	-	Town	-	-	-	troops	-	Fooden <i>et al.</i> , 1981
<i>Kanara</i>	14°14	74°38	-	-	-	-	-	-	-	697m. Napier, 1981
Gersoppa	~14°40	~71°50	-	-	-	-	-	-	-	606m. Napier, 1981
Samasgi	14°48	74°08	-	F	-	-	-	-	-	Fooden <i>et al.</i> , 1981
Karwar	14°40	75°00	-	-	-	-	-	6	-	600m. Fooden <i>et al.</i> , 1981
Samsgi	-	-	-	-	-	-	-	-	-	-
<i>Mysore</i>	12°16	76°40	15	S	-	-	-	400-450 (420)	-	D' Souza & Singh, 1992
Chamundi	~12°31	~75°40	-	-	-	-	-	-	-	A few miles north of Mercara; 326m. Napier, 1981
Haleri Estate (northern Coorg)	-	-	-	-	-	-	-	-	-	-
Kudremukh NP	15°19	76°28	-	-	-	-	-	-	-	455m. Napier, 1981
Vijayanagar (Bellary, Hampi)	12°0	76°0	-	-	-	-	-	-	-	606m. Napier, 1981
Wotekolli (southern Coorg)	-	-	-	-	-	-	-	-	-	-
Kerala	-	-	-	-	-	-	-	-	-	-
<i>Ernakulam</i>	10°11	76°31	-	E, SE, MD	-	-	-	85-150 (100)	-	Present pop. trend: Increasing. KFRI, 1993, 1997 census
Malayathur	-	-	50	DD, S	Habitat loss (P/Pr/F), Fire (P/Pr/F)	-	-	50-100 (57)	30-60 (37)	Present pop. trend: Increasing. Shifting its habitat from forest to urban areas. KFRI, 1993, 1997
<i>Idukki</i>	10°15	77°06	20	Sh	-	-	-	40-75 (48)	24-45 (29)	Present pop. trends: Increasing. KFRI, 1993, 1997
Chinnar WLS	09°54	77°00	50	MD, SE	Habitat loss (P/Pr), habitat degradation (Pr/F), fragmentation (Pr/F), poaching (P),	-	-	150-200 (155)	90-120 (93)	Present pop. trends: Increasing. Shifting its habitat from forest to
Erkulam NP	-	-	-	-	-	-	-	-	-	-
Idukki WLS	-	-	-	-	-	-	-	-	-	-

Distribution of *Macaca radiata radiata* in India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Mankulam RF	-	-	-	E	over exploitation for trade zoos, labs and research (P), Fire (Pr) Habitat loss (P/Pr/F), Fire (P/Pr/F)	-	-	50-75 (55)	-	urban areas. KFRI, 1993, 1997 Present pop. trends: Increasing. KFRI, 1993, 1997
Thattakkad WLS	-	-	-	-	-	-	-	-	-	-
<i>Kannur</i> Aralam WLS	-	-	-	-	-	-	-	-	-	-
<i>Kannur</i>	11°59'	75°32'	-	MD, SE, E	-	-	-	350-400 (342)	-	KFRI, 1993, 1997
<i>Kozhikode</i> Kozhikode	09°58'	76°14'	-	SE, MD	-	-	-	25-75 (46)	-	KFRI, 1993, 1997
<i>Mallapuram</i> Nilamboor North	11°4'	76°75'	-	SE, E, TP	-	-	-	50-100 (80)	-	KFRI, 1993, 1997
<i>Nilamboor</i> South	11°4'	76°3'	-	SE, E, TP	-	-	-	150-200 (149)	-	KFRI, 1993, 1997
<i>Palghat</i> Mannarkkad	10°58'	76°28'	-	TP, SE	-	-	-	100-150 (129)	-	KFRI, 1993, 1997 census
<i>Nemmara</i>	10°34'	76°35'	-	MD	-	-	-	50-75 (64)	-	KFRI, 1993, 1997 census
<i>Palghat</i>	-	-	-	-	-	-	-	50-100 (83)	-	KFRI, 1993, 1997 census
<i>Parambikulam</i> WLS	10°23'	76°44'	150	SE, E, MD, TP	-	-	-	50-75 (54)	-	KFRI, 1993, 1997 census
<i>Silent Valley</i> NP	~10°46'	~76°42'	60	SE, E, TP	-	-	-	175-225 (192)	-	KFRI, 1993, 1997 census
<i>Thrissur</i> Chalakkudy	10°18'	76°20'	-	SE, E, MD	-	-	-	100-150 (125)	-	KFRI, 1993, 1997 census
<i>Chimmony</i> WLS	-	-	-	-	-	-	-	-	-	-
<i>Peechi-Vazhani</i> WLS	-	-	-	-	-	-	-	-	-	-
<i>Thrissur</i>	10°32'	76°14'	-	SE, MD	-	-	-	50-75 (54)	-	-
<i>Vazhachal</i>	-	-	-	SE, E, MD	-	-	-	65-275 (250)	-	KFRI, 1993, 1997 census

Distribution of *Macaca radiata radiata* in India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Wynaad</i> Wynaad North	11°6	76°00	-	MD, DD, TP	-	-	-	225-300 (233)	-	KFRI, 1993, 1997 census
Wynaad South	11°6	76°00	-	MD, DD, TP	-	-	-	225-300 (274)	-	KFRI, 1993, 1997 census
Wynaad WLS	11°6	76°00	270	MD, DD, TP	-	-	-	325-400 (330)	-	KFRI, 1993, 1997 census
Maharashtra										
<i>Alibag</i> Matheran	18°59	73°16	-	-	-	-	-	33	-	Fooden <i>et al.</i> , 1981
<i>Bombay</i> Borivili NP	19°10	72°55	-	F	-	-	-	12	-	Fooden <i>et al.</i> , 1981
Elephanta Island	18°57	72°56	-	Cave	-	-	-	14	-	75m. Fooden <i>et al.</i> , 1981
<i>Kolapur</i> Radhanagari	16°23	74°00	-	DD	-	-	-	15	-	Pradhan, 1995
WLS Sanjay Gandhi NP	-	-	-	DD	Trade (Pr), predation (Pr), urbanization (Pr)	-	-	90-100	-	R. Ali & M.S. Pradhan, pers. comm., 2002
<i>Nasik</i> Saptashring Trimbak	20°24 19°56	73°53 73°32	-	Temple Temple	-	-	-	25 25	-	1200m. Fooden <i>et al.</i> , 1981 900m. Fooden <i>et al.</i> , 1981
<i>Osmanabad</i> Sonari	18°30	75°25	-	Temple	-	-	-	100	-	550m. Fooden <i>et al.</i> , 1981
Upla	18°15	76°04	-	Village	-	-	-	13	-	560m. Fooden <i>et al.</i> , 1981
<i>Pune</i> Khandala	18°45	73°23	-	F	-	-	-	25-26	-	Fooden <i>et al.</i> , 1981
Ravangaon	18°21	74°38	-	Village	-	-	-	>20	-	550m. Fooden <i>et al.</i> , 1981
Shirsuphal	18°19	74°35	-	Temple	-	-	-	100	-	560m. Fooden <i>et al.</i> , 1981
<i>Ratnagiri</i> Ghatmatha	17°25	73°40	-	-	-	-	-	2	-	Fooden <i>et al.</i> , 1981
<i>Satara</i> Ghatmatha	~17°43	73°42	-	-	-	-	-	-	-	Napier, 1981
<i>Sholapur</i> Ramling	18°17	75°57	-	Temple	-	-	-	50	-	630m. Fooden <i>et al.</i> , 1981
<i>Thane</i> Tansa WLS	-	-	-	-	-	-	-	-	-	

Distribution of *Macaca radiata radiata* in India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Ghambhir Gadh	20°03	73°03	-	F	-	-	-	20	-	400m. Fooden <i>et al.</i> , 1981
Kohaj Killa	19°41	72°58	-	F	-	-	-	>2	-	370m. Fooden <i>et al.</i> , 1981
Yeur	19°14	72°57	-	F	-	-	-	1	-	Fooden <i>et al.</i> , 1981
Nilgiri Biosphere Reserve (excl. Kerala)	-	-	-	MD, DD, S, TP	-	-	-	3000-6000 (5000)	-	R. Ali and M.S. Pradhan, pers. comm.
Tamil Nadu										
Coimbatore										
Anamalai Hills (Indira Gandhi WLS)	10°34	76°55	958	MD, D, S, SU	Biomedical research (Pr), vehicular movements (Pr), human habitations (Pr)	-	-	2000-3000 (2500)	-	Present pop. trends: Increasing. Singh <i>et al.</i> , 1997a
Rookery Estate (Keezh Kothagiri)	11°25	76°52	-	-	-	-	-	-	-	1552m. Napier, 1981
Ootacamund										
Mudumalai WLS	-	-	-	-	-	-	-	-	-	-
Mukurthi NP	-	-	-	-	-	-	-	-	-	-
Salem										
Kurumbapatti	11°47	78°09	-	-	-	-	-	-	-	Napier, 1981
Shevaroy Hills	11°50	78°30	-	-	-	-	-	-	-	1364m. Napier, 1981
Vellore										
Javadi Hills	-	-	-	MD	-	-	-	150-250 (200)	-	Rauf Ali pers. comm.

D - Deciduous forest, DD - Dry Deciduous forest, E - Evergreen forest, MD - Moist Deciduous forest, MD-DD - Moist Deciduous to Dry Deciduous forest, P - Plantation areas, S - Scrub jungle, SE - Semi-evergreen forest, Sh - Shola forest, SU - Semi-urban areas, TP - Teak Plantation

Macaca silenus (Linnaeus, 1758)

ENDANGERED

Synonyms	<i>Simia silenus</i> Linnaeus, 1758 <i>Cercopithecus vetulus</i> Erxleben, 1777 <i>Simia (Cercopithecus) silenus albibarbatus</i> Kerr, 1792 <i>Simia ferox</i> Shaw, 1792 <i>Simia veter</i> Audebert, 1798 <i>Simia silanus</i> F. Cuvier, 1822
Family	Cercopithecidae
Common names	Kannada: <i>Singaleeka</i> ; Malayalam / Tamil: <i>Singavaal kurangu</i> ; English: Lion-tailed Macaque, Wanderoo
Level of assessment	Species
Habit	Arboreal, diurnal, frugivorous, insectivorous, usually in small groups
Habitat	Wet evergreen forest
Niche	Upper canopy
Elevation	100-1,800m.
Distribution	
Global	Endemic to India
Extent of Occurrence	34,000 km ²
Area of Occupancy	<2,500 km ²
Locations/subpopulations	47 / 49. Fragmented
Habitat status	Decrease in area by >20% in the last 10 years and predicted to decline by >20% in the next 10 years due to encroachment, conversion of coffee plantations to tea, habitat degradation. Decrease in quality due to loss of fruiting trees, altered habitat, loss of canopy contiguity. Changes in private forests and outside protected areas.
Threats	Roads, dams, powerlines, deforestation, fragmentation, crop plantations, agriculture, mining, hunting for food, trapping, habitat loss, changes in native species dynamics, pathogens/parasites, delayed sexual maturity and long inter-birth interval, inbreeding. Landslide is a future threat. In private forests and plantations, change in land use is a problem for the species.
Trade	Local trade for whole animal for pets. The taxon is hunted for sustenance for food near Amarambalam. There are reports of LTM used in medicine also.
Population	
Generation time	Not known
Total population	3,550
Mature individuals	<2,500
Population trend	Declining in forest fragments and outside protected areas. Stable in protected areas.
Data source	Field study; observed; 95% confidence
Status	
SAP CAMP (Ver. 3.1)	ENDANGERED C2a(i)
Rationale	Widely distributed species with more than 8 locations and 49 subpopulations. This species is however threatened with fragmentation and the estimated mature

	individual population is less than 2500, with no single subpopulation having more than 250 mature individuals. This species is therefore categorized as Endangered based on restricted mature individuals.
2001 Red List (Ver. 2.3)	Endangered B1+2c, C2a
Justification for change	Better information available from Karnataka at the workshop.
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix I

Presence in Protected Areas

Karnataka: Brahmagiri WLS, Kudremukh NP, Mookambika WLS, Pushpagiri WLS, Sharavathi Valley WLS, Someshwara WLS, Talakaveri WLS
Kerala: Aralam WLS, Chimmony WLS, Neyyar WLS, Peppara WLS, Parambikulam WLS, Periyar NP, Periyar WLS, Shendurney WLS, Silent Valley NP
Tamil Nadu: Indira Gandhi WLS, Kalakkad WLS, Mundanthurai WLS, Grizzled Giant Squirrel WLS

Recommendations

Research	Genetic research, life history, epidemiology, limiting factor research
Management	Limiting factor management, wild population management, monitoring, public education, captive breeding
Captive management	Research and preservation of live genome

Captive stocks

South Asia: 19 zoos (13.22.0.52)
 18 zoos in India (28.22.0.50), 1 zoo in Nepal (2.0.0.2)
 There is an up-to-date studbook managed by Wildlife Institute of India (Dehra Dun) for Central Zoo Authority for this species.
 World over: 61 institutions (168.159.9.336).

Comments

Male migration within fragmented population is common. Three kinds of populations present: protected areas, reserve forests other than protected areas and in private forests and plantations. The problem in areas outside protected areas is poor management to no management for LTM. There is need for having a national or regionally endorsed protection plan for LTM. As it is a flagship species it may help in the protection of other rain forest species. Ongoing *ex situ* program must be intensified or increased. Some techniques of propagation are known for taxon or similar taxon. A PHVA for LTM was conducted in 1993.

Sources

Bhat, 1993; Brandon-Jones *et al.*, 2002; CZA 2000-2001; Groves, 2001; Hilton-Taylor, 2000; ISIS Abstract Report 2001; Joseph, 1998; Joseph and Ramachandran, 1998; Joseph and Ramachandran, 2001; Krishnamani, 2002; Kumar, 1995; Kumar *et al.*, 1998; Kumar *et al.*, 2001; Kumar *et al.*, (in press); Napier, 1981; Ramachandran, 1990; Ramachandran and Joseph, 1998; Ramachandran and Joseph, 2000; Ramachandran and Joseph, 2001; Ramaswamy and Haridoss (Unpublished); SAZARC, 2002; Singh *et al.*, 1997a; Singh *et al.*, 1997b; Singh *et al.*, 1998; Singh *et al.*, 2000; Singh *et al.* 2001b; Singh *et al.*, (communicated); Walker *et al.*, 1994 Biological Information Sheets (2002): H.R. Bhat, Ajith Kumar, H.N. Kumara, G. Umapathy
 C.A.M.P. questionnaire on protected areas (2002): G.K. Joseph, T.U. Uthup

Compilers

R. Ali, H.R. Bhat, G. K. Joseph, R. Krishnamani, A. Kumar, P.O. Nameer, M.S. Pradhan, K.K. Ramachandran, G. Ramaswamy, A.K. Sharma, M. Singh

Reviewers

D. Brandon-Jones, A.K. Sharma, G.K. Joseph, M.S. Pradhan

Distribution range of *Macaca silenus*



Distribution of *Macaca silenus* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA Karnataka <i>Chikmagalur</i> Kudremukh NP region, Sringeri	12°06	77°75	190	WE	Poaching (P, Pr/F), habitat loss (P/Pr/F)	- -	500-550	292	M. Singh & A.K. Sharma, R. Krishnamani & Ajith Kumar
Dakshin <i>Kannada</i> Chamadi	-	-	40	WE	Poaching (P, Pr/F), habitat loss (P/Pr/F)	- -	75	-	Mewa Singh & Sharma A.K., Krishnamani & Ajith Kumar
Mookambika WLS	-	-	40	WE	Poaching (P, Pr/F), habitat loss (P/Pr/F)	- -	90	-	M. Singh & A.K. Sharma, R. Krishnamani & Ajith Kumar
Someshwara WLS	-	-	-	-	-	- -	-	-	Mewa Singh & Sharma A.K., Krishnamani & Ajith Kumar
<i>Hassan</i> Sakaleshpur	-	-	80	WE	Poaching (P, Pr/F), habitat loss (P/Pr/F)	- -	45	-	Mewa Singh & Sharma A.K., Krishnamani & Ajith Kumar
<i>Kodagu</i> Brahmagiri WLS & Makut	12°00	76°00	275	WE	Poaching (P, Pr/F), habitat loss (P/Pr/F)	- -	125-175 (150)	60-80 (75)	10 groups. Mewa Singh Sharma A.K., Krishnamani & Ajith Kumar; LTM PHVA, 1993; Pradhan, 1989
Pushpagiri WLS	12°40	75°40	145	WE	Poaching (P, Pr/F), habitat loss (P/Pr/F)	- -	60	-	Mewa Singh & Sharma A.K., Krishnamani & Ajith Kumar
Thalakaveri WLS & Bhaghamandala	-	-	180	WE	Poaching (P, Pr/F), habitat loss (P/Pr/F)	- -	60	-	Mewa Singh & Sharma A.K., Krishnamani & Ajith Kumar
<i>Shimoga</i> Sharavati WLS	-	-	260	WE	Poaching (P, Pr/F), habitat loss (P/Pr/F)	- -	195	-	Mewa Singh & Sharma A.K., Krishnamani & Ajith Kumar
Sharavathi North & Aghanashini	-	-	60	WE	Poaching (P, Pr/F), habitat loss (P/Pr/F)	- -	75	-	Mewa Singh & Sharma A.K., Krishnamani & Ajith Kumar
Sharavathi South Aghanashini	-	-	300	WE	-	Decline -	175-225 (195)	-	Habitat status: fragmented
North Sharavathi (Aghanashini, Mael mane, Othalle, Naginamane)	-	-	-	-	-	-	-	-	-

Distribution of *Macaca silenus* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Kerala										
<i>Ernakulam</i>	09°58	76°14	-	-	-	-	-	-	-	Napier, 1981
Cochin	10°47	76°43	-	-	-	-	-	-	-	1061m. Napier, 1981
Cotengady Estate	10°11	76°31	25	WE	Habitat loss (P/Pr/F)	-	-	30	15 (25-50)	KFRI, 1993, 1997 census
<i>Idukki</i>										
Peryar TR	09°32	77°12	300	WE	Deforestation (P), hunting (P/Pr), Selective logging (P), plantation (P), pilgrimage (F)	Decline 20 yrs	May increase	160-180 (178)	89 (75-85)	In 19 groups. KFRI, 1993, 1997; KFD, 2000. Found in adjacent areas also. G.K. Joseph, 2002
<i>Kannur</i>										
Aralam WLS	12°00	75°75	20	WE	Poaching (P, Pr/F)	Decline 30 yrs	Decline 30 yrs	15	8	KFRI, 1993, 1997 census
Kottiyur	-	-	15	WE	Poaching (P, Pr/F)	Decline 30 yrs	Decline 30 yrs	20	8	KFRI, 1993, 1997 census
<i>Malapuram</i>										
Nilambur North	11°4	76°75	10	WE	Poaching (P, Pr/F)	Decline 30 yrs	Decline 30 yrs	15	8	KFRI, 1993, 1997 census
New Amarambalam	11°00	76°5	150	WE	Poaching (P, Pr/F)	Decline 20 yrs	Stable 30 yrs	135	70	Joseph & Ramachandran, 1998, 2000.
<i>Palghat</i>										
Nellampathy	10°30	76°47	25	WE	Plantations (P/Pr/F)	Decline 20 yrs	Decline 30 yrs	165	85	KFRI, 1993, 1997 census
Muthukkulam	-	-	10	WE	Poaching (P/Pr/F)	Decline 20 yrs	Decline 20 yrs	60	30	Primate census, 2000 KFRI, 1993, 1997 census
Parambikulam WLS (including Kuriakutti area)	10°23	76°44	50	WE	Poaching (P/Pr/F)	Decline 20 yrs	Decline 30 yrs	345	160	KFRI, 1993, 1997 census Primate census, 2000 Group size: 15 (5-50), 485m.
Silent Valley NP	~10°46	~76°42	80	WE	-	Stable 30 yrs	Stable 30 yrs	275	140	Napier, 1981 Joseph & Ramachandran, 1998, 2001
<i>Pathanamthitta</i>										
Ranni (Cardamom Hill Reserve)	-	-	50	WE	Deforestation (P), hunting (P/Pr/F), Selective logging (P), plantation (P)	Decline 20 yrs	-	60-70	30 (25-35)	KFRI, 1993, 1997 census
<i>Kollam</i>										
Kulathupuzha	07°28	80°02	-	WE	Deforestation (P), hunting (P/F), Selective logging (P), plantation (P)	Decline 20 yrs	Stable 20 yrs	75	35	KFRI, 1993, 1997 census

Distribution of *Macaca silenus* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Thiruvananthapuram</i>	-	-	-	WE	Deforestation (P), hunting (P/Pr/F), Selective logging (P), plantation (P)	-	-	-	KFRI, 1993, 1997 census
Neyyar WLS	08°34	77°13	-	WE	Deforestation (P), hunting (P/Pr/F), Selective logging (P), plantation (P)	Decline 20 yrs Stable	30	15	KFRI, 1993, 1997 census
Peppara WLS	08°49	77°08	-	WE	Deforestation (P), hunting (P/F), Selective logging (P), plantation (P)	Decline 20 yrs Stable	135	65	KFRI, 1993, 1997 census In 9 groups. Found in adjacent areas too. T.U. Uthup, 2002
<i>Thrissur</i>	10°18	76°20	50	WE	Poaching (P/Pr/F)	Decline 20 yrs	15	10-25 (8)	KFRI, 1993, 1997 census
Chimmony WLS	-	-	90	-	-	-	-	-	KFRI, 1993, 1997 census
Vazhachal & Pooyankutty	-	-	50	WE	Poaching (P/Pr/F)	Decline 20 yrs	135	-	KFRI, 1993, 1997 census Group size: 15 (5-50)
Tamil Nadu									
<i>Coimbatore</i>	~10°34	~76°55	450	WE	Fragmentation (P), Conversion to coffee and tea (P), Poaching (F)	Decline	465	-	Napier, 1981; A. Kumar
Boluvampatty range	-	-	4	WE	Habitat loss (P/Pr/F)	-	37	24	Mewa Singh & A.K. Sharma
1. Anakunthi	-	-	3	WE	-	-	28	15	Mewa Singh & A.K. Sharma
2. Andiparai	-	-	3	WE	Habitat loss (P/Pr/F)	-	6	4	Mewa Singh & A.K. Sharma
3. Hindusthan	-	-	30	WE	-	-	105	48	Mewa Singh & A.K. Sharma
4. Iyerpaddy and Akkamalai	-	-	2	WE	Habitat loss (P/Pr/F)	-	22	11	Mewa Singh & A.K. Sharma
5. Korangumudy	-	-	8	WE	Habitat loss (P/Pr/F)	-	6	1	Mewa Singh & A.K. Sharma
6. Pannimedu	-	-	1	WE	Plantations (P/Pr/F)	-	70	34	Mewa Singh & A.K. Sharma
7. Puthuthottam	-	-	2	WE	Habitat loss (P/Pr/F)	-	15	9	Mewa Singh & A.K. Sharma
8. Tata	-	-	45	WE	Habitat loss (P/Pr/F)	-	180	89	Mewa Singh & A.K. Sharma
9. Varagaliyar	-	-	4	WE	-	-	30	17	Mewa Singh & A.K. Sharma
10. Water falls	-	-	-	-	-	-	-	-	-
<i>Kamaraj</i>	09°31	77°37	-	WE	Deforestation (P), hunting (P/Pr/F), selective logging (P), plantation (P)	Decline 20 yrs	55-75 (62)	25-35 (31)	KFRI 1993, 1997 census
Grizzled Giant Squirrel WLS									
<i>Tirunelveli</i>	~08°30	~77°34	-	WE	Deforestation (P), hunting (P/F), selective logging (P), plantation (P)	Decline 20 yrs Stable	450-475 (460)	230	W. Sunderraj, pers. comm. Average group size: 12 (5-50)
Kalakad-Mundanthurai TR									

WE - Wet Evergreen forest

Macaca sinica aurifrons Pocock, 1931**ENDANGERED**

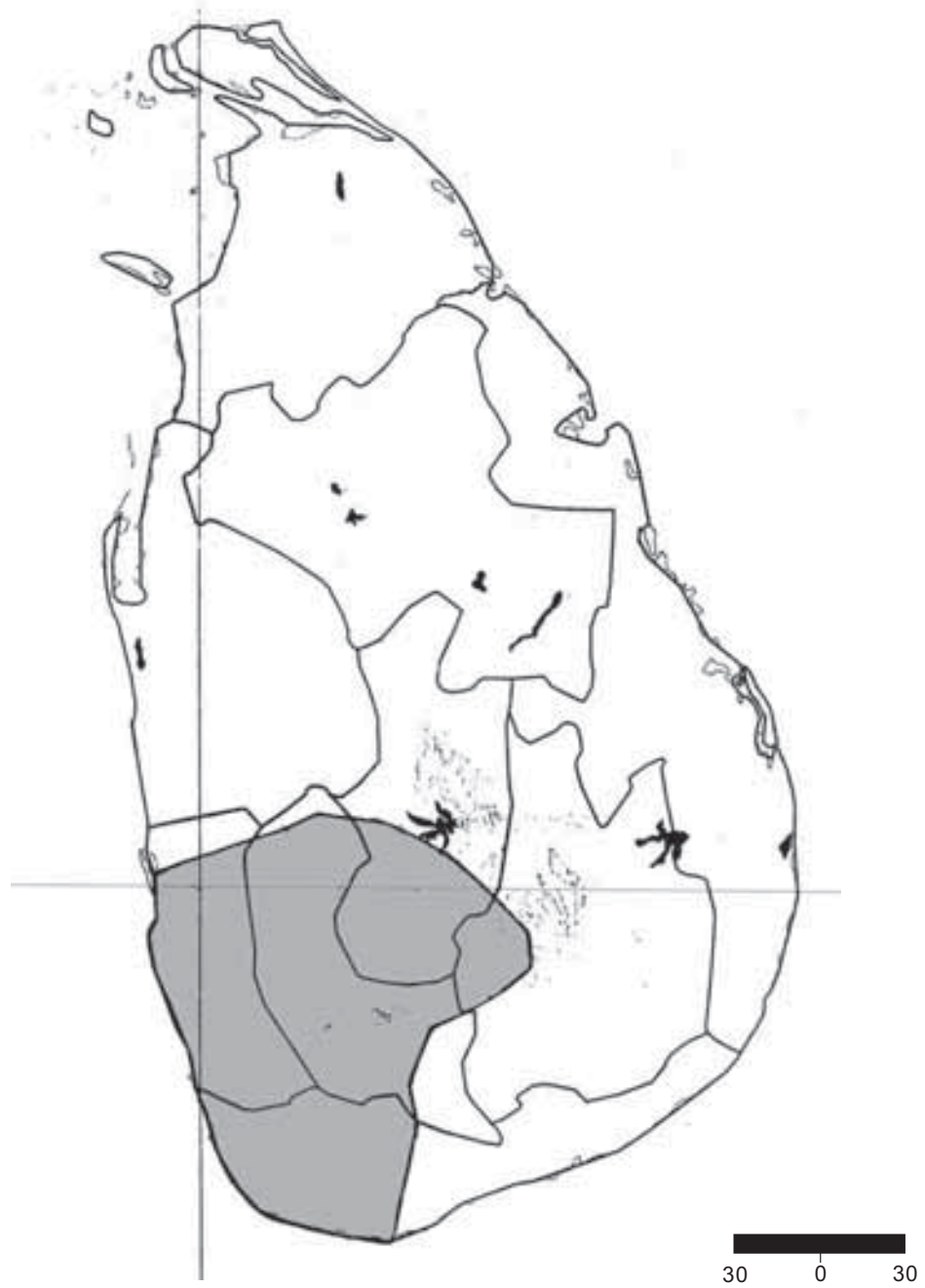
Synonyms	<i>Macaca sinicus aurifrons</i> Pocock, 1931
Family	Cercopithecidae
Common names	Sinhalese: <i>Rilawa</i> ; Tamil: <i>Sen Kurangu, Siru Kurangu</i> ; English: Dusky Toque Macaque, Red Monkey, Toque Macaque, Wetzone Toque Macaque
Level of assessment	Subspecies
Notes on taxonomy	The subspecies for <i>M. sinica</i> are those recognized by Fooden (1979). Intermediate morphs between <i>M. s. aurifrons</i> and <i>M. s. opisthomelas</i> found at transition localities were included with <i>M.s. aurifrons</i> .
Habit	Terrestrial, arboreal, diurnal, frugivore, insectivore
Habitat	Lowland and midland tropical rain forest, wet zone lowland forests.
Elevation	Up to 1,200m.
Distribution	
Global	Endemic to Sri Lanka
Extent of Occurrence	13500 km ² Intermediate stages between <i>M. s. aurifrons</i> and <i>M. s. opisthomelas</i> found at transition areas are included to <i>M. s. aurifrons</i> as these forms are very restricted to places such as Ginigathehena, Watawela and Hakgala.
Area of Occupancy	~5,500 km ²
Locations/subpopulations	105 / Not known. Fragmented. Locations declined by 50% in the last 40 years. Extreme fluctuations in locations/subpopulations possible, but not monitored.
Habitat status	Decrease in area by >50% in the last 50 years or more and is predicted to decline by <10% in the next 10 years due to habitat loss and human-animal conflict. Decrease in quality due to loss of ecologically critical forest, habitat loss due to urbanization and observed changes in land use. Wet zone intermediate hill forests have now been largely converted into croplands, plantations, estates and home gardens.
Threats	Deforestation and habitat loss (large plantations and estates, that might have harbored some pocketed populations, are being reduced into smaller holdings unsuitable to support macaque groups or populations), shooting, snaring and poisoning as this animal is considered a pest. According to government data, during 42 years (1956-1993), the country has lost 50% of its forest cover, and more than 50% if the last 10 years (1994-2003) are included. There is a 1:1 relationship between loss of critical habitat and population number. Therefore, the species is reduced numerically minimally by 50%. Much of the original forested habitat in the southwest rainforest areas has been converted to agriculture, home gardens and plantations. These habitats are inimical to macaque survival because macaques are not tolerated and are considered as pests.
Trade	Not in trade
Population	
Generation time	11.8 years, based on dry zone subspecies

Total population	Not known
Mature individuals	Not known
Population trend	Declined by >50% in 3 generations and is predicted to decline by >10% in the next 10 years.
Data source	Census/monitoring, field study, informal sighting, indirect information; observed; minimal values
Status	
SAP CAMP (Ver. 3.1)	ENDANGERED A2cd+4cd
Rationale	Widely distributed macaque in Sri Lanka, but due to decrease in habitat over the last 40 years of more than 50%, the population has been inferred to decrease by more than 50% also. Some observed declines have been recorded for this species, but in general the declines have been inferred based on habitat loss over years.
2001 Red List (Ver. 2.3)	Vulnerable A1c
Justification	Better / new information has helped reassess this taxon from Vulnerable to Endangered.
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	Only endemic species not listed as a protected species by law.
CITES	Appendix II
Presence in Protected Areas	
Sri Lanka	<i>Central Province:</i> Gannoruwa, Knuckles, Menikdena, Udawattekele, VRR Sanctuary <i>Sabaragamuwa Province:</i> Kitulgala Sanctuary, Kurulukelle Sanctuary, Peak Wilderness, Samanalawewa, Sinharaja FR, Udawalawe NP (probably <i>M. sinica sinica</i>) <i>Southern Province:</i> Rammalakande FR <i>Uva Province:</i> Thangamalai Sanctuary <i>Western Province:</i> Attidiya-Belanwila Sanctuary, Dombagaskande FR, Muthurajawela Sanctuary
Recommendations	
Research	Taxonomy, life history, population survey, limiting factor research, epidemiology, trade, population genetics, behaviour and ecology
Management	Habitat management, monitoring, public education, limiting factor management, work in local communities
Captive stocks	Dehiwela zoo. Subspecies mixed and of unknown origin.
Comments	The new label given by Brandon-Jones <i>et al.</i> (2001) "Pale-fronted Toque Macaque" is not acceptable as a common name or distinguishing feature for this subspecies as all toque macaques have "pale fronts", indeed, even <i>Macaca radiata</i> does as well. It is best to conserve the macaques' natural habitat and allow natural reproduction to take its course. Captive breeding, although probably easy, is not recommended owing to the poor prospects for successful reintroduction into the wild. Resources are better spent protecting these animals and their natural habitat. Greater visibility of macaques near increasing numbers of tourists centers (hotels, concession stands, roadside fruit and vegetable stalls) is not an indicator of overall macaque population increase. Instead it reflects the dietary plasticity of the species

and in many cases indicates a “last stand clinging to life” where natural forest habitat has been declined. Such macaque populations are also vulnerable to direct killing as pests.

- Sources** Brandon-Jones *et al.*, 2002; Groves, 2001; Hilton-Taylor, 2000; IUCN Sri Lanka, 2000; Napier, 1981; Pocock, 1931
Ecological and Distributional Data (in alphabetical order):
IUCN Sri Lanka, Biodiversity Field Research team (data communicated by R. Somaweera through workshop participants).
Primate Biology Program, Smithsonian Institution and Institute of Fundamental Studies: original data from W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe.
University of Jaffna: W. Wijeyamohan
Biological Information Sheet (2002): W. Dittus, R. Somaweera, S. Wijeyamohan
- Compilers** Chief compilers: W. Dittus and A. Watson
Working group: J. Dela, W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, R. Somaweera, A. Watson, N. Weerasinghe, S. Wijeyamohan
- Reviewers** D. Brandon-Jones, W. Dittus, A. Eudey, A. Watson

Distribution range of *Macaca sinica aurifrons*



Distribution of *Macaca sinica aurifrons* in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA										
Rayigam Korale	06°43	80°03	-	-	-	-	-	-	-	Napier, 1981
Central Province										
<i>Kandy</i>	~7	~80	-	-	-	-	-	-	-	Participants from Sri Lanka
Akurana	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Ampitiya	07°17	80°39	-	-	-	-	-	-	-	Participants from Sri Lanka
Aruppola	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Corbet's Gap	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Deltota	07°10	80°42	-	-	-	-	-	-	-	Participants from Sri Lanka
Galagedera	07°22	80°31	-	-	-	-	-	-	-	Participants from Sri Lanka
Galaha	07°12	80°40	-	-	-	-	-	-	-	Participants from Sri Lanka
Gampola & Ambuluwawa	~07°09	~80°34	-	-	-	-	-	-	-	Participants from Sri Lanka
Gannoruwa PR	07°16	80°34	-	-	-	-	-	-	-	Participants from Sri Lanka
Gelloya	07°13	80°25	-	-	-	-	-	-	-	Participants from Sri Lanka
Hantana	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Hunnasgiriya - Udumbura div.	07°17	80°50	-	-	-	-	-	-	-	Participants from Sri Lanka
Katugastota	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Loolkanadura	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Mapanawathura	07°19	80°37	-	-	-	-	-	-	-	Participants from Sri Lanka
Nawalapitiya	07°03	80°32	-	-	-	-	-	-	-	Participants from Sri Lanka
Pallekelle	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Peradeniya	07°15	80°40	-	-	-	-	-	-	-	Participants from Sri Lanka
Puselawa Road	06°54	81°14	-	-	-	-	-	-	-	Participants from Sri Lanka
Teldeniya	07°17	80°46	-	-	-	-	-	-	-	Participants from Sri Lanka
Udawattekelle	07°18	80°39	-	-	-	-	-	-	-	Participants from Sri Lanka
VRR Sanctuary	~07°15	~80°47	-	-	-	-	-	-	-	Participants from Sri Lanka
Walker estate	07°27	80°37	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Matale</i>										
Elkaduwa & Hunasgiriya	~07°17	~80°42	-	-	-	-	-	-	-	Participants from Sri Lanka
Karagastenne	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Knuckles	07°24	80°47	-	-	-	-	-	-	-	Participants from Sri Lanka
Reverse turn	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Macaca sinica aurifrons* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Nuwara Eliya</i>	06°47'	80°30'	-	-	-	-	-	-	-	Participants from Sri Lanka
Adam's Peak	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Bawliane	06°57'	80°37'	-	-	-	-	-	-	-	Participants from Sri Lanka
Devon Falls	06°58'	80°28'	-	-	-	-	-	-	-	Participants from Sri Lanka
Gingathena	06°55'	80°48'	-	-	-	-	-	-	-	Participants from Sri Lanka
Hakgala	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Hanguranketa	~07°01'	~80°36'	-	-	-	-	-	-	-	Participants from Sri Lanka
Kotmale-Mawella	07°00'	80°46'	-	-	-	-	-	-	-	Participants from Sri Lanka
Sabaragamuwa Province										
<i>Kegalle</i>	~7°	~80°	-	Hill	-	-	-	-	-	Participants from Sri Lanka
Alagalla	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Alawathenne	07°15'	80°10'	-	-	-	-	-	-	-	Participants from Sri Lanka
Ambepussa	07°09'	80°28'	-	-	-	-	-	-	-	Participants from Sri Lanka
Aranayake forest	06°55'	80°19'	-	-	-	-	-	-	-	Participants from Sri Lanka
Deraniyagala	07°10'	80°13'	-	-	-	-	-	-	-	Participants from Sri Lanka
Hemmathagama	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Kagalle town	-	-	-	Highly disturbed	-	-	-	-	-	Participants from Sri Lanka
Kurulukella	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Rambukkane	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Salgalle	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Sanctuary	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Urakande	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Rathnapura</i>										
Balangoda	06°39'	80°42'	-	-	-	-	-	-	-	Participants from Sri Lanka
Bopathella	~6°	~80°	-	Waterfalls	-	-	-	-	-	Participants from Sri Lanka
Dela	06°37'	80°27'	-	-	-	-	-	-	-	Participants from Sri Lanka
Denihena (Sinhareja FR)	06°35'	80°43'	-	Rain forest	-	-	-	-	-	Participants from Sri Lanka
Kudawe (Sinhareja FR)	06°25'	80°5'	-	Rain forest	-	-	-	-	-	Participants from Sri Lanka
Peak Wilderness Sanctuary	06°46'	80°32'	-	-	-	-	-	-	-	Participants from Sri Lanka
Rakwana	06°28'	80°37'	-	-	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Macaca sinica aurifrons* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Research Station	-	-	-	Rain forest	-	-	-	-	-	Participants from Sri Lanka
Ruwanwella	07°02	80°15	-	-	-	-	-	-	-	Participants from Sri Lanka
Samanala Wewa FR	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Suryakande Upper Belihul oya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Southern Province										
<i>Galle</i>										
Akurassa (Berajaliya PR)	06°05	80°28	-	-	-	-	-	-	-	Participants from Sri Lanka
Balapitiya	06°16	80°01	-	-	-	-	-	-	-	Participants from Sri Lanka
Bentota	06°25	80°00	-	-	-	-	-	-	-	Participants from Sri Lanka
Hinduma	06°19	80°19	-	-	-	-	-	-	-	Participants from Sri Lanka
Kanneliya	06°17	80°20	-	-	-	-	-	-	-	Participants from Sri Lanka
Koggala	05°58	80.19	-	-	-	-	-	-	-	Participants from Sri Lanka
Kombala-Kottawa	~06°04	~80°20	-	-	-	-	-	-	-	Participants from Sri Lanka. Napier, 1981
Sinharaja FR	06°24	80°30	-	-	-	-	-	-	-	Nepier, 1981. Participants from Sri Lanka
Unawatuna + Rumassela and close by areas	06°01	80°15	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Hambantota</i>										
<i>Katuwana</i>										
Rammalakanda	06°15	80°37	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Matara</i>										
Kottawa	06°05	80°18	-	-	-	-	-	-	-	Participants from Sri Lanka
Kamburupitiya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Mirissa	05°55	80°27	-	-	-	-	-	-	-	Participants from Sri Lanka
Mulatigama FR	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Paravahara	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Ranna	06.°5	80°52	-	-	-	-	-	-	-	Nepier, 1981. Participants from Sri Lanka
Theilijavila	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Uva Province										

Distribution of *Macaca sinica aurifrons* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Badulla</i>	06°58	81°02	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Bandarawela</i>	06°49	80°58	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Boralanda</i>	06°49	80°52	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Diyatalawa</i>	06°47	80°58	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Dunhinda</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Haputale</i>	06°46	80°58	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Passara</i>	06°58	81°09	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Thangamalai Sanctuary</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Weligwila</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Western Province										
<i>Colombo</i>										
<i>Attidiya (in Belanwila)</i>	06°49	79°52	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Avissawela</i>	06°57	80°12	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Batharamulla</i>	06°55	79°55	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Bolgoda</i>	06°42	79°58	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Homagama</i>	06°50	80°00	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Maharagama</i>	~06°52	~79°56	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Mount Lavinia</i>	06°50	79°52	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Gampaha</i>										
<i>Gampaha</i>	07°04	79°58	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Botanical Garden</i>										
<i>Mirigama</i>	07°15	80°07	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Muthurajawela</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Negombo</i>	07°13	79°50	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Pasyala</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Kalutara</i>										
<i>Bulathsinhala</i>	06°40	80°10	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Dombagahana</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Kande PR</i>										
<i>Horana</i>	06°43	80°03	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Ingriya FR</i>	06°43	80°10	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Mawanella</i>	07°15	80°26	-	-	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Macaca sinica aurifrons* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Waturana	-	-	-	Swamp FR	-	-	-	-	-	Participants from Sri Lanka
Matugama Anasigalla	06°29	80°03	-	-	-	-	-	-	-	45m. not sure whether this is <i>M.s. aurifrons</i> . Napier, 1981. Participants from Sri Lanka

Macaca sinica opisthomelas (Hill, 1942)**ENDANGERED**

Synonyms	<i>Macaca (Zati) sinica opisthomelas</i> Hill, 1942
Family	Cercopithecidae
Common names	Sinhala: <i>Riwala</i> ; Tamil: <i>Sen Kurangu, Siru Kurangu</i> ; English: Hill Zone Toque Macaque, Montane Toque Monkey, Mountain Toque Monkey
Level of assessment	Subspecies
Notes on taxonomy	Brandon-Jones <i>et al.</i> (2001) do not list this subspecies and dismiss its existence as an intermediary type between <i>M.s. aurifrons</i> and <i>M. s. sinica</i> . It is critical to the conservation of this important subspecies that it is recognized. Personal observations confirm the existence of this montane subspecies as a morphologically distinct apical type (not an intermediary between the other two subspecies).
Habit	Terrestrial, arboreal, diurnal, frugivore, insectivore
Habitat	Montane tropical rain forest
Elevation	>1,800m.
Distribution	
Global	Endemic to Sri Lanka
Extent of Occurrence	400 km ²
Area of Occupancy	90 km ²
Locations/Subpopulations	8 / 2. Fragmented.
Habitat status	Decrease in area by >80% in the last 200 years and predicted to decline by >10% in the next 5 years due to habitat loss. Decrease in quality due to habitat fragmentation, loss of biologically important forest, increased risk of human-animal conflict, habitat loss due to agriculture.
Threats	Habitat loss due to agriculture (Coffee and tea plantation) in the past, fuel wood collection, vegetable plantations, encroachment, animal husbandry According to government data, during 42 years (1956-1993), the country has lost 50% of its forest cover, but more than 50% has been lost if the last 10 years (1994-2003) is included. In addition, 80% of hill country forests were lost to tea plantations in the 19th century. There is a 1:1 relationship between loss of critical habitat and population number. Therefore, the subspecies which inhabits the high elevation forests (favoured for tea plantations) has been reduced numerically by >80% over 200 years. This trend is continuing as high elevation natural forest is being converted to agriculture (vegetable plots and dairy pasture).
Trade	Probably not in trade for meat
Population	
Generation time	11.4 years
Total population	Not known
Mature individuals	Not known
Population trend	Declined by >80% in the past 200 years and predicted to decline by >10% in the next 10 years. Declined by 50% in 3 generations.
Data source	Census or monitoring, field study, informal sightings, indirect information; estimated; minimum/maximum

Status	ENDANGERED	A2cd+4cd; B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)
SAP CAMP (Ver. 3.1)		
Rationale	Highly restricted macaque (EOO = 400 km ² ; AOO = 90km ²) with only 2 subpopulations identified until now. This primate is also affected by habitat loss over the years with the result that the population is inferred to have declined by more than 50% in the last 3 generations (33-35 years). Population numbers unknown but the taxon is under threat from various pressures, which has resulted in decline in area, extent, quality of habitat, number of locations or subpopulations and in the number of mature individuals. The taxon is Endangered based on both population reduction and restricted distribution.	
2001 Red List (Ver. 2.3)	Not assessed	
Justification for change	Assessed at this taxonomic level for the first time.	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	This is the only endemic species that is not protected by law. The absence of legal protection is particularly alarming for this highly endangered subspecies.	
CITES	Not listed	
Presence in Protected Areas	None	
Recommendations		
Research	Population survey, population genetics, taxonomy, life history, ecology	
Management	Habitat management, monitoring, public education, limiting factor management, work in local communities. A coordinated Species Management Program is recommended for Sri Lanka.	
Comments	<p>Not found, or no longer found, in its original type specimen collection site at the Horton Plains NP. Conserve the natural habitat and allow natural reproduction to take its course. Captive breeding although probably easy, is not recommended owed to the poor prospects for successful reintroduction into the wild. Resources are better spent protecting these animals and their natural habitat.</p> <p>The IUCN criteria for "Critically Endangered" status is far too tight for a large terrestrial mammal such as toque macaques. To qualify, such a taxon would need to be virtually extinct and beyond hope of salvation. Therefore, it is not a useful set of criteria for effective conservation action for this taxon. Given its very restricted and fragmented population, the <i>M.s. opisthomelas</i> subspecies should qualify for what it, in fact, is: "Critically Endangered". This status would distinguish it from other "Endangered" Sri Lankan primates and might be used as a tool to obtain legal protection as well as conservation management action.</p>	
Sources	<p>Brandon-Jones <i>et al.</i>, 2001; Hill, 1942</p> <p>Ecological and Distributional Data (in alphabetical order):</p> <p>IUCN Sri Lanka, Biodiversity Field Research team (data communicated by R. Somaweera through workshop participants).</p> <p>Primate Biology Program, Smithsonian Institution and Institute of Fundamental Studies: original data from W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe.</p> <p>University of Jaffna: S. Wijeyamohan</p> <p>Biological Information Sheets (2002): W. Dittus, R. Somaweera</p>	
Compilers	<p>Chief compilers: W. Dittus and A. Watson</p> <p>Working group: J. Dela, W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe, S. Wijeyamohan</p>	
Reviewers	D. Brandon-Jones, W. Dittus, A. Eudey, A. Watson	

Distribution range of *Macaca sinica opisthomelas*



Distribution of *Macaca sinica opisthomelas* in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA										
Central Province										
<i>Nuwara Eliya</i>										
Dayagama	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Dikoya	06°52	80°36	-	-	-	-	-	-	-	Participants from Sri Lanka
Ginigathena	06°58	80°28	-	-	-	-	-	-	-	Participants from Sri Lanka
Hakgala	06°55	80°48	-	-	-	-	-	-	-	Participants from Sri Lanka
Norwood	06°50	80°37	-	-	-	-	-	-	-	Participants from Sri Lanka
Pattipola	06°51	80°50	-	-	-	-	-	-	-	Participants from Sri Lanka
Rozelle	~06°58	~80°36	-	-	-	-	-	-	-	Participants from Sri Lanka
Wattamela	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka

Macaca sinica sinica (Linnaeus, 1771)**ENDANGERED**

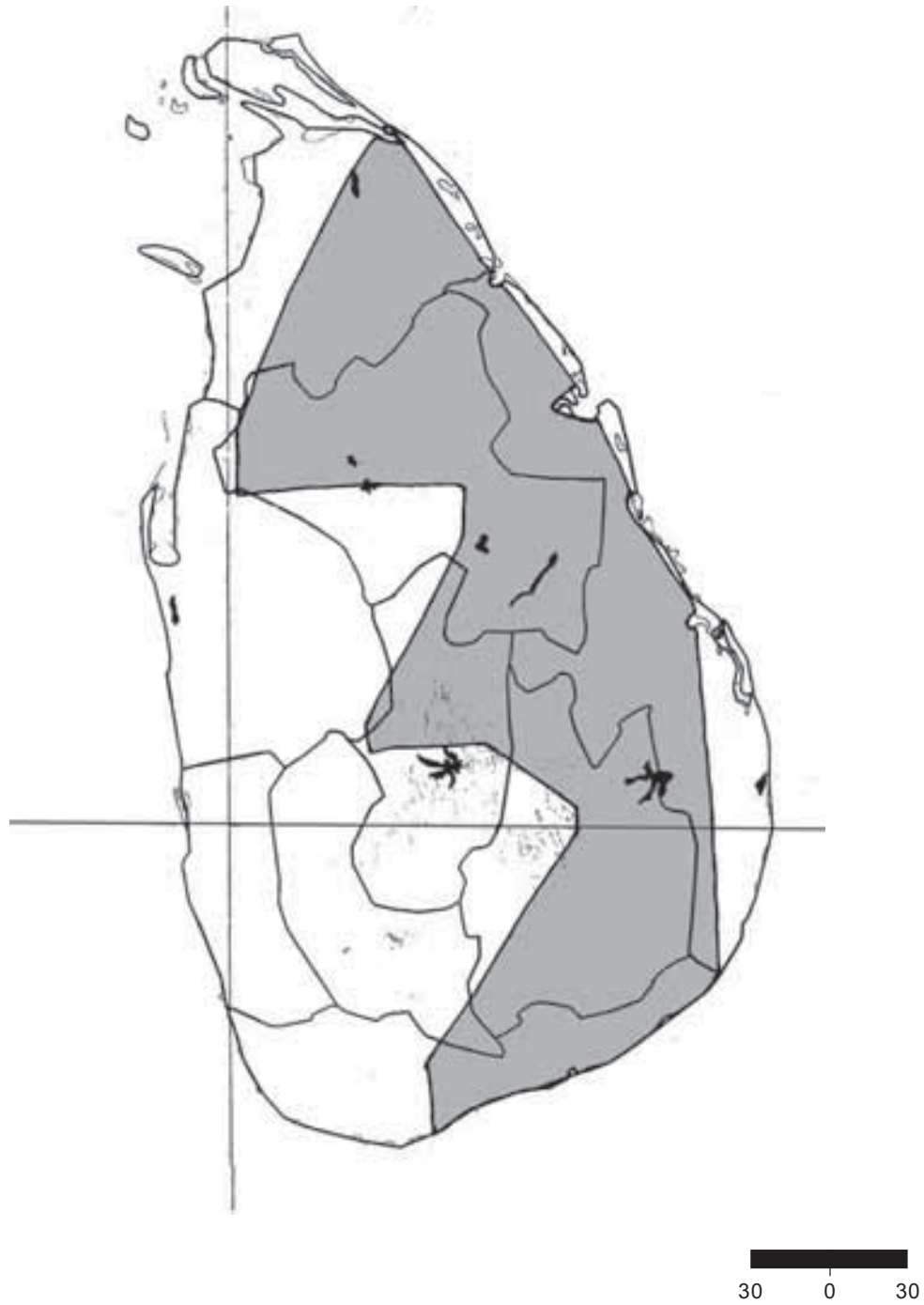
Synonyms	<i>Simia sinica</i> Linnaeus, 1771 <i>Cercopithecus pileatus</i> Ogilby, 1838 <i>Cynamolgus (Zati) audeberti</i> Reichenbach, 1862 <i>Macaca sinica inaurea</i> Pocock, 1931 <i>Macaca sinica longicaudata</i> Deraniyagala, 1965
Family	Cercopithecidae
Common names	Sinhalese: <i>Riwala</i> ; Tamil: <i>Sen Kurangu, Siru Kurangu</i> ; English: Toque Macaque, Dry Zone Toque Macaque
Level of assessment	Subspecies
Notes on taxonomy	The subspecies for <i>M. sinica</i> are those recognized by Fooden (1979). Contact zone with <i>M.s. aurifrons</i> has many individuals with the <i>M.s. sinica</i> pattern
Habit	Diurnal, terrestrial, arboreal, frugivore, insectivore (requires access to free water)
Habitat	Dry evergreen forest near water
Elevation	Up to 500m.
Distribution	
Global	Endemic to Sri Lanka
Extent of Occurrence	32,600 km ²
Area of Occupancy	10,500 km ² . The true area of occupancy is only a small fraction of that indicated here because the distribution of the dry-zone subspecies is limited by the availability permanent sources of water.
Locations/subpopulations	106 / Not known. Fragmented. 50% decline of locations in 42 years and subject to local fluctuations due to urbanisation.
Habitat status	Decrease in area of >50% in the last 40 years or more and is predicted to decline by >20% in the next 5 years due to habitat loss and land use pattern changes. Decrease in quality due to loss of natural fruiting or sleeping trees, deforestation, desertification and loss of biodiversity. Wet zone lowland forests and wet zone intermediate forests have now been largely converted into croplands, plantations, estates and home gardens.
Threats	Mortality by poisoning and habitat loss. According to government data, during 42 years (1956-1993), the country has lost 50% of its forest cover, but the loss is greater than 50% if habitat changes during the last 10 years (1994-2003) is included. The Mahaweli Development Scheme has destroyed much dry-zone forest habitat. There is a close relationship between loss of critical habitat and population number.
Trade	Very local trade
Population	
Generation time	11.8 years
Total population	Not known

Mature individuals	Not known
Population trend	Declined by >50% in 3 generations and is predicted to decline by >20% in the next 5 years
Data source	Census or monitoring, field study, informal sightings, indirect information; estimated; 95% confidence
Status SAP CAMP (Ver. 3.1)	ENDANGERED A2cd+4cd
Rationale	Widely distributed macaque in Sri Lanka, but due to decrease in habitat over the last 40 years of more than 50%, the population has been inferred to decrease by more than 50% also. Some observed declines have been recorded for this species, but in general the declines have been inferred based on habitat loss over years.
2001 Red List (Ver. 2.3)	Vulnerable A1c
Justification	Better / new information available at the workshop.
Uncertainty	Assessment is based on plausible values, evidentiary and with full consensus of entire working group.
Wildlife Legislation	This is the only endemic subspecies not protected by law in Sri Lanka.
CITES	Appendix II
Presence in Protected Areas	<p><i>Central Province:</i> Dambulla (IFS arboretum), Menikdena Archelological Reserve, Ritigala Strict Nature Reserve, Sirigiriya Sanctuary, VRR Sanctuary, Wasgamuwa NP</p> <p><i>Eastern Province:</i> Buddaragala Sanctuary, Kanthale Naval Sanctuary</p> <p><i>North Central Province:</i> Elehara FR, Flood Plains NP, Moragaswewa NP, Minneriya-Giritale NP, Kaudulla NP, Polonnaruwa Sanctuary, Somawathie NP, Wiipattu NP</p> <p><i>North Eastern Province:</i> Kanthale Naval Sanctuary</p> <p><i>Sabaragamuwa Province:</i> Udawalawe NP</p> <p><i>Southern Province:</i> Remmalakanda FR, Ruhuna NP</p> <p><i>Uva Province:</i> Madura Oya NP, Rendenigala Sanctuary, Thangamalai Sanctuary</p>
Recommendations	
Research	Taxonomy, life history, survey, epidemiology, population genetics, population distribution survey, behaviour and ecology
Management	Habitat management, public education, limiting factor management, work in local communities, PHVA. A coordinated Species Management Program recommended for Sri Lanka in order to deal with farmers-macaque conflict in specific and to attempt to minimise urban border areas (i.e. garbage)
Captive stocks	Colombo Zoo (3.3.0.6) but at species level.
Comments	These macaques are locally restricted to moist forests (e.g., riverine) and therefore their numerical presence is far less than would be suggested by total natural forest cover in the dry zone of Sri Lanka. In the dry zone, humans choose to settle near permanent water that happens to be typical macaque forest habitat. Therefore, the dry zone subspecies is often found near rural human settlements. The greater visibility of macaques near increasing numbers of tourist sites (hotels, concession stands, roadside fruit and vegetable stands) is not an indicator of overall macaque population increase. Instead, it reflects the dietary plasticity of the species, and in many cases a last resource for survival where natural habitat has been destroyed.

Such macaque populations are also very vulnerable to killing as pests. Captive breeding, although probably easy, is not recommended owing to the poor prospects for successful reintroduction into the wild. Resources are far better spent protecting these animals and their natural habitat. Although this species is found in several NPs, their occurrence is confined to specific moist locations that are far less extensive in area than the total area of the NPs.

- Sources** Brandon-Jones *et al.*, 2002; Groves, 2001; Hilton-Taylor, 2000; ISIS Abstract Report, 2001; Napier, 1981
Ecological and Distributional Data (in alphabetical order):
Primate Biology Program, Smithsonian Institution and Institute of Fundamental Studies: original data from W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe.
University of Jaffna: S. Wijeyamohan
Biological Information Sheets (2002): W. Dittus, R. Somaweera
- Compilers** Chief compilers: W. Dittus and A. Watson
Working group: J. Dela, W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, R. Somaweera, A. Watson, N. Weerasinghe, S. Wijeyamohan
- Reviewers** D. Brandon-Jones, W. Dittus, A. Eudey, A. Watson

Distribution range of *Macaca sinica sinica*



Distribution of *Macaca sinica sinica* in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA										
Nitre Cave	07°25	80°32	-	-	-	-	-	-	-	455m., Napier, 1981
Central Province										
<i>Kandy</i>										
Hasalaka	07°20	80°57	-	-	-	-	-	-	-	Participants from Sri Lanka
Meda Maha Nuwura	06°52	81°82	-	-	-	-	-	-	-	Participants from Sri Lanka
VRR Sactuary	~07°15	~80°47	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Matale</i>										
Aluvihare	07°30	80°37	-	-	-	-	-	-	-	Possibly intermediate with <i>M.s. sinica</i> . Participants from Sri Lanka
Dambulla (IFS Arboretum)	07°51	80°40	-	-	-	-	-	-	-	Participants from Sri Lanka
Hetipola	07°35	80°04	-	-	-	-	-	-	-	Possibly intermediate with <i>M.s. sinica</i> . Participants from Sri Lanka
Inamaluwa	07°55	80°40	-	-	-	-	-	-	-	Participants from Sri Lanka
Kandalama	07°52	80°43	-	-	-	-	-	-	-	Participants from Sri Lanka
Menikdena	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Nakelle	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Nalanda	07°40	80°37	-	-	-	-	-	-	-	Participants from Sri Lanka
Palapatwala	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Rantembe	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Rattota	07°31	80°41	-	-	-	-	-	-	-	Possibly intermediate with <i>M.s. sinica</i> . Participants from Sri Lanka
Sigiriya	07°57	80°46	-	-	-	-	-	-	-	Participants from Sri Lanka
Eastern Province										
<i>Ampara</i>										
Buddaragala Sanctuary	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Inginiyagala	07°16	81°30	-	-	-	-	-	-	-	Participants from Sri Lanka
Maha Oya	07°32	81°21	-	-	-	-	-	-	-	Napier, 1981
Padiyatalawa	07°24	81°13	-	-	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Macaca sinica sinica* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Batcoloa</i>	08°01	81°29	-	-	-	-	-	-	-	Napier, 1981
Mankerni (on the coast)	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Walaichenai	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Trincomalee</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Kanniyai	08°22	81°00	-	Tank	-	-	-	-	-	Participants from Sri Lanka
Kantale FR	08°40	81°12	-	-	-	-	-	-	-	Participants from Sri Lanka
Nilaveli	08°34	81°13	-	-	-	-	-	-	-	Participants from Sri Lanka
Trincomalee	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
North Central Province										
<i>Anuradhapura</i>	08°20	80°22	-	-	-	-	-	-	-	Participants from Sri Lanka
Anuradhapura	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Avukana	08°02	80°45	-	-	-	-	-	-	-	Participants from Sri Lanka
Habarana	08°33	80°49	-	-	-	-	-	-	-	Participants from Sri Lanka
Horowapotana	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Kahalla	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Kahatagasdigiliya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Kala Oya	08°12	80°06	-	-	-	-	-	-	-	Napier, 1981
Kebitigollawa	08°37	80°40	-	-	-	-	-	-	-	Participants from Sri Lanka
Kekirawa	08°01	80°35	-	-	-	-	-	-	-	Participants from Sri Lanka
Madaragam Aru (Wilpattu)	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Madawachchiya	08°01	80°17	-	-	-	-	-	-	-	Participants from Sri Lanka
Maradanmaduwa (Wilpattu)	08°40	80°52	-	-	-	-	-	-	-	Participants from Sri Lanka
Mihintale	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Padawiya	08°48	80°45	-	-	-	-	-	-	-	Participants from Sri Lanka
Ritigala Strict Nature Reserve	08°05	80°39	-	-	-	-	-	-	-	Participants from Sri Lanka
Tammannewa	08°36	80°41	-	-	-	-	-	-	-	Napier, 1981
Tantirimale (Wilpattu)	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Weddakanda	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Polonnaruwa</i>										
Angamedilla NP	07°50	80°55	-	-	-	-	-	-	-	Participants from Sri Lanka
Aralaganwila	07°46	81°11	-	-	-	-	-	-	-	Participants from Sri Lanka
Attanakadawala	07°50	80°52	-	-	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Macaca sinica sinica* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Bakamuna FR	07°46	80°49	-	-	-	-	-	-	-	Participants from Sri Lanka
Dimbulagalla	06°58	80°36	-	-	-	-	-	-	-	Participants from Sri Lanka
Elahara FR	07°44	80°47	-	-	-	-	-	-	-	Participants from Sri Lanka
Flood Plains NP	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Girifale NP	07°59	80°55	-	-	-	-	-	-	-	Participants from Sri Lanka
Mannampitiya	07°54	81°07	-	-	-	-	-	-	-	Participants from Sri Lanka
Medirigiriya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Minneriya	08°01	80°54	-	-	-	-	-	-	-	Participants from Sri Lanka
Moragaswewa NP	08°01	80°46	-	-	-	-	-	-	-	Participants from Sri Lanka
Polonnaruwa Sanctuary	07°56	81°02	-	-	-	-	-	-	-	Participants from Sri Lanka
Somawathie NP	08°16	81°10	-	-	-	-	-	-	-	Participants from Sri Lanka
Wasgamuwa NP:	07°38	80°56	-	-	-	-	-	-	-	Participants from Sri Lanka
Dastota	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Wasgamuwa NP:	07°38	07°38	-	-	-	-	-	-	-	Participants from Sri Lanka
Yakkure	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Weilikande	07°55	81°13	-	-	-	-	-	-	-	Participants from Sri Lanka
North Western Province										
<i>Kurunegala</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Kuliyaipitiya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Meisripura	-	-	-	Mo	-	-	-	-	-	Participants from Sri Lanka
Nathagane	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Nikaweratiya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Polgahawela	07°20	80°19	-	-	-	-	-	-	-	Participants from Sri Lanka
Wariyapola	07° 37	80°13	-	-	-	-	-	-	-	Participants from Sri Lanka
Northern Province										
<i>Jaffna</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Kodikamam	09°40	80°13	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Kilinochchi</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
A9 Road	09°24	80°25	-	-	-	-	-	-	-	Participants from Sri Lanka
Pallai	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Iyakachchi	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Macaca sinica sinica* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Mullaitivu</i> A9 Road	09°24	80°25	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Vavuniya</i> Chettikulam	08°56	79°58	-	-	-	-	-	-	-	Holotype of <i>M.s. aurea</i> . Napier, 1981. Participants from Sri Lanka
Madukanda	08°43	80°31	-	-	-	-	-	-	-	Participants from Sri Lanka
Mamaduwa	08°49	80°31	-	-	-	-	-	-	-	Participants from Sri Lanka
Vavuniya	08°45	80°30	-	-	-	-	-	-	-	Participants from Sri Lanka
Sabaragamuwa Province Embiliptiya	06°21	80°51	-	-	-	-	-	-	-	Participants from Sri Lanka
Udawalawe NP	06°27	80°52	-	-	-	-	-	-	-	Participants from Sri Lanka
Southern Province <i>Hambantota</i>										
Ambalantota	06°07	81°01	-	-	-	-	-	-	-	Napier, 1981
Beliatta	06°51	80°45	-	-	-	-	-	-	-	Participants from Sri Lanka
Muligigala	06°07	80.43	-	-	-	-	-	-	-	Participants from Sri Lanka
Ranna	06°05	80°52	-	-	-	-	-	-	-	Participants from Sri Lanka
Ridiyagama	06°12	80°59	-	-	-	-	-	-	-	Participants from Sri Lanka
Ruhuna NP										Participants from Sri Lanka
1. Buttutwa										Participants from Sri Lanka
Wewa										Participants from Sri Lanka
2. Kumbukkan	06°30	81°42	-	-	-	-	-	-	-	Below 150m, Napier, 1981.
Oya										Participants from Sri Lanka
3. Menikganga										Participants from Sri Lanka
Surya Wewa	06°19	81°00	-	-	-	-	-	-	-	Participants from Sri Lanka
Tissamaharama	06°17	81°17	-	-	-	-	-	-	-	Participants from Sri Lanka
Uva Province <i>Badulla</i>										
Beregala	~7	~80	-	-	-	-	-	-	-	Participants from Sri Lanka
Maduru Oya NP	07°32	81°11	-	-	-	-	-	-	-	Participants from Sri Lanka
Mahiyangana	07°19	80°59	-	-	-	-	-	-	-	Participants from Sri Lanka
Randenigala										Participants from Sri Lanka
Sanctuary (Uma Oya Falls)										Participants from Sri Lanka

Check if this is in Yala NP or Ruhuna NP.

Distribution of *Macaca sinica sinica* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Monaragala	06°45	81°13	-	-	-	-	-	-	-	Participants from Sri Lanka
Butthala	~7	~80	-	-	-	-	-	-	-	Participants from Sri Lanka
Dawegiriya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Katharagama	06°31	81°07	-	-	-	-	-	-	-	Participants from Sri Lanka
Kuda Oya	06°52	81°20	-	-	-	-	-	-	-	Participants from Sri Lanka
Monaragala	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Muruthukanda	06°45	81°16	-	-	-	-	-	-	-	Participants from Sri Lanka
Okkampitya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Sella	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Katharagama	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Teilulla	06°35	81°08	-	-	-	-	-	-	-	Napier, 1981
Thanamalwila	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Uigala	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Wadinahela SFR	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Wellawaya	06°44	81°06	-	-	-	-	-	-	-	Napier, 1981

Mo - Monastery

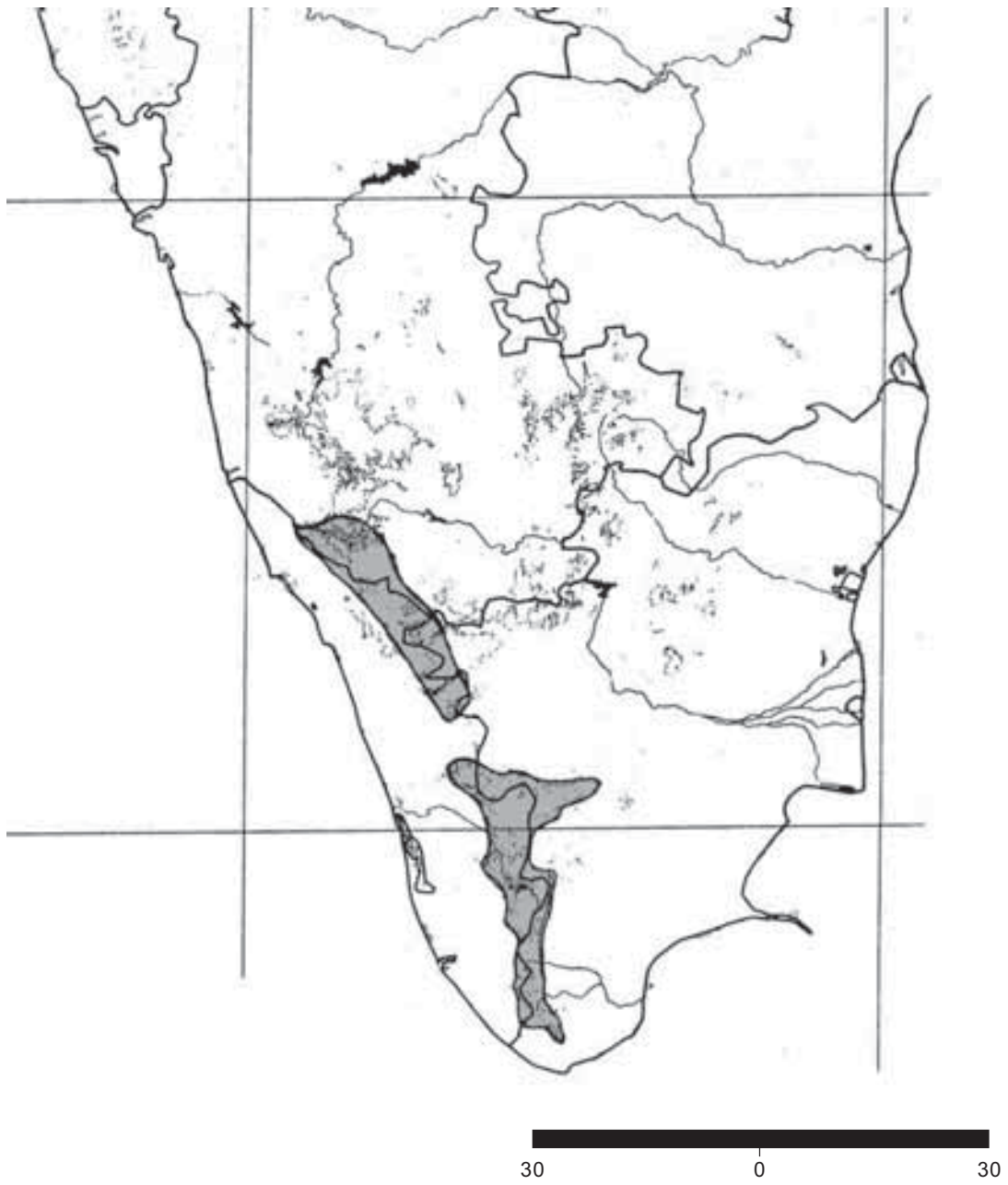
***Semnopithecus (Trachypithecus) johnii johnii* (Fischer, 1829)**

VULNERABLE

Synonyms	<i>Simia leonine</i> Shaw, 1800 (in part) <i>Cercopithecus johnii</i> Fischer, 1829 <i>Presbytis johnii</i> (Fischer, 1829) <i>S[emnopithecus] cucullatus</i> I. Geoffroy Saint-Hilaire, 1830 <i>Semnopithecus cucullatus</i> I. Geoffroy, 1834 <i>Semnopithecus ruficeps</i> Martin, 1838 <i>Semnopithecus jubatus</i> Wagner, 1839 <i>S[emnopithecus] cephalopterus</i> Blyth, 1844 <i>Pithecus [(Pithecus)] vetulus johni</i> Hill, 1934 <i>Kasi johni</i> Hill, 1936 <i>Presbytis (Trachypithecus) johnii</i> Oates, 1979 <i>T[rachypithecus] johnii</i> Phillips, 1981
Family	Cercopithecidae
Common names	Malayalam: <i>Karinkorungu</i> ; Tamil: <i>Karumanthi</i> , <i>Karupu Kurangu</i> ; English: Black Leaf Monkey, Indian Hooded Leaf Monkey, John's Langur, Nilgiri Langur, Nilgiri Black Langur, Nilgiri Leaf Monkey
Level of assessment	Species
Notes on taxonomy	Geographical variation has been noted by Brandon-Jones (1995).
Habit	Arboreal, folivorous, diurnal, usually uni-male group.
Habitat	Tropical wet evergreen, semi-evergreen, riparian forests, teak plantations
Elevation	300-2,000m.
Distribution	
Global	Endemic to India
Extent of Occurrence	<20,000 km ²
Area of Occupancy	>3,820 km ²
Locations/Subpopulations	41 / Many. Fragmented.
Habitat status	Decrease in area by >20% in the last 20 years and is predicted to decrease by <20% in the next 20 years due to habitat loss outside protected areas. Decrease in quality due to forest degradation and land use.
Threats	Past threats: Crop plantations, mining, dams, fragmentation, traditional medicine Present and future threats: Human settlement, hunting, road kills, deliberate fires, habitat loss, storms/flooding, landslide
Trade	Local trade for live animal for pets and meat for food and medicine.
Population	
Generation time	Not known
Total population	16,645
Mature individuals	8,300
Population trend	Declining by >10% in the last 10 years and is predicted to decline by <10% in the next 20 years.
Data source	Informal sightings, indirect information; observed; 95% confidence

Status	VULNERABLE	C2a(i)
SAP CAMP (Ver. 3.1)		
Rationale	Widely distributed langur in the Western Ghats but threatened due to habitat loss, fragmentation, human interference and hunting. Number of mature individuals is estimated to be around 8,300 in a restricted range of less than 20,000km ² . Since no subpopulation contains more than 1000 mature individuals, the taxon is Vulnerable due to small numbers. The decreasing area and quality contribute to Vulnerable category for restricted range.	
2001 Red List (Ver. 2.3)	Vulnerable	A1d, B1+2c, C2a
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002	
CITES	Appendix II	
Presence in Protected Areas		
India	<i>Karnataka:</i> Brahmagiri WLS <i>Kerala:</i> Aaralam WLS, Chimmony WLS, Chinnar WLS, Eravikulam NP, Idukki WLS, Neyyar WLS, Parambikulam WLS, Peechi WLS, Peppara WLS, Periyar NP, Periyar WLS, Shendurney WLS, Silent Valley NP, Thattekadu WLS, Wayanad WLS <i>Tamil Nadu:</i> Indira Gandhi WLS, Kalakad WLS, Mudumalai WLS, Mundanthurai WLS, Mukurthi NP, Grizzled Giant Squirrel WLS	
Recommendations		
Research	Taxonomic research, life history, survey studies, ecology	
Management	Habitat management, monitoring, public education, poaching control measures, PHVA. Converting forest areas to private lands should be prevented.	
Captive stocks	India in 8 zoos (11.2.14.27)	
Comments	Mundanthurai populations declined by 50% in 30 years. Decline may not be as much on the whole. Protected areas are relatively safe. Hunting pressure is very high in fringes. Areas like the proposed Megamalai Sanctuary, Gudrikkal range of Ranni division and New Amarambalam RF in Nilambur south division are fairly contiguous and a good population is still existing there but poaching and other biotic pressures may result in the decline of the population of more than 50% in the coming 30 years. These areas should be added into the PA network. Conversion of habitat outside PAs such as revenue lands, estates are serious threats to this species. Upper Palni's and New Amarambalam has to be declared as National Parks for the conservation of Nilgiri Langur among other animals. The EOO given is for Northern population and its extent of occurrence is decreasing. Gigi Joseph says that at the present condition the animal is not hunted for medicine in Kerala but the group has some difference of opinion on this point.	
Sources	Brandon-Jones, 1995; Brandon-Jones <i>et al.</i> , 2002; CZA 2000-2001; Groves, 2001; Hilton-Taylor (Compiler), 2000; Hohmann and Sunderraj, 1990; Joseph, 2001; KFRI, 1993; KFRI, 1997; Ramachandran and Joseph, 2001b; SAZARC, 2002; Srivastava <i>et al.</i> , 1996; Sunderraj and Johnsingh, 2001 Biological Information Sheets (2002): A. Kumar, H.N. Kumara, S. Ram, G. Umapathy	
Compilers	R. Ali, H.R. Bhat, S. Ganapathiappan, G.K. Joseph, R. Krishnamani, A. Kumar, P.O. Nameer, M.S. Pradhan, S. Ram, K.K Ramachandran, G. Ramaswamy, A.K. Sharma, M. Singh, S.F.W. Sunderraj	
Reviewers	D. Brandon-Jones, A. Eudey, G.K. Joseph, M.S. Pradhan, A.K. Sharma	

Distribution range of *Semnopithecus (Trachypithecus) johnii johnii*



Distribution of *Semnopithecus (Trachypithecus) johnii johnii* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA										
Karnataka										
Machchur	10°16'	77°35'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Kodagu										
Brahmagiri WLS	12°22'	75°28'	50	Sh, E	Poaching (P/Pr/F) Habitat loss (F)	Decline 30 yrs.	Decline 30 yrs.	80 (75-100)	40 (30-50)	Northern-most limit of this species distribution. Mewa Singh One adult male collected on 11 Feb 1913, 842-1556m, Napier, 1985; Groves, 2001; Brandon-Jones, 2003.
Srimangala (adjacent area)	12°01'	75°58'	-	-	-	-	-	-	-	One infant male collected at 100m. Napier, 1985
Kerala										
Palagapandy	-	-	-	-	-	-	-	-	-	KFRI, 1993, 1997 census Pradhan, 1994
Idukki										
Chinnar WLS	-	-	-	-	-	-	-	-	-	KFRI, 1993, 1997 census
Eravikulam NP	10°15'	77°06'	-	-	-	-	-	-	-	KFRI, 1993, 1997 census
Idukki WLS & Munnar	~09°50'	~76°58'	50	D to Sh, MD, E, SE	Poaching (P/Pr)	Decline 30 yrs.	Decline 30 yrs.	408 (325-425)	204	Due to implementation of India Ecodevelopment project, the threats have come down. KFRI, 1997; Joseph, 2000, 2002
Periyar TR	09°32'	77°12'	700	MD, SE, E, Sh	Poaching (P/Pr)	Decline 30 yrs.	Decline 30 yrs.	4200 (4000-4500)	2100	In 81 groups. Found in adjacent areas too. G.K. Joseph, 2002
Thattakkad WLS										
Kannur										
Aarlam WLS	12°00'	75°75'	30	SE, MD, E	Poaching (P/Pr) Habitat destruction (F)	Stable 30 yrs.	Stable 30 yrs.	50 (40-75)	25 (20-35)	KFRI, M. Balakrishnan
Kollam										
Shendurney WLS	-	-	-	-	-	-	-	131	-	In 9 groups. Found in adjacent areas too. T.U. Uthup, 2002
Malapuram										
New Amarambalam	11°00'	76°5'	260	SE, E	Poaching (P/Pr/F)	Decline 30 yrs.	Decline 30 yrs.	310 (300-325)	160 (150-175)	26 groups. KFRI, 1993, 1997 Joseph & Ramachandran, 2000, 2001
Nilamboor	11°04'	76°75'	50	SE, MD, E	Poaching (P/Pr) Habitat loss (F)	Decline	Decline	190 (175-200)	110 (80-110)	KFRI 1993, 1997

Distribution of *Semnopithecus (Trachypithecus) johnii johnii* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Palghat	-	-	-	-	-	-	-	-	-	One adult male collected at 970m. Napier, 1985
Anamaad	-	-	-	-	-	-	-	-	-	24 miles of S. Palghat. One adult male collected on 27 April 1921
Contengady Estate	-	-	-	-	-	-	-	-	-	at 1061m. Napier, 1985
Kumblacodie	-	-	-	-	-	-	-	-	-	One adult male collected at 1061m. Napier, 1985
Mannarkkad	10°58	76°28	100	SE, MD	Poaching (P/Pr) Habitat destruction (F)	Decline 30 yrs.	Decline 30 yrs.	120 (100-125)	60 (40-70)	KFRI, 1993, 1997
Nemmara	10°34	76°35	50	SE, MD, E	Poaching (P/Pr/F)	Decline 30 yrs.	Decline 30 yrs.	72 (50-100)	36 (20-40)	KFRI, 1993, 1997
Palghat	-	-	25	SE, MD	Poaching (P/Pr/F)	Decline	Decline	25 (20-50)	30 (20-40)	KFRI, 1993, 1997
Parambikulam WLS	10°23	76°44	200	SE, MD, E, TP	Poaching (P/Pr/F)	Stable 30 yrs.	Decline 30 yrs.	340 (300-400)	170	KFRI, 1993, 1997
1. Kuriarkutti (adjacent area)	10°25	76°43	-	-	-	-	-	-	-	Napier, 1985
Silent Valley NP	~10°46	~76°42	80	SE, E	Poaching (P/Pr/F)	Stable 30 yrs.	Stable 30 yrs.	1000 (900-)	500 (450-550)	KFRI, 1993; 1997; Joseph, 2001
Pathanamthitta Ranni	-	-	200	SE, MD, E	Poaching (P/Pr/F)	Decline 30 yrs.	Decline 30 yrs.	190 (150-200)	95 (25-125)	KFRI, 1993, 1997
Thiruvananthapuram	-	-	-	-	-	-	-	-	-	-
Peppara and Neyyar WLS	~08°34	~77°13	150	E, MD	-	Decline 30 yrs.	Decline 30 yrs.	60 (50-60)	30 (25-50)	KFRI, 1993, 1997 census
Thrissur	-	-	-	-	-	-	-	-	-	-
Chimmony WLS	-	-	-	-	-	-	-	-	-	-
Vazhachal and Chalakkudi	-	-	300	SE, MD, E	Poaching (P/Pr/F)	Decline 30 yrs.	Decline 30 yrs.	60 (50-75)	30 (25-40)	KFRI, 1993, 1997 census
Peechi-Vazhani WLS	-	-	-	-	-	-	-	-	-	KFRI, 1993, 1997 census
Wynaad	-	-	-	-	-	-	-	-	-	-
Wynaad WLS	~11°29	~76°24	150	SE, MD, DD	Poaching (P/Pr) Habitat loss (F)	Stable 30 yrs.	Stable 30 yrs.	300 (275-325)	150 (140-160)	KFRI, 1993, 1997 census
Aramboli Pass	08°15	77°32	-	-	-	-	-	-	-	Within about 3 km. Brandon-Jones, 2003

Distribution of *Semnopithecus (Trachypithecus) johnii johnii* in India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Tamil Nadu High Wavy Mountains and higher parts of Varushnaad Valley	09.32	77.25	-	-	-	-	-	-	-	Brandon-Jones, 2003
Nelliampathy estate	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
Megamalai	-	-	75	MD, DD	Poaching (P/Pr/F)	Decline	Decline	-	-	Mewa Singh
Coimbatore Indira Gandhi WLS, Vaiparai	-	-	600	MD, E, Sh	Poaching (P/Pr) habitat destruction (F)	Decline 30 yrs.	Decline 30 yrs.	3750 (3500-4000)	1800	Ajith Kumar, pers. comm. Napier, 1985
Dindugal Palni Hills	~10°18'	~77°31'	200	DD, Sh and MD, E, SE	Poaching (P/Pr), Habitat loss (F)	Decline 30 yrs.	Decline 30 yrs.	100	50 (25-75)	
Kamarajar Grizzled Giant Squirrel WLS	09°31'	77°37'	100	MD	Poaching (P/Pr/F)	Decline 30 yrs.	Decline 30 yrs.	300 (275-335)	150 (100-200)	W. Sunderraj pers. comm.
Mudaliar Ootu, near Srivilliputhur	~09°35'	~77°35'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Nilgiris Avalanche	11°15'	76°30'	40	Sh, E	Poaching (P/Pr/F)	Decline 30 yrs.	Decline 30 yrs.	200 (175-225)	100 (90-110)	Mewa Singh
Conoor	-	-	-	-	-	-	-	-	-	Type locality. Brandon-Jones, 2003
Mudumalai, Ooty-Gudalur road	11°32'	76°38'	10	MD, DD	Poaching (P/Pr) Habitat destruction (F)	Stable 30 yrs.	Stable 30 yrs.	160 (150-175)	80 (70-90)	Mewa Singh
Mukurthi NP	-	-	-	-	-	-	-	-	-	
Tirunelveli Agasthyamalai (KMTR)	08°37'	77°16'	400	SE, MD, Rp	Poaching (Pr)	Decline	Decline	7500 (7000-8000)	3000 (2500-3000)	Ali. pers. comm.

DD - Dry Deciduous forest, D to Sh - Deciduous forest to Shola, E - Evergreen forest, Sh - Shola, SE - Semi-evergreen forest, MD - Moist Deciduous forest, Rp - Riparian forest, Tp - Teak Plantation

***Semnopithecus entellus achates* (Pocock, 1928)**

LEAST CONCERN

Synonyms	[?] <i>Cercopithecus albo-cinereus</i> Desmarest, 1822 [<i>Pithecus entellus</i>] <i>elissa</i> Pocock, 1928
Family	Cercopithecidae
Level of assessment	Subspecies
Common names	English: Western Hanuman Langur
Habit	Arboreal, terrestrial, folivore, diurnal
Habitat	Tropical dry and moist deciduous, semi-arid, open scrub, woodland, human habitation
Elevation	Up to 1,200m.
Distribution	
South Asia	Endemic to India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,000 km ²
Locations/Subpopulations	>50 / Many. Fragmented
Habitat status	Decrease in area by <10% in the last 10 years and is predicted to decrease by <10% in the last 10 years due to man-animal conflict and habitat. Decrease in quality due to agriculture and altered habitat.
Threats	Agriculture, habitat loss, man-animal conflict
Trade	Not in trade
Population	
Generation time	10-12 years
Total population	Not known
Mature individuals	Not known
Population trend	Not known
Data source	Museum study, indirect information; inferred; 95% confidence
Status	
SAP CAMP (Ver. 3.1)	LEAST CONCERN
Rationale	This taxon has the widest distribution of all the subspecies of <i>Semnopithecus entellus</i> group, occurring in more than 50 recorded locations. Although there are concerns of its conflict with humans and some doubts on the peripheral populations as being hybrids with other subspecies, this taxon is less threatened from external factors and therefore considered Least Concern.
2001 Red List (Ver. 2.3)	Not assessed.

Justification	This taxon assessed for the first time due to better information available at the workshop and due to the new information on subspecies distribution from museum studies by Douglas Brandon-Jones.
Uncertainty	The participants at the primate C.A.M.P. workshop were not aware of the subspecies classification, which was worked out from museum specimens by Douglas Brandon-Jones after the workshop. Recognition of the subspecies and its status was agreed upon by all the workshop participants. The localities provided by the participants were classified by Brandon-Jones into various subspecies as per his museum studies. This was accepted by all the participants at the workshop.
Wildlife Legislation	Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Not listed
Presence in Protected Areas	<p><i>Goa</i>: Bondla WLS?, Mollem WLS? <i>Gujarat</i>: Sasan Gir WLS <i>Karnataka</i>: Bandipur NP? Nagarhole NP <i>Madhya Pradesh</i>: Kanha NP? <i>Maharashtra</i>: Andhari WLS?, Bhamragarh WLS?, Chaprala WLS?, Melghat WLS, Radhanagiri WLS?, Pench NP?, Sanjay Gandhi NP, Tadoba NP?, Tansa WLS <i>Rajasthan</i>: Sariska WLS?, Mount Abu WLS, Kumbalgarh WLS <i>Tamil Nadu</i>: Mudumalai NP?, Mudumalai WLS?</p>
Recommendations	
Research	Survey, taxonomic studies
Management	Monitoring
Captive stocks	24 zoos in India (59.35.6.100). Subspecies not known.
Comments	This subspecies is widely distributed in peninsular India. It also overlaps with other subspecies in its range, viz. <i>S.e. anchises</i> , <i>S.e. hypoleucos</i> , <i>S.e. entellus</i> and <i>S. priam priam</i> . The areas of overlap have intermediates, which are in this report considered under both taxa. The presence of such intermediates in protected areas have been indicated with a "?". Further notes on the taxon are included in the distribution table. Local and domestic trade for meat and whole animal. Hunting for sustenance by local tribals in Bhamraghad WLS?, Maharashtra (P. Srivastava, BIS).
Sources	Brandon-Jones, 2003; CZA, 2000-2001; SAZARC, 2002 Biological Information Sheets (2002): P.S. Bhatnagar, Anil Kumar Chhangani, Lal Singh Rajpurohit CAMP questionnaire on protected areas (2002): N.H. Kakodkar, B.J. Pathak and B.P. Pati, P. Srivastava
Compilers	Ajith Kumar, Mewa Singh, M.S. Pradhan, D. Brandon-Jones
Reviewers	D. Brandon-Jones

Distribution range of *Semnopithecus entellus achates*



Distribution of *Semnopithecus entellus achates* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA Hanumana?	24°47'	82°06'	-	-	-	-	-	-	-	Probably <i>S.e. achates</i> , but possibly <i>S.e. entellus</i> Brandon-Jones, 2003
Raipur?	-	-	-	-	-	-	-	-	-	Probably <i>S.e. achates</i> , but possibly <i>S.e. entellus</i> . Brandon-Jones, 2003
Andhra Pradesh Kudligi	14°54'	76°23'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Goa Walpoi?	-	-	-	-	-	-	-	6	-	ZSI. Probably <i>S.e. achates</i> , but possibly <i>S.e. dussumieri</i> Brandon-Jones, 2003
North Goa Bondla WLS?	15°35'	74°00'	-	-	-	-	-	10	-	ZSI. Probably <i>S.e. achates</i> , but possibly <i>S.e. dussumieri</i> Brandon-Jones, 2003
Mollem WLS?	15°20'	74°15'	-	-	-	-	-	30	-	ZSI. Probably <i>S.e. achates</i> , but possibly <i>S.e. dussumieri</i> Brandon-Jones, 2003
Gujarat Kanmerfort	23°24'	70°52'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Banaskantha Danta	24°11'	72°46'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Disa	24°15'	72°10'	-	-	-	-	-	-	-	Possibly intermediate with <i>S.e. anchises</i> . Brandon-Jones, 2003
Junagadh Gimar Mountain	21°30'	70°33'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Palanpur?	24°10'	72°26'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Junagadh & Amreli Sasan Gir WLS	21°00'	70°40'	-	-	-	-	-	~9000	-	9000 in 400 troops. ZSI Found in adjacent areas too. B. J. Pathak and B.P. Pati, 2002

Distribution of *Semnopithecus entellus achates* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Karnataka Devikop	15°06	74°56	-	-	-	-	-	-	-	Paratypes at Devikop, 600m. BNHS 5716 from devikop seems intermediate between <i>S.e. achates</i> and <i>S.e. anchises</i> Brandon-Jones, 2003
Samasgi	14°40	75°05	-	-	-	-	-	-	-	Paratypes at Samasgi, Kanara border, 600m. This is definitely on the boundary between <i>S.e. achates</i> and <i>S.e. dussumieri</i> with intermediates and specimens referable to both subspecies. Brandon-Jones, 2003.
Malakondapenta?	-	-	-	Mango Orchard	-	-	-	-	-	<i>S.e. achatus</i> or <i>S.e. anchises</i> . Brandon-Jones, 2003
Simangala Bellary Vijayanagar	-	76°28	-	-	-	-	-	-	-	Brandon-Jones, 2003
Chamarajnagar Bandipur NP?	-	-	-	-	-	-	-	-	-	Paratypes, 450 m. intermediate with <i>S. e. anchises</i> . Brandon-Jones, 2003
Dharwar Alnavar	15°25	74°43	-	-	-	-	-	-	-	Brandon-Jones, 2003
Havasbhavi	14°35	75°22	-	-	-	-	-	-	-	Paratype was collected at Alnavar. BNHS. 5180 from Alnavar seems intermediate between <i>S.e. achates</i> and <i>S.e. anchises</i> . Brandon-Jones, 2003
Mysore & Kodagu Nagarhole NP?	12°01	76°05	-	MD	Habitat loss (Pr), hunting (Pr), encroachment (Pr)	Decline	-	-	-	Holotype and paratype were collected at 600m. Brandon-Jones, 2003
										The population estimate is for the entire area of occupancy which includes Mudumalai,

Distribution of *Semnopithecus entellus achates* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Uthara Kannada</i>	14°59	74°22	-	-	-	-	-	-	-	Nagarhole and Bandipur Present pop. status: Stable
Anshi	-	-	-	-	-	-	-	-	-	Mewa Singh, Ajith Kumar. The holotype and paratypes of <i>[P. e.] e/issa</i> were collected here.
Gund	15°15	74°37	-	-	-	-	-	-	-	Intermediate with <i>S.p. priam</i>
Mandurii	15°11	74°33	-	-	-	-	-	-	-	Brandon-Jones, 2003
Potoli	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
<i>Shimoga</i>	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
Shimoga?	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
Madhya Pradesh										
Bori	22°27	78°16	-	-	-	-	-	-	-	500m. Brandon-Jones, 2003
Lahi, Soni Malwa	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
Mukhi Balaghat	~22°	80°30	-	-	-	-	-	-	-	Brandon-Jones, 2003
Singpur	23°13	81°25	-	-	-	-	-	-	-	Brandon-Jones, 2003
<i>Balaghat</i>										
Ouda	21°48	80°11	-	-	-	-	-	-	-	Brandon-Jones, 2003
<i>Bhopal</i>										
Bhopal?	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
Sanchi	23°29	77°44	-	-	-	-	-	-	-	370m. Brandon-Jones, 2003
<i>Hoshangabad</i>										
Panchmari	-	-	-	-	-	-	-	-	-	500 in 25 troops. Brandon-Jones, 2003
<i>Kanha and Balaghat</i>										
Kanha NP?	~22°20	~80°40	-	-	-	-	-	-	-	ZSI. Probably <i>S.e. achates</i> , but possibly <i>S.e. entellus</i>
<i>Mandsaur</i>										
Nimach?	24°25	74°50	-	-	-	-	-	-	-	ZSI. Brandon-Jones, pers.

Distribution of *Semnopithecus entellus achates* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Maharashtra Helwak?	17°22	73°44	-	-	-	-	-	-	-	comm. D. Brandon-Jones, pers. obs., 17 March 2002. This is based on a British Museum skin, not a field observation. Brandon-Jones, 2003
Amravati Melghat TR?	21°30	77°15	-	-	-	-	-	50	-	ZSI. Probably <i>S.e. achates</i> , but possibly <i>S.e. anchises</i> Brandon-Jones, 2003
Chandapur Tadoba NP? & Andhari WLS?	-	-	-	-	-	-	-	-	-	N.H. Kakodkar, 2002
Gadchiroli Bhamragadh	-	-	-	-	-	-	-	-	-	Intermediate with <i>S.e. entellus</i> . P. Srivastava, 2002
WLS? Chaprala WLS?	-	-	-	-	-	-	-	-	-	Intermediate with <i>S.e. entellus</i> . P. Srivastava, 2002
Kolhapur Radhanagari WLS?	16°23	74°00	-	-	-	-	-	15	-	ZSI. Probably <i>S.e. achates</i>
Nagpur Pench NP?	21°49	79°31	-	-	-	-	-	30	-	Probably <i>S.e. achates</i> Brandon-Jones, 2002; ZSI
Thane & Mumbai Sanjay Gandhi NP	-	-	-	-	-	-	-	20	-	ZSI. Brandon-Jones, personal observation, 17 March 2002. Brandon-Jones, 2003
Tansa WLS	19°34	73°15	-	-	-	-	-	10	-	ZSI. Brandon-Jones, pers. comm.
New Delhi Delhi	28°40	77°13	-	-	-	-	-	-	-	Brandon-Jones, 2003
Rajasthan Talala? Uria	21°02 24°38	70°32 72°46	- -	- -	- -	- -	- -	- -	- -	60m. Brandon-Jones, 2003 Brandon-Jones, 2003

Distribution of *Semnopithecus entellus achates* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Alwar</i> Sariska WLS?	27°24	76°24	-	-	-	-	-	-	-	ZSI. Brandon-Jones, pers. comm.
<i>Bundi</i> Bundi	25°27	75°39	-	-	-	-	-	-	-	ZSI. Brandon-Jones, pers.
<i>Jaipur</i> Ambagarh RF Jaipur	- 26°53	- 75°50	- -	- -	- -	- -	- -	- -	- -	P.S. Bhatnagar, BIS ZSI. Brandon-Jones, pers. comm.
<i>Jodhpur</i> Jodhpur	26°55	75°49	-	-	-	-	-	1717	-	Brandon-Jones, 2003, ZSI P.S. Bhatnagar, BIS; L.S. Rajpurohit, BIS Brandon-Jones, 2003
Galta Pass	~26°55	~75°49	-	-	-	-	-	-	-	ZSI. Brandon-Jones, pers. comm.
<i>Sirohi</i> Mount Abu WLS	24°36	72°42	-	-	-	-	-	-	-	ZSI. Brandon-Jones, pers. comm.
<i>Udaipur & Pali</i> Kumbhalgarh WLS	25°08	73°34	-	-	-	-	-	537	-	ZSI. Brandon-Jones, pers. comm.
Tamil Nadu <i>Uthagamandalam</i> Mudumalai WLS?	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
Uttar Pradesh <i>Avadh</i>	27°16	81°18	-	Temple	-	-	-	-	-	Only occurs near temples where fakirs found it. Brandon-Jones, 2003 Brandon-Jones, 2003
<i>Kakori</i>	26°54	80°48	-	-	-	-	-	-	-	Brandon-Jones, 2003
<i>Allahabad</i> Allahabad	25°27	80-83°	-	-	-	-	-	-	-	Brandon-Jones, 2003
<i>Banaras</i> Varanasi?	25°20	83°00	-	-	-	-	-	-	-	In 1822, probably <i>S.e. achates</i> , but possibly <i>S.e. entellus</i> Brandon-Jones, 2003
<i>Mathura</i>										

Distribution of *Semnopithecus entellus achates* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Mathura?	27°30	75°41	-	-	-	-	-	-	-	Brandon-Jones, 2003
Vrindaban?	27°35	75°42	-	-	-	-	-	-	-	Brandon-Jones, 2003
Meerut			-	-	-	-	-	-	-	Brandon-Jones, 2003
Meerut?			-	-	-	-	-	-	-	Brandon-Jones, 2003
Uttaranchal										
Agra	23°55	77°32	-	-	-	-	-	-	-	Brandon-Jones, 2003
Agra			-	-	-	-	-	-	-	Brandon-Jones, 2003

MD - Moist Deciduous forest

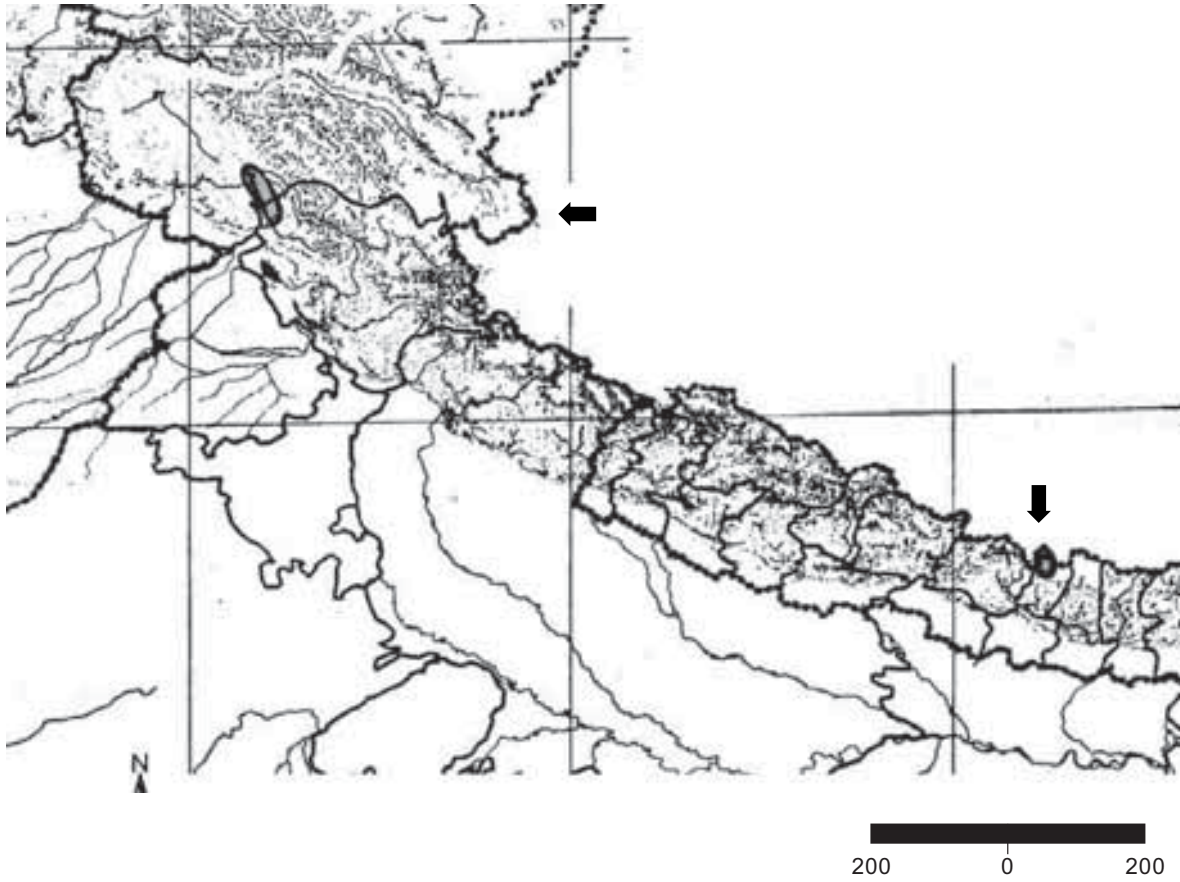
***Semnopithecus entellus ajax* (Pocock, 1928)**

CRITICALLY ENDANGERED

Family	Cercopithecidae
Common names	Hindi: <i>Goli</i> , Hanuman langur; Oriya: <i>Hanu Mankara</i> ; English: Himalayan Grey Langur, Western Himalayan Langur
Level of assessment	Subspecies
Habit	Folivore, diurnal, social, arboreal
Habitat	Subtropical, moist temperate, alpine, coniferous, broadleaved forests, human habitation
Niche	Top canopy, human settlements, cropland.
Elevation	2200-4000m.
Distribution	
Global	India, Nepal
Extent of Occurrence	<100 km ²
Area of Occupancy	<10 km ²
Locations/Subpopulations	<5 / >4. Fragmented.
Habitat status	Stable in area but predicted to decline in future by <10% in the next 10 years due to forest clearance for agriculture and encroachment. Decrease in quality due to altered habitat.
Threats	Past threats: Overgrazing, building roads through forests, lopping, deforestation, agriculture, fire Present and future threats: Agriculture and development
Trade	Not in trade
Population	
Generation time	10-12 years
Total population	<500 [India = <450; Nepal = <50]
Mature individuals	<250 [India = <220; Nepal = <30]
Population trend	Decline in the past not known but is predicted to decline by <10% in the next 10 years
Data source	Census or monitoring, field study; observed; 95% confidence
Status	
SAP CAMP (Ver. 3.1)	CRITICALLY ENDANGERED B1ab(iii,v)+2ab(iii,v)
Rationale	This taxon is confirmed from a highly restricted locality in India and in one locality in Nepal. Due to the threats to the taxon in India, it is Critically Endangered.
2001 Red List (Ver. 2.3)	Lower Risk - near threatened

Justification	Better taxonomic information available at the workshop.
National Status	India: Critically Endangered B1ab(iii,v)+2ab(iii,v); D Highly restricted and threatened due to human interference and development activities. Nepal: Critically Endangered B1ab(iii,v)+2ab(iii,v); D Very few numbers and restricted to a single location.
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	India: Schedule II, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002 Nepal: National Park and Wildlife Conservation Act 1973.
CITES	Appendix I
Presence in Protected Areas	
India	<i>Jammu and Kashmir</i> : Kistwar NP
Nepal	<i>Central Province</i> : Lang Tang NP
Recommendations	
Research	Taxonomic research, life history, survey studies, limiting factor research
Management	Wild population management, monitoring, public education, limiting factor management
Captive stocks	24 zoos in India (59.35.6.100), 1 zoo in Nepal (3.1.0.4). Subspecies not known.
Comments	Since <i>S.e. ajax</i> appears to be a debatable subspecies in terms of its zoogeographical distribution, a systematic survey is required to map the range of this subspecies along its present known range as well as along the adjoining sectors in the north-western Himalayan region both in India and Pakistan. At the workshop, it was decided that the distribution range of the taxon would be restricted to the confirmed <i>S.e. ajax</i> localities in Chamba Valley, and to the one locality in Melamchigaon, Nepal. All the other localities are listed as intermediates between <i>S.e. ajax</i> and <i>S.e. schistaceous</i> , but are not considered in the assessment of <i>S.e. ajax</i> .
Sources	Brandon-Jones, 2003; Brandon-Jones <i>et al.</i> , 2002; CZA, 2000-2001; Hilton-Taylor, 2000; SAZARC, 2002 Biological Information Sheet (2002): S.K. Sahoo CAMP questionnaire on protected areas (2002): M.A. Parsa
Compilers	D. Brandon-Jones, M. Chalise, M.K. Misra, M.K. Ghimere, S.C. Ghimere, B.J. Karki, Ajith Kumar, S.K. Sahoo, M. Singh, P. Srivatsava
Reviewers	D. Brandon-Jones, A. Eudey, M.S. Pradhan, S.K. Sahoo

Distribution range of *Semnopithecus entellus ajax* in India and Nepal



Distribution of *Semnopithecus entellus ajax* in India and Nepal from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA									
Himachal Pradesh Deosar	32°18	76°36	-	-	-	-	-	-	Holotype of <i>Pithecus entellus ajax</i> , 1830m. Brandon-Jones, 2003
Chamba Baira	32°54	76°09	-	-	-	-	-	-	Groves, 2001 One paratype was collected at Baira, 2300m. Intermediate with <i>S.e. schistaceus</i> . Brandon-Jones, 2003.
Bairagarh	32°09	76°02	7	F	Habitat loss (P/Pr/F)	-	30	11	Intermediate with <i>S.e. schistaceus</i> . Brandon-Jones, 2003.
Bairasul	32°09	76°02	1	F, CL	Habitat loss (P/Pr/F)	-	4	1	Intermediate with <i>S.e. schistaceus</i> . Brandon-Jones, 2003.
Bakkoh	32°09	76°02	1.5	F, CL	Habitat loss (P/Pr/F)	-	31	13	Intermediate with <i>S.e. schistaceus</i> . Brandon-Jones, 2003.
Banikhet	32°09	76°02	1	F, CL	Habitat loss (P/Pr/F)	-	26	10	Intermediate with <i>S.e. schistaceus</i> . Brandon-Jones, 2003.
Bharmouri	32°9	76°2	15	F, CL	Habitat loss (P/Pr/F)	-	85	34	Intermediate with <i>S.e. schistaceus</i> . Brandon-Jones, 2003.
Chalan (Tissa) Chandra Nullah?	-	-	-	-	-	-	-	-	2040m. Brandon-Jones, 2003 Napier, 1985. Intermediate with <i>S.e. schistaceus</i> . Brandon-Jones, 2003.
Chatri (Tissa) Chotabangal	32°1	76°8	31	SU	Habitat loss (P/Pr/F)	-	51	20	1818m. Napier, 1985 Intermediate with <i>S.e. schistaceus</i> . Brandon-Jones, 2003.
Chowari	32°9	76°2	4	F, CL	Habitat loss (P/Pr/F)	-	10-30 (16)	6	Intermediate with <i>S.e. schistaceus</i> . Brandon-Jones, 2003.
Dalhousie	32°51	79°58	30.5	F, CL	Habitat loss (P/Pr/F)	-	77	28	Intermediate with <i>S.e. schistaceus</i> . Brandon-Jones, 2003.
Dharmasala	32°01	76°08	14.5	SU	Habitat loss (P/Pr/F)	-	65	24	Intermediate with <i>S.e. schistaceus</i> . Brandon-Jones, 2003.

Distribution of *Semnopithecus entellus* ajax in India and Nepal from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Ghitrari	32°27	76°22	-	-	-	-	-	-	-	2003. 1830m. Intermediate with S.e. schistaceus. Brandon-Jones, 2003.
Kakira	32°09	76°02	5	P, CL	Habitat loss (P/Pr/F)	-	-	40-70 (49)	17	Intermediate with S.e. schistaceus. Brandon-Jones, 2003.
Kalatop-Khajjar WLS	32°09	76°02	6	F, CL	Habitat loss (P/Pr/F)	-	-	17	6	Intermediate with S.e. schistaceus. Brandon-Jones, 2003.
Karl	32°9	76°2	14	F, CL	Habitat loss (P/Pr/F)	-	-	44	19	Intermediate with S.e. schistaceus. Brandon-Jones, 2003.
Ranikot	32°09	76°02	6	Forest	Habitat loss (P/Pr/F)	-	-	2	2	Intermediate with S.e. schistaceus. Brandon-Jones, 2003.
Sahi	32°09	76°02	5	F, CL	Habitat loss (P/Pr/F)	-	-	-	-	Intermediate with S.e. schistaceus. Brandon-Jones, 2003.
Satrundi	32°09	76°02	18	F, CL	Habitat loss (P/Pr/F)	-	-	14	7	Intermediate with S.e. schistaceus. Brandon-Jones, 2003.
Shimot	32°9	76°02	3	F, CL	Habitat loss (P/Pr/F)	-	-	46	19	Intermediate with S.e. schistaceus. Brandon-Jones, 2003.
Kangra Valley Baijnath	32°01	76°08	8	SU	Habitat loss (P/Pr/F)	-	-	-	-	Intermediate with S.e. schistaceus. Brandon-Jones, 2003.
Chichian	~32°06	~76°16	-	-	-	-	-	-	-	2750m. Napier, 1985. Intermediate with S.e. schistaceus. Brandon-Jones, 2003.
Kangra	32°06	76°16	-	-	-	-	-	-	-	730m. Brandon-Jones, 2003. Intermediate with S.e. schistaceus
Kangra Fort	~32°05	~76°16	-	-	-	-	-	-	-	750m. Brandon-Jones, 2003. Intermediate with S.e. schistaceus
Samayala	~32°10	~76°25	-	-	-	-	-	-	-	2900m. Brandon-Jones, 2003. Intermediate with S.e. schistaceus

Distribution of *Semnopithecus entellus ajax* in India and Nepal from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Kullu</i> Banjar	31°37'	77°20'	4	F, CL	None	-	-	-	-	<i>schistaceus</i> EOO: 4500 km ² . EOO: 8 km ² . Present pop. trend: Stable, S.K. Sahoo. Intermediate with <i>S.e.schistaceus</i> EOO: 80.7 km ² . Present pop. trend: Stable, S.K. Sahoo Intermediate with <i>S.e.schistaceus</i> 3000m. Brandon-Jones, 2003 Intermediate with <i>S.e.schistaceus</i> Population trend: Stable, S.K. Sahoo. Intermediate with <i>S.e.schistaceus</i> . Brandon-Jones, 2003
Great Himalayan NP	31°50'	77°26'	10	F	Tourism (F)	Decline 20 yrs	-	50-100 (55)	23	
Jagatsukh	32°12'	77°12'	-	-	-	-	-	-	-	
Malana	32°07'	77°10'	8	F, CL	None	-	-	10-30	-	
Manali WLS	32°06'	77°04'	7	F	None	-	-	19	11	
Naggar	-	-	6	F, CL	None	-	-	17	6	S.K. Sahoo. Intermediate with <i>S.e.schistaceus</i> . Brandon-Jones, 2003 Intermediate with <i>S.e.schistaceus</i> . Brandon-Jones, 2003 Brandon-Jones, 2003 intermediate with <i>S.e.schistaceus</i>
Nirmund	-	-	-	-	-	-	-	-	-	
Rahla	32°21'	77°12'	-	-	-	-	-	-	-	
Jammu & Kashmir <i>Doda</i> Kistwar NP (Nath Nye, Dachin nullah)	33°40'	75°44'	-	-	-	-	-	-	-	A short distance above Kistwar up the Wardwan valley as far as the village of Yurod (2300m). Probably <i>S.e.ajax</i> , but possibly <i>S.e.schistaceus</i> . Brandon-Jones, 2003 2750m. Brandon-Jones, 2003
Siri (near Siri)?	33°19'	76°03'	-	-	-	-	-	-	-	

Distribution of *Semnopithecus entellus ajax* in India and Nepal from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
NEPAL Central Nepal Melamchi (Lang Tang NP)	28°03	85°33	-	-	-	-	-	-	-	Probably <i>S.e.ajax</i> , but possibly <i>S.e.schistaceus</i> 2438-3048m. Brandon-Jones, 2003

CL - Cropland, F - Forest, PF - Pine forest, SU - Semi-Urban area

***Semnopithecus entellus anchises* Blyth, 1844**

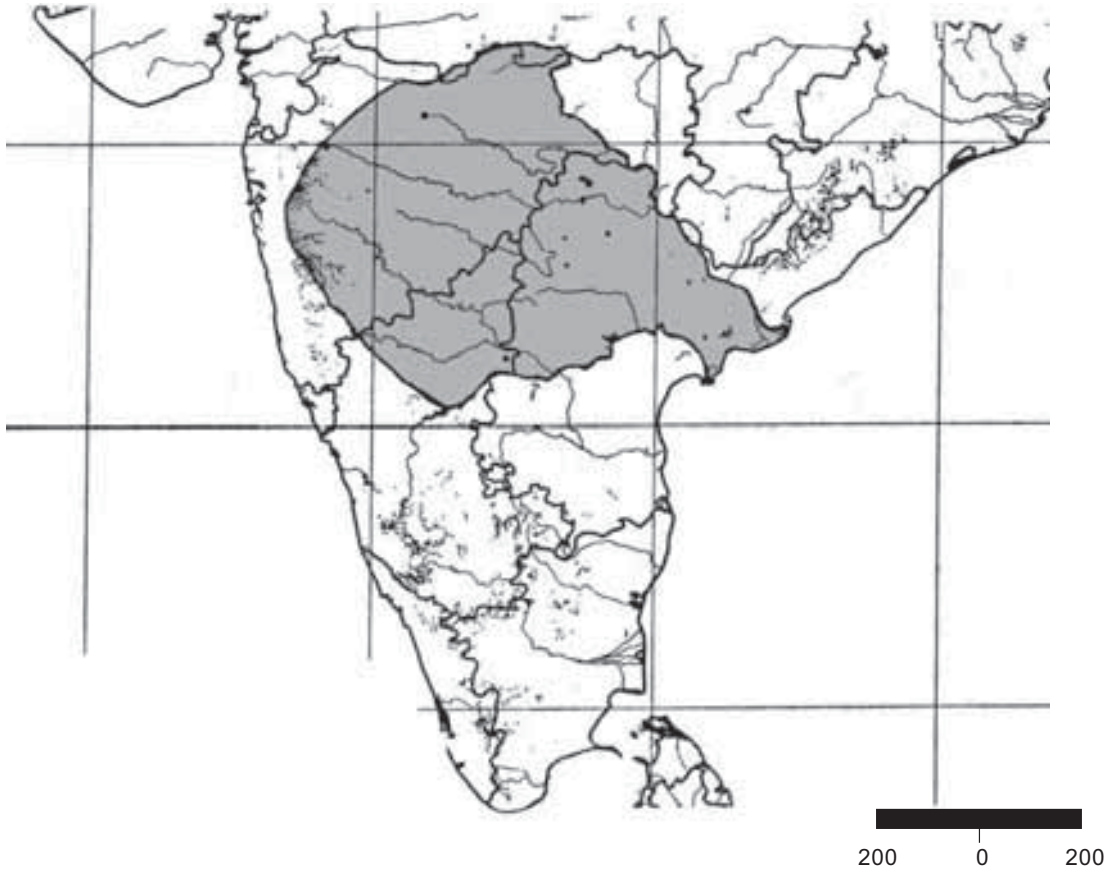
NEAR THREATENED

Family	Cercopithecidae
Common Names	English: Deccan Hanuman Langur
Level of assessment	Subspecies
Habit	Arboreal, diurnal, folivore
Habitat	Forest fringe, human settlement, tropical dry deciduous forest
Niche	Mid to top canopy
Elevation	Up to 800m.
Distribution	
South Asia	Endemic to India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,001 km ²
Locations/Subpopulations	63 / Not known. Fragmented.
Habitat status	Decrease in area by <10% in the last 10 years and is predicted to decrease by <10% in the last 10 years due to man-animal conflict and habitat. Decrease in quality due to agriculture and altered habitat.
Threats	Agriculture, habitat loss, man-animal conflict, wildfire
Trade	Not in trade.
Population	
Generation time	10-12 years
Total population	Not known
Mature individuals	Not known
Population trend	Total population and mature individuals stable.
Data source	Census or monitoring, field study; observed; 95% confidence
Status	
SAP CAMP (Ver. 3.1)	NEAR THREATENED
Rationale	Not much is known about this subspecies since it is recorded from only a few locations. It is likely that the range of the taxon, although very wide is actually restricted to fewer locations that are exposed to changing habitat patterns and use, making this a more vulnerable taxon. It is therefore categorised as Near threatened compared to <i>S.e. achates</i> .
2001 Red List (Ver. 2.3)	Lower risk - near threatened
Uncertainty	The participants at the primate C.A.M.P. workshop were not aware of the subspecies classification, which was worked out from museum specimens by Douglas Bran-

don-Jones after the workshop. Recognition of the subspecies and its status was agreed upon by all the workshop participants. The localities provided by the participants were classified by Brandon-Jones into various subspecies as per his museum studies. This was accepted by all the participants at the workshop.

Wildlife Legislation	Schedule II, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix I
Presence in Protected Areas	
India	<i>Andhra Pradesh</i> : Eturnagaram WLS, Kawal WLS, Kinnerasani WLS, Lanja Madugu Siwaram WLS, Manjira WLS, Pakhal WLS, Pocharam WLS, Pranahita WLS <i>Maharashtra</i> : Bhimashankar WLS?
Recommendations	
Research	Man-animal conflict research
Management	Wild population management, public education, monitoring
Captive stocks	24 zoos in India (59.35.6.100). Subspecies not known.
Comments	Male migration is known between groups but not between severely fragmented locations. This subspecies is widely distributed in peninsular India cutting into the distribution of <i>S. entellus achates</i> from Disa in Gujarat through Nimar in Madhya Pradesh, Mahabaleswar and Wai in Maharashtra and Vijaynagar in Karnataka. Its distribution in Andhra Pradesh is in the northern areas of the state, north of river Krishna and south of river Godavari all the way to the east coast. The taxon also shows an intermediate form in Diguvametta on the southern bank of river Krishna where <i>Semnopithecus priam priam</i> 's distribution range ends. The areas of overlap have intermediates, which are in this report listed under both taxa. The presence of such intermediates in protected areas have been indicated with a "?" above. Further notes on the taxon are included in the distribution table.
Sources	Brandon-Jones, 2003; Brandon-Jones <i>et al.</i> , 2002; CZA, 2000-2001; Hilton-Taylor, 2000; SAZARC, 2002 Biological Information Sheet (2002): C. Srinivasulu CAMP questionnaire on protected areas (2002): B. Srinivas, S. Mahadev
Compilers	D. Brandon-Jones, M. Chalise, M.K. Ghimere, S.C. Ghimere, B.K. Jhamak, A. Kumar, H. Kumar, M.K. Misra, M.S. Pradhan, S.K. Sahoo, A.K. Sharma, M. Singh, P. Srivatsava
Reviewers	D. Brandon-Jones, A. Eudey

Distribution of *Semnopithecus entellus anchises*



Distribution of *Semnopithecus entellus anchises* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA									
Andhra Pradesh	15°23	78°50	-	-	-	-	-	-	Nallamala range. 610m. intermediate with <i>S.p. priam</i> Brandon-Jones, 2003
Diguvametta	-	-	-	-	-	-	-	-	<i>S.e. anchises</i> apparently intergrades between <i>S.e. achates</i> . Brandon-Jones, 2003
Vijayanagar	-	-	-	-	-	-	-	-	A forest of tall mango trees along the River Sangli at Malakondapenta, 320 m.
Malakondapenta?	-	-	-	-	-	-	-	-	Being north of Diguvametta where intermediates occur, this population is probably referable to <i>S.e. achates</i> or <i>S.e. anchises</i> . Brandon-Jones, 2003
Adilabad									
Adilabad & adj. forests	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Asifabad & adj. forests	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Basar Temple town	-	-	-	Temple	-	-	-	-	C. Srinivasulu, BIS
Khanapur & adj. forests	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Kawal WLS	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Nirmal & adj. forests	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Pranahita WLS	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Sirpur & adj. forests	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Guntur									
Macherla & adj. forests	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Nallamala hills	-	-	-	F	-	-	-	-	C. Srinivasulu, BIS
Hyderabad									
Osmania Univ. campus	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Kammam									

Distribution of *Semnopithecus entellus anchises* in India from literature and recent field studies ...continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Kimmerasani WLS	-	-	-	-	-	-	-	~400	-	In 50 groups. Found in adjacent areas too. S. Mahadev, 2002, C. Srinivasulu, BIS
Yellandu & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Karimnagar</i> Karimnagar & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Lanja Madugu Sivaram WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Manthani & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Mahadevapur RF	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Peddapalli & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Vemulavada Temple town	-	-	-	Temple	-	-	-	-	-	C. Srinivasulu, BIS
<i>Kurnool</i> Atmakur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS.
Nandikotkur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Krishna</i> Vijayawada & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Medak</i> Manjira WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Pocharam WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Siddipet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Toopran & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Zaheerabad & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Mehbubnagar</i> Achampet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Gadwal & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS

Distribution of *Semnopithecus entellus anchises* in India from literature and recent field studies ...continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Kohapur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nallamala hills	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Wanaparthy & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Nalgonda</i> Bhongir & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Yadagirigutta & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Nizamabad</i> Kamareddi & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Lingampet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Lingareddi & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Pocharam WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Prakasam</i> Giddalur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS. Intermediate with <i>S.p. priam</i> . Brandon-Jones, 2003
Markapur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS. Intermediate with <i>S.p. priam</i> . Brandon-Jones, 2003
Nallamala hills forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS. Intermediate with <i>S.p. priam</i> . Brandon-Jones, 2003
<i>Rangareddy</i> Ibrahimpatnam & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Medchal & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Vikarabad & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Warangal</i> Etumagaram WLS	-	-	-	F	-	-	-	~1500	-	In 100 groups. B. Srinivas, 2002
Mulung & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS

Distribution of *Semnopithecus entellus anchises* in India from literature and recent field studies ...continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
forests Narsampet & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
forests Pakhal WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Palampet & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Warangal & adj. villages	-	-	-	-	-	-	-	-	-	C. Srinivasulu, BIS
Gujarat <i>Banaskantha</i> Disa	24°14	72°13	-	-	-	-	-	-	-	Intermediate with <i>S.e. achates</i> . Brandon-Jones, 2003
Karnataka <i>Raichur</i> Raichur	16°15	77°24	-	-	-	-	-	-	-	Holotype. Brandon-Jones, 2003
Madhya Pradesh Nimar	21°30	76°20	-	-	-	-	-	-	-	<i>S.e. anchises</i> apparently inter grades between <i>S.e. achates</i> . Brandon-Jones, 2003
Maharashtra Khandala?	18°45	73°23	-	-	-	-	-	-	-	500m, closely resemble Seetagundy population. They closely resemble a specimen probably mislabelled as originating from Seetagundy. Brandon-Jones, 2003
Mahabaleshwar to Wai?	17°56	73°42	-	-	-	-	-	30	-	ZSI. Provisional identification Brandon-Jones, 2003
Nadurbar, Harsul, Nasik? Singgarh Fort?	~19°59	~73°48	-	-	-	-	-	10	-	ZSI. Probably <i>S.e. anchises</i> Brandon-Jones, 2003
	18°22	73°45	-	Forest	-	-	-	-	-	Common. Provisional identification, Brandon-Jones, 2003
Aurangabad Ajantia	20°31	75°45	-	-	-	-	-	10	-	ZSI fairly confident identification, Brandon-Jones,

Distribution of *Semnopithecus entellus anchises* in India from literature and recent field studies ...continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Dhulia district?</i>	20°52	74°50	-	-	-	-	-	10	-	2003 ZSI probably <i>S.e. anchises</i> Brandon-Jones, 2003
<i>Thane, Pune & Raigad Bhimashankar WLS?</i>	19°04	73°32	-	-	-	-	-	15	-	ZSI. Small troops near Bhimashankar. Provisional identification, Brandon-Jones, 2003

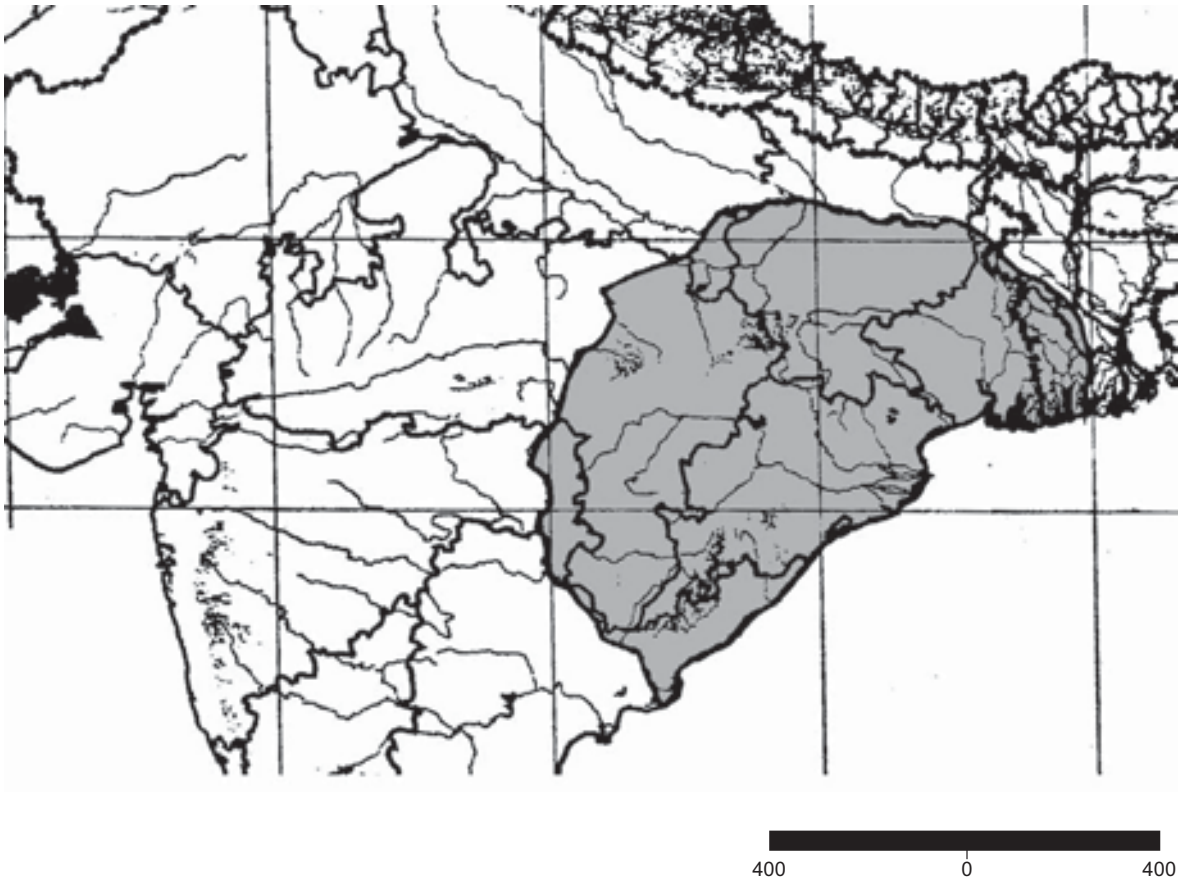
***Semnopithecus entellus entellus* (Dufresne, 1797)**

NEAR THREATENED

Synonyms	<i>Presbytis entellus</i> Dufresne, 1797 <i>Simia entellus</i> Dufresne, 1797
Family	Cercopithecidae
Common names	English: Bengal Hanuman Langur, Northern Plains Gray Langur
Level of assessment	Subspecies
Notes on taxonomy	The syntypes of <i>Simia entellus</i> Dufresne, 1797 are in the Paris (MNP) collection and are still in good condition to place them with confidence in this taxon.
Habit	Arboreal, terrestrial, folivore, diurnal
Habitat	Tropical dry and moist deciduous, scrub, woodland
Niche	Top canopy
Elevation	Up to 400m.
Distribution	
Global	Bangladesh, India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,000 km ²
Locations/Subpopulations	>35 / Not known. Fragmented
Habitat status	Decrease in area by <10% in the last 10 years and is predicted to decrease by <10% in the last 10 years due to man-animal conflict and habitat. Decrease in quality due to agriculture and altered habitat.
Threats	Agriculture, habitat loss, man-animal conflict in Bangladesh
Trade	Not in trade
Population	
Generation time	10-12 years
Total population	Not known [Bangladesh = <500]
Mature individuals	Not known [Bangladesh = <250]
Population trend	Total population and mature individuals declining by <10% in the last 30 years and is predicted to decline by <10% in the next 20 years.
Data Source	Census, field study; observed; 95% confidence
Status	
SAP CAMP (Ver. 3.1)	NEAR THREATENED
Rationale	This taxon is widely distributed occurring in >35 recorded locations. Although there are concerns of its conflict with humans and some doubts on the peripheral populations as being hybrids with other subspecies, this taxon is less threatened from external factors and therefore considered Near Threatened.
2001 Red List (Ver. 2.3)	Lower Risk - near threatened

National Status	<p>Bangladesh: Endangered C2a(ii) Since the Bangladesh population is highly restricted (only a single location) and subject to habitat destruction and man-animal conflicts, the threats could therefore makes the national population subject to extinction. Hence the Endangered category is retained.</p> <p>India: Near Threatened Widely distributed in India but subjected to various threats in its entire range, this taxon is categorised as Near threatened within the country also.</p>
Uncertainty	<p>The participants at the primate C.A.M.P. workshop were not aware of the subspecies classification, which was worked out from museum specimens by Douglas Brandon-Jones after the workshop. Recognition of the subspecies and its status was agreed upon by all the workshop participants. The localities provided by the participants were classified by Brandon-Jones into various subspecies as per his museum studies. This was accepted by all the participants at the workshop.</p>
Wildlife Legislation	<p>Bangladesh: Schedule III, Bangladesh Wildlife (Preservation) (Amendment) Act, 1974. India: Schedule II, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002</p>
CITES	Appendix II
Presence in Protected Areas	
India	<p><i>Bihar</i>: Valmiki NP, Valmiki WLS <i>Chhatisgarh</i>: Achanakmar WLS, Gomarda WLS <i>Jharkhand</i>: Palamau WLS <i>Maharashtra</i>: Andheri WLS?, Bhamragadh WLS?, Chaprala WLS?, Tadoba NP? <i>Orissa</i>: Chandaka-Dampara WLS</p>
Recommendations	
Research	Taxonomic research, survey
Management	Habitat management, wild population management, translocation, public education, limiting factor management
Captive stocks	South Asia: 26 zoos; 24 zoos in India (59.35.6.100), 2 zoos in Bangladesh (3.4.0.7). Subspecies not known.
Comments	<p>According to Brandon-Jones, the occurrence of this taxon in Bangladesh is due to its introduction by the Hindu pilgrims on the left bank of river Jalangi. From the Delhi Gazette of 2 March 1867, the "many thousands" of langurs in Krishnagar were all descendants from a single pair released "many years ago" by devotees. The first record of this taxon in Bangladesh at Keshobpur, by Gittins and Akonda (1982) could be the expansion of the introduced population into Bangladesh.</p> <p>Local and domestic trade for meat and whole animal. Hunting for sustenance by local tribals in Bhamraghad WLS, Maharashtra (P. Srivastava, 2002) and in Bangladesh (Feeroz, 2002).</p>
Sources	Brandon-Jones, 2003; Brandon-Jones <i>et al.</i> , 2002; CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2000; ISIS Abstract Report, 2001; SAZARC, 2002 Biological Information Sheets (2002): M.M. Feeroz, C. Srinivasulu CAMP questionnaire on protected areas (2002): S.D. Badgaiyan, N.H. Kakotdkar, M.M. Raheem, P. Ram, S.P. Samant, P. Srivastava
Compilers	D. Brandon-Jones, M.K. Chalise, S.C. Ghimere, M.K. Ghimere, B.K.Jhamak, A. Kumar, M.K. Misra, S. Mitra, P. Srivastava
Reviewers	D. Brandon-Jones, A. Eudey, S. Mitra

Distribution range of *Semnopithecus entellus entellus* in Bangladesh and India



Distribution of *Semnopithecus entellus* in Bangladesh and India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BANGLADESH Khulina Jessore Keshalpur	22°05	89°05	5	W	Habitat destruction (P), Man-animal conflict (Pr/F)	Decline	Decline	60	20-25	Feeroz <i>et al.</i> , 1995. Villages and fruit gardens around Keshobpur in Jessore, is therefore probably an expansion of this introduced population. Brandon-Jones, 2003
INDIA Andhra Pradesh <i>East Godavari</i> Addatigala & adj. forests Rajamundhry & adj. villages <i>Visakhapatnam</i> Padem & adj. forests <i>West Godavari</i> Tadepallegudem & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS C. Srinivasulu, BIS C. Srinivasulu, BIS C. Srinivasulu, BIS
Bihar <i>Dharbanga</i> Maruk hill	25°11	86°28	-	-	-	-	-	-	-	Groves, 2001 Abundant, 330m. Brandon-Jones, 2003 Rare. Brandon-Jones, 2003
Rajmahal range <i>Champaran</i> Valmiki TR	-	-	-	-	-	-	-	10, 722	-	In 1000 groups. Found in adjacent areas too. P. Ram, 2002
<i>Manbhum</i> Ramkanali	23°35	86°46	-	-	-	-	-	-	-	Ramkanali, 6 km from Inspection Bungalaw, Brandon-Jones, 2003

Distribution of *Semnopithecus entellus* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Chattisgarh Achanakumar WLS Gomardha WLS	-	-	551.55 277.91	- -	- -	- -	- -	- -	- -	S.D. Badgaiyan, 2002 M.M. Raheem, 2002. 909m. ZSI, Brandon-Jones, 2003
Jharkhand Hazariabagh Lohra in Chainpur	24°01	86°04	-	-	-	-	-	-	-	Protected and plentiful in the small "State" of Chainpur at Lohra, 300m, c. 24°30'N 85°00'E. Brandon-Jones, 2003 A few rigorously protected ones resided on Parasnath Hill. Brandon-Jones, 2003
Parasnath Hill	23°58	86°08	-	-	-	-	-	-	-	
Palamau Palamau WLS	-	-	794.33	-	-	-	-	29,403	-	Found adjacent to the protected area also. S.P. Samant, 2002
Maharashtra <i>Chandrapur</i> Allapalli Chandrapur Tadoba TR & Andheri WLS?	19°57 - - -	79°18 - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - 50	- - - -	Brandon-Jones, 2003 Brandon-Jones, 2003 ZSI. Probably <i>S.e. entellus</i> , but possibly <i>S.e. achates</i> . Brandon-Jones, pers. comm. In 300 groups. N.H. Kakodkar, 2002
<i>Gadchiroli</i> Bardhaman	23°15	87°52	2	Un	Anthropogenic activities (Pr/F)	Stable	Increase	20-30	20-25	Sangita Mitra. Brandon-Jones, pers. comm. P. Srivastava, census by wildlife division, BIS; Probably <i>S.e. entellus</i> . Brandon-Jones, pers. comm.
Bhamragadh WLS?	-	-	20	TDD	Wildfire (P/Pr/F)	Continuing - decline	-	35	-	P. Srivastava, census by wildlife division, BIS; Probably <i>S.e. entellus</i> . Brandon-Jones, pers. comm.
Chaprala WLS?	~19°20	~80°81	15	TDD	Wildfire (P/Pr/F)	Continuing - decline	-	370	-	P. Srivastava, census by wildlife division, BIS; Probably <i>S.e. entellus</i> . Brandon-Jones, pers. comm.
Orissa Bhanjanagar? Goomsur	19°56 19°50	84°35 84°38	- -	- -	- -	- -	- -	- -	- -	Brandon-Jones, pers. comm. Brandon-Jones, 2003

Distribution of *Semnopithecus entellus* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Pudumari	19°27'	84°29'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Ganjam	~20°06'	~84°32'	3-4	BLE	-	Stable	Stable	60-70	-	Sangita Mitra, Brandon-Jones, 2003
Udayagiri and Khandagiri	20°23'	85°44'	10	DD	-	-	-	60-70	-	Sangita Mitra, Brandon-Jones, pers. comm.
Khurda & Cuttack	20°30'	85°50'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Chandaka-Dampara WLS	23°13'	88°25'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Cuttack	23°24'	88°30'	-	-	-	-	-	-	-	On the left bank of Jalangi, a tributary of the Ganges. Brandon-Jones, 60m. Brandon-Jones, 2003
West Bengal	22°26'	87°20'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Guptipara	23°35'	86°57'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Krishnagar	-	-	3	-	Anthropogenic activities (Pr/F)	Stable	Stable	15-20	12-18	Sangita Mitra. Brandon-Jones, pers. comm.
Midnapore	-	-	1.5	-	Anthropogenic activities (Pr/F)	Stable	Increase	10-15	8-10	Sangita Mitra. Brandon-Jones, pers. comm.
Mothoumoni	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
<i>Birbhum</i>	22°51'	88°21'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Laavpore (in Ramparhat)	23°10'	88°25'	-	-	-	-	-	-	-	Along the banks of a nullah about 80 km upstream from Kolkata and near the botanical gardens. Brandon-Jones, 2003
Tarapith (in Ramparhat)	-	-	-	-	-	-	-	-	-	On the western or right bank
<i>Hugli</i>	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
Chandannagar	24°28'	88°04'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Kolkata	22°23'	85°32'	-	-	-	-	-	-	-	Brandon-Jones, 2003
Kolkata	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
Hoogly and the Ganges	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
<i>Murshidabad</i>	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
Jangipur	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
<i>Singbhum</i>	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003
Santhara range	-	-	-	-	-	-	-	-	-	Brandon-Jones, 2003

BLE - Broadleaved Evergreen forest, CL - Cropland, DD - Dry Deciduous forest, F - Forest, TDD - Tropical Dry Deciduous forest, U - University campus, U/SU - Urban or Semi-urban areas, V - Villages, VG - Vegetable Gardens, W - Woodland

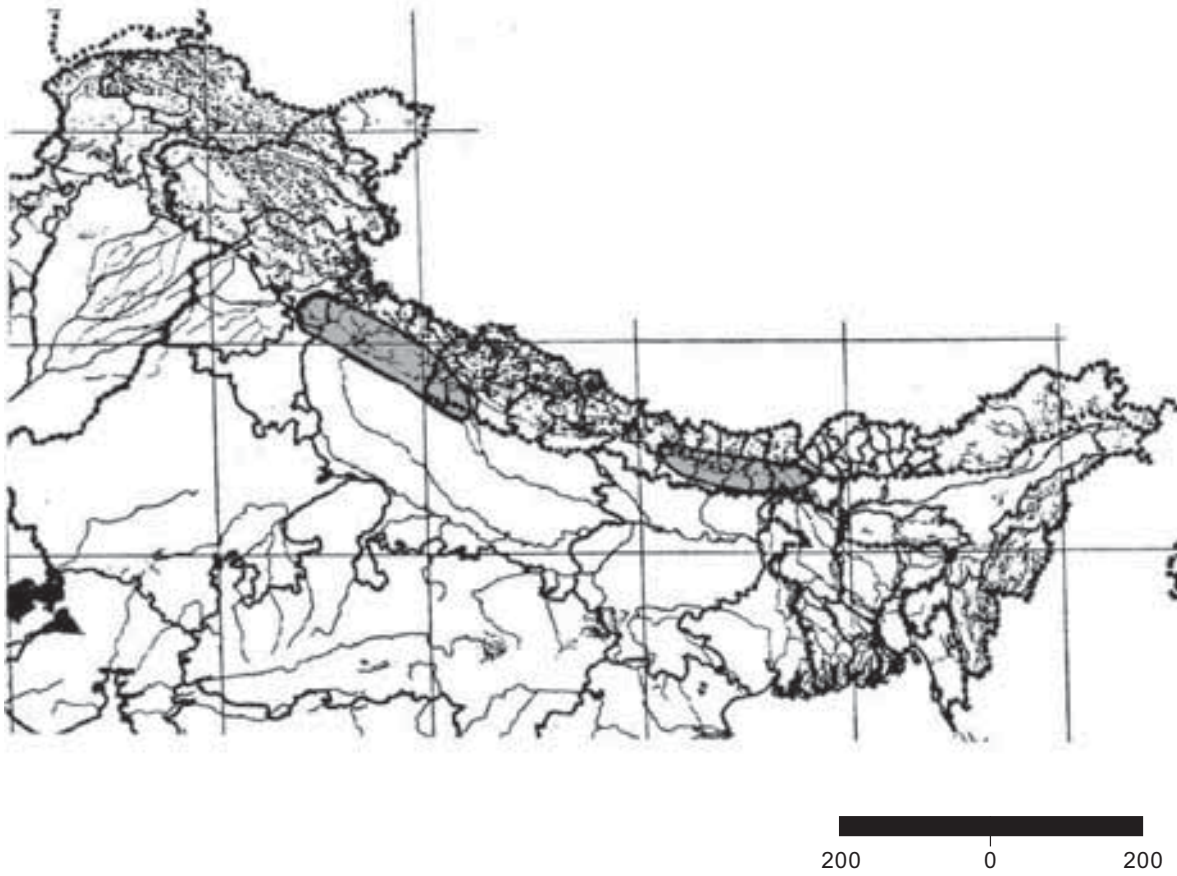
***Semnopithecus entellus hector* (Pocock, 1928)**

ENDANGERED

Synonyms	<i>S[emnopithecus] petrophilus</i> Gray, 1843 <i>Semnopithecus petrophilus</i> Hodgson, 1846 <i>Presbytis thermophilus</i> Jerdon, 1867 (nomen nudum) <i>Pithecus entellus hector</i> Pocock, 1928 <i>Pithecus entellus schistaceus</i> Pocock, 1928
Family	Cercopithecidae
Common names	Nepali: <i>Kalomukhe Bandar</i> , <i>Lampuchhre Badar</i> , <i>Phetawal Langur</i> ; Tharu: <i>Kaldhaure</i> , <i>Guna</i> ; English: Gray Langur, Hanuman Langur, Lesser Hill Langur
Level of assessment	Subspecies.
Notes on taxonomy	This species is recognized as the subspecies <i>S. entellus hector</i> by Brandon-Jones <i>et al.</i> (2002) and as <i>Presbytis entellus hector</i> by Napier (1985).
Habit	Diurnal, folivore, terrestrial, multi male-multi female group, arboreal
Habitat	Hill sal forest, subtropical sal forest
Niche	Top canopy
Elevation	300-1,600m
Distribution	
Global	India, Nepal
Extent of Occurrence	>20,000 km ²
Area of Occupancy	<500 km ²
Locations/Subpopulations	<30 / <50. Fragmented.
Habitat status	Stable in area at present but is predicted to decline by <10% in the 5 years due to settlement of landless people. Decrease in quality observed.
Threats	Mining, stone mining, firewood and charcoal collection production, timber collection, land distribution (resettlement) for landless people.
Trade	Not in trade
Population	
Generation time	12 years
Total population	<400 [India = <300; Nepal = <100]
Mature individuals	<225 [India = <160; Nepal = <75]
Population trend	Total population declining by <10% in the last 10 years and is predicted to decline by <10% in the next 10 years. Mature individuals likely to decline in future by <10% in 2 years.
Data source	Census or monitoring, field study; observed; 95% confidence

Status		
SAP CAMP (Ver. 3.1)	ENDANGERED	B2ab(i,ii,iii,iv,v)
Rationale	This taxon has a disjunct distribution within the lower elevations of Himalaya, restricted in its area of occupancy and threatened by human activities. The number of individuals is also restricted and declining due to which the taxon is Endangered.	
2001 Red List (Ver. 2.3)	Lower Risk - near threatened	
Justification	Better / new information available. Incorrect information used previously. Initial assessment at species level.	
National Status	India: Endangered B2ab(i,ii,iii,iv,v); C2a(i); D Indian population is restricted in area and numbers, although the proportion of population is more than in Nepal. Hence the category is retained as Endangered. Nepal: Endangered B2ab(i,ii,iii,iv,v); C2a(i) ↑ Critically Endangered Fewer individuals in Nepal, with very small population extending into India on the western border makes this taxon more vulnerable in Nepal compared to the global population. Hence assessment within Nepal is upgraded to Critically Endangered.	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	National Park and Wildlife Conservation Act 1973 as a common animal.	
CITES	Appendix I	
Presence in Protected Areas	None	
Recommendations		
Research	Taxonomic research, life history, survey studies, limiting factor research	
Management	Habitat management, wild population management, monitoring, public education	
Captive stocks	24 zoos in India (59.35.6.100), 1 zoo in Nepal (3.1.0.4). Subspecies not known.	
Comments	The population of Ramnagar and Ilam was considered previously as a subspecies of <i>Semnopithecus entellus entellus</i> . Due to taxonomic revision, it falls under <i>S.e. hector</i> . It requires ecobehavioural study and species management plan for Nepal. The government/concerned agency in Nepal should give special attention to this Critically Endangered subspecies. Among 300 individuals, 18 animals died within a year due to accidental deaths.	
Sources	Brandon-Jones, 2003; Brandon-Jones <i>et al.</i> , 2002; Chalise, 1994-1995; Chalise, 1995; Chalise, 1999a; CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2000; Napier, 1985; SAZARC, 2002 Biological Information Sheet (2002): M.K. Chalise, S.K. Sahoo	
Compilers	D. Brandon-Jones, M.K. Chalise, M.K. Ghimere, S.C. Ghimere, B. J. Karki, Awadesh Kumar, H. Kumar, M.K. Misra, S.K. Sahoo, S.K. Sharma, M. Singh, P. Srivatsava	
Reviewers	D. Brandon-Jones, M. K. Chalise, A. Eudey	

Distribution of *Semnopithecus entellus hector* in India and Nepal



Distribution of *Semnopithecus entellus hectori* in India and Nepal from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA										
Uttaranchal										
Takula	~29°44'	~79°43'	-	-	-	-	-	-	-	1630m. Brandon-Jones, unpub.
<i>Almora</i>										
Champawat	29°20'	80°06'	-	-	-	-	-	-	-	Paratype. Brandon-Jones, unpub.
<i>Kumaon</i>										
Dhela, Ramnagar	26°51'-29°24'	79°00'-87°10'	-	-	-	-	-	-	-	Type locality of <i>hectori</i> . 606m. Napier, 1985. 450m. Brandon-Jones, unpub.
Kumaon	~30°03'	~79°17'	-	-	-	-	-	-	-	Includes the holotype and paratype of all localities. Groves, 2001; Brandon-Jones, pers. comm.
Raighat	29°30'	79°29'	-	-	-	-	-	-	-	1128m. Brandon-Jones, unpub.
Sitabani	28°31'	80°41'	-	-	-	-	-	-	-	340m, 600m. Groves, 2001; Brandon-Jones, unpub.
Uttar Pradesh										
Kansrao?	30°05'	78°08'	-	-	-	-	-	-	-	Pr. id. Brandon-Jones, unpub.
Kasauli stream?	30°55'	76°57'	-	-	-	-	-	-	-	700m. Pr. id. Brandon-Jones, unpub.
Lohaghat	29°25'	80°06'	-	-	-	-	-	-	-	Seasonally absent, 1700m. Brandon-Jones, unpub.
Nishangara	28°15'	81°13'	-	-	-	-	-	-	-	600m. Brandon-Jones, unpub.
Sarju or Suheli	~28°31'	~80°41'	-	-	-	-	-	-	-	Brandon-Jones, unpub.
<i>Garhwal</i>										
Mandal	~30°25'	~79°15'	-	-	-	-	-	-	-	1630m. Brandon-Jones, unpub.
<i>Hardwar</i>										
Hardwar?	29°58'	78°10'	-	-	-	-	-	-	-	Pr. id. Brandon-Jones, unpub.
West Bengal										
Terai at Sivok	26°52'	88°27'	-	-	-	-	-	-	-	Brandon-Jones, unpub.
Pankhabari	26°50'	88°16'	-	-	-	-	-	-	-	500 m. Brandon-Jones, unpub.
<i>Darjeeling</i>										
Naxalbari?	-	-	3-4	BLE	Anthropogenic (Prif)	-	Decline	-	-	Probably. Brandon-Jones, 2003

Distribution of *Semnopithecus entellus hectori* in India and Nepal from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
NEPAL										
Central Nepal Bhikhna Thori	27°21'	84°37'	-	-	-	-	-	-	-	Brandon-Jones, unpub.
West Nepal Chispani (Garhi)	27°34'	85°05'	-	-	-	-	-	-	-	290m. Brandon-Jones, unpub.
Chatra	26°51'	87°10'	-	-	-	-	-	-	-	150m. Brandon-Jones, unpub.
Gandaki Hazaria	~26°51'	~85°20'	-	-	-	-	-	-	-	Groves, 2001
Patharghatta	~27°10'	~85°30'	-	-	-	-	-	-	-	180m. Brandon-Jones, unpub.
Thaprek (Tanahu)	-	-	-	Hill Sal	Selective logging, firewood collection, fodder collection	-	Stable	-	45	-
Kathmandu Kathmandu	27°43'	85°18'	-	-	-	-	-	-	-	Terai. South of Kathmandu Brandon-Jones, unpub.
Mahakali Churiya (adjacent area) (Jhimilatal)			59	Hill Sal	Landslide, selective logging, agriculture, fuelwood and fodder collection	-	Stable	-	15	M.K. Chalise and M. K. Ghimire
Mechi: Ilam Bartho the village (Chulachuli)	26°42'	87°46'	5	HS, St BL	Timber extraction (P/Pr/F), Agriculture (P), stone mining (Pr/F), firewood collection (Pr/F)	-	-	10	5	EOO: 28 km ² . Chalise, 1994-95 Chalise, 1995; Chalise, 1999a
Jare forest (Sakphara)	26°46'	87°41'	5	Sal	Firewood (Pr/F), fodder collection (F)	-	-	15	8	EOO: 28 km ² . Chalise, 1994-95 Chalise, 1995; Chalise, 1999a
Jare forests (adjacent area)	26°46'	87°41'	5	Sal	Fodder collection (F)	-	-	15	7	EOO: 28 km ² . Chalise, 1994-95 Chalise, 1995; Chalise, 1999a
Sanokholisi Chuli (Danabari)	26°44'	87°54'	5	Sal	Fodder collection (F)	-	-	15	9	EOO: 28 km ² . Chalise, 1994-95 Chalise, 1995; Chalise, 1999a

HS - Hill Sal forest, Sal - Sal forest, St Bl - Sub-tropical Broad-leaved forest; Pr. id. - Provisional identification

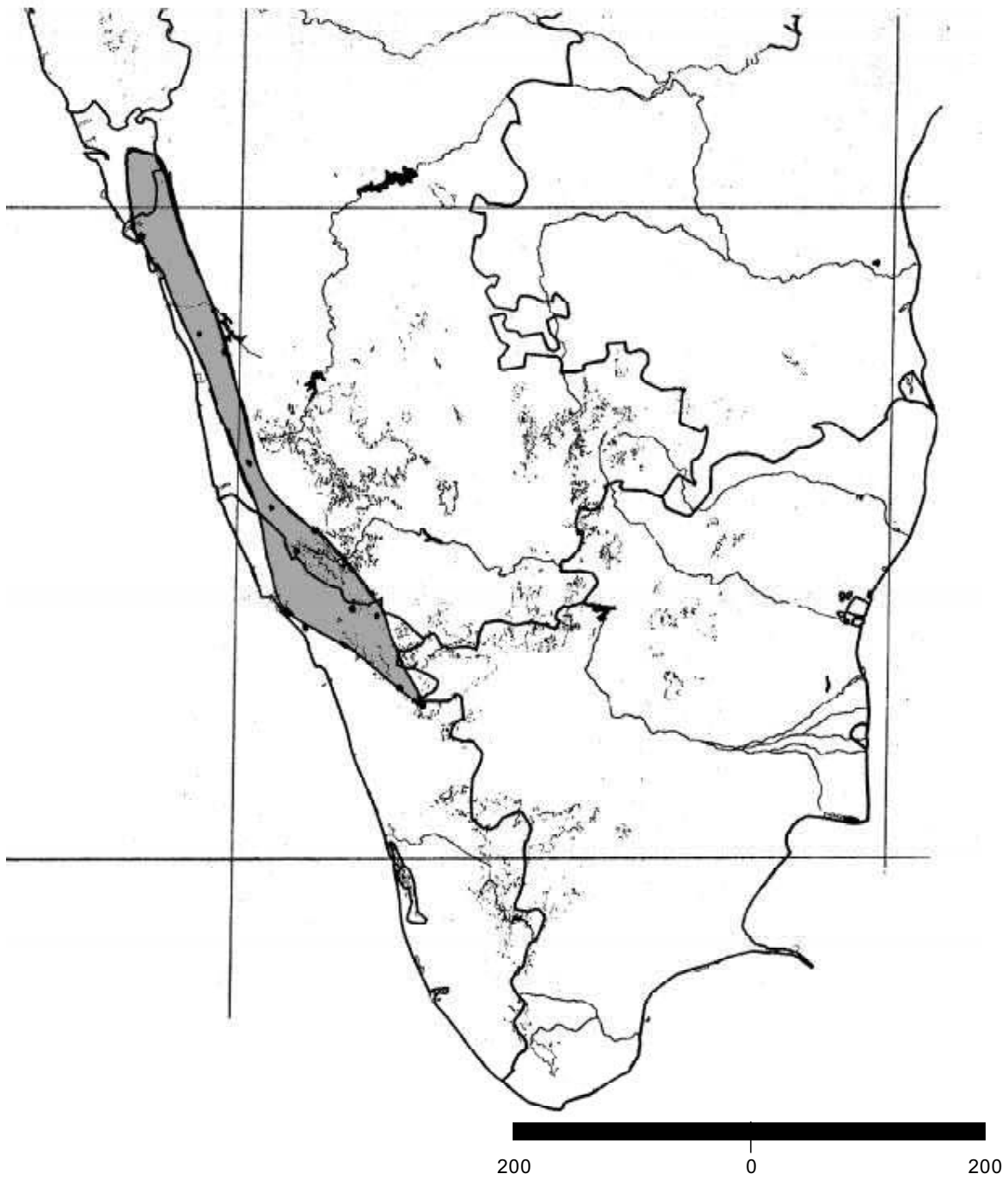
***Semnopithecus entellus hypoleucos* Blyth, 1841**

ENDANGERED

<u>Synonyms</u>	<i>Semnopithecus johnii</i> Martin, 1840 <i>Presbytis entellus hypoleucos</i> (Blyth, 1841) <i>Semnopithecus entellus hypoleucos</i> Blyth, 1841 <i>Presbytis entellus dussumieri</i> (I. Geoffroy, 1842) <i>Semnopithecus entellus dussumieri</i> I. Geoffroy Saint-Hilaire, 1842 <i>Semnopithecus entellus dussumieri</i> I. Geoffroy, 1843 <i>Presbytis anchises</i> Blyth, 1844 <i>Pr[esbytis] johnii</i> Blyth, 1859 [<i>Presbytis</i>] <i>leucopus</i> Wroughton, 1912 (nomen nudum) <i>Pithecus entellus achates</i> Pocock, 1928 <i>Pithecus entellus aeneas</i> Pocock, 1928 <i>Pithecus entellus elissa</i> Pocock, 1928 <i>Pithecus entellus iulus</i> Pocock, 1928 <i>Pithecus entellus priamellus</i> Pocock, 1928
<u>Family</u>	Cercopithecidae
<u>Common names</u>	English: Black-footed Gray Langur, Dark-armed Malabar Langur, Dark-legged Malabar Langur, Dark-shanked Malabar Langur, Dussumier's Langur, Dussumier's Malabar Langur, Southern Plains Gray Langur
<u>Level of assessment</u>	Subspecies
<u>Notes of taxonomy</u>	The type of <i>hypoleucos</i> is in the Zoological Survey of India collection, Kolkata. This species is recognized as the subspecies <i>Presbytis entellus hypoleucos</i> by Napier (1985). Recent investigations by Brandon-Jones reveals the <i>S.e. hypoleucos</i> population as part of <i>S.e. dussumieri</i> , but because of priority, <i>S.e. hypoleucos</i> is considered as the senior synonym of <i>S.e. dussumieri</i> . This taxon is a natural hybrid of <i>S.e. achates</i> and <i>Trachypithecus johnii johnii</i> .
<u>Habit</u>	Arboreal, semi-terrestrial, primarily folivorous, diurnal
<u>Habitat</u>	Tropical rain forest, dry deciduous forest, sacred groves, moist deciduous forest, gardens, riparian forest
<u>Niche</u>	Folivorous. 100-1,200m.
Distribution	
<u>Global</u>	Endemic to India
<u>Extent of Occurrence</u>	<20,000 km ²
<u>Area of Occupancy</u>	<500 km ²
<u>Locations/Subpopulations</u>	6 / <10. Fragmented
<u>Habitat status</u>	Decrease in area by >10% in the next 10 years and is predicted to decrease by <10% in the next 20 years due to habitat degradation. Decrease in quality due to human intervention, fire.
Threats	<u>Past threat</u> : Timber plantations <u>Present and future threats</u> : Agriculture, human settlement, fragmentation, habitat loss, mining, deforestation, hunting, deliberate fires.
<u>Trade</u>	Local trade for live animal and meat for food and medicine.

Population	
<u>Generation time</u>	12 years
<u>Total population</u>	Not known
<u>Mature individuals</u>	Not known
<u>Population trend</u>	Current decline not known and is predicted to decline by >10% in the next 10 years.
Data source	Museum studies, census or monitoring, field study, informal sightings; observed; 95% confidence
Status	
<u>SAP CAMP (Ver. 3.1)</u>	ENDANGERED B2ab(ii,iii)
<u>Rationale</u>	The subspecies has a restricted range and area with a fragmented distribution. With the forests of the Western Ghats being threatened and degraded, the status of this taxon is threatened and is categorised as Endangered.
<u>2001 Red List (Ver. 2.3)</u>	Data Deficient
<u>Justification</u>	Better / new taxonomic and distribution information available.
<u>Uncertainty</u>	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	Schedule II, Part II, Indian Wildlife (Protection) Act, 1972 amended up to 2002
<u>CITES</u>	Appendix I
Presence in Protected Areas	
<u>India</u>	<i>Goa</i> : Bondla WLS?, Mollem WLS? <i>Karnataka</i> : Brahmagiri WLS, Kudremukh NP, Pushpagiri WLS, Sharavathi Valley WLS <i>Kerala</i> : Aralam WLS?, Silent Valley NP?, Wayanad WLS?
Recommendations	
<u>Research</u>	Taxonomic research (on zoo animals also), life history, survey
<u>Management</u>	Habitat management, monitoring, PHVA
Captive stocks	24 zoos in India (59.35.6.100). Subspecies not known.
Comments	This subspecies extends south from Goa to the Wayanad Plateaux in Kerala along the west coast and the Western Ghats. In Goa it forms intermediates with <i>S.e. achates</i> , in Wayanad Plateaux, including Silent Valley, it is intermediate with <i>S.p. priam</i> .
Sources	Brandon-Jones <i>et al.</i> , 2002; CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2000; Napier, 1985; KFRI, 1993; KFD, 1997; SAZARC, 2002
Compilers	R. Ali, H.R. Bhat, D. Brandon-Jones, S. Ganapathiappan, G.K. Joseph, R. Krishnamani, Ajith Kumar, P.O. Nameer, M.S. Pradhan, S. Ram, K.K Ramachandran, G. Ramaswamy, A.K. Sharma, M. Singh, S.F.W. Sunderraj
Reviewers	D. Brandon-Jones, A. Eudey, G.K. Joseph

Distribution of *Semnopithecus entellus hypoleucos*



Distribution of *Semnopithecus entellus hypoleucos* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA										
Goa										
North Goa Bondla WLS?	-	-	8	-	-	-	-	-	-	Intermediate with <i>S.e. achates</i> . Brandon-Jones, unpub.
Mollem WLS?	-	-	107	-	-	-	-	-	-	Intermediate with <i>S.e. achates</i> . Brandon-Jones, unpub.
Karnataka										
Agumbe?	-	-	-	E	-	-	-	-	-	Brandon-Jones, unpub.
Makut	12°10'	75°30'	-	-	-	-	-	-	-	Holotype of (<i>Pithecus entellus</i>) <i>aeneas</i> . 76m. Brandon-Jones, 2003
Coorg										
Brahmagiri WLS	-	-	-	-	-	-	-	-	-	
Kudremukh NP	12°6'	77°75'	-	E-Sh	-	-	-	-	-	Ajith Kumar and Mewa Singh, pers. comm.
Pushpagiri WLS	-	-	-	-	-	-	-	-	-	Brandon-Jones, unpub.
Samasgi	-	-	-	-	-	-	-	-	-	Ajith Kumar and Mewa Singh, pers. comm.
South Coorg?	~12°	~76°	-	E	Mining (P), human intervention (Pr)	-	-	-	-	Brandon-Jones, unpub.
Wotekolli	12°08'	75°47'	-	-	-	-	-	-	-	Paratype of (<i>Pithecus entellus</i>) <i>aeneas</i> . 600m. Brandon-Jones, 2003
Shimoga										
Jog Falls & Sharavathi Valley WLS	14.14	74.50	-	E	-	-	-	440	-	Holotype and paratype of <i>P. e. iulus</i> , 400m. Brandon-Jones, 2003. Ajith Kumar, Mewa Singh, H.R. Bhat pers. comm.
Uttara Kannada										
Karwar	-	-	-	-	-	-	-	-	-	Brandon-Jones, unpub.
Kerala										
Kannur										
Aralam WLS	12°00'	75°75'	-	SE-E	Human intervention (Pr)	-	-	50	-	60% of the total numbers are adults. KFRI, 1993, 1997. Brandon-Jones, pers. comm.

Distribution of *Semnopithecus entellus hypoleucos* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Kannur?	11°59	75°32	-	-	-	-	-	-	-	Provisionally restricted type locality. Lectotype and paralectotype were collected. Napier, 1985; Brandon-Jones, unpub.
Thalassery	11°45	75°32	-	-	-	-	-	-	-	Field report from Jerdon (1867) Brandon-Jones, unpub.
<i>Mallapuram</i> New Ambarambalam?	-	-	-	MD-E	Human Intervention (P/Pr/F)	-	-	-	-	Most probably <i>S.e. hypoleucos</i> , but possibly <i>S.p. priam</i> . Brandon-Jones, pers. comm.
Nilambur North ?	-	-	-	MD-E	Human Intervention (P/Pr/F)	-	-	-	-	60% of the total numbers are adults. KFRI, 1993, 1997.
Nilambur South?	-	-	-	MD	Poaching (P), Habitat loss (Pr)	-	-	-	-	Most probably <i>S.e. hypoleucos</i> , but possibly <i>S.p. priam</i> . Brandon-Jones, pers. comm.
<i>Palghat</i> Silent Valley NP?	-	-	-	-	-	-	-	-	-	60% of the total numbers are adults. KFRI, 1993, 1997.
<i>Wynaad</i> Wynaad WLS?	11°6	76°00	-	MD	Human intervention (Pr)	-	-	167	-	Intermediate with <i>S.p. priam</i> . Brandon-Jones, pers. comm.

E - Evergreen forest E-Sh - Evergreen forest to Shola, MD - Moist Deciduous forest, MD-E - Moist Deciduous to Evergreen forest

***Semnopithecus entellus schistaceus* Hodgson, 1841**

NEAR THREATENED in South Asia

Synonyms	<i>Semnopithecus nipalensis</i> Hodgson, 1840 <i>Presbytis lania</i> Elliot, 1909 <i>Pithecus entellus achilles</i> Pocock, 1928 <i>S[emnopithecus] hodie</i> Corbet and Hill, 1992
Family	Cercopithecidae
Common names	Nepali: <i>Kalomukhe Bandar, Lampuchhre Bandar, Phetawal Bandar</i> ; Tamang: <i>Preken</i> ; Tharu: <i>Kaldhaure</i> ; English: Central Himalayan Langur, Hanuman Langur, Nepal Gray Langur
Level of assessment	Subspecies
Habit	Diurnal, terrestrial, arboreal, folivore. Multi-male multi-female, all male group also seen.
Habitat	Subtropical to temperate, broadleaved forest, pine forest, riparian, montane forest, riverine forest, rocky outcrops, scrub jungle
Niche	Upper canopy, frequently terrestrial.
Elevation	1,000-3,200m.
Distribution	
Global	Afghanistan, Bhutan, China, India, Nepal, Pakistan, Tibet
South Asia	Bhutan, India, Nepal, Pakistan
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,000 km ²
Locations/Subpopulations	>70 / Many. Fragmented
Habitat status	Stable in area. Decrease in quality due to loss of fruiting trees, altered habitat, fuel wood and timber collection.
Threats	Timber, firewood and charcoal production, habitat loss
Trade	Not in trade
Population	
Generation time	10-12 years
Total population	>50,000
Mature individuals	>10,000
Population trend	Not known
Data source	Census or monitoring, field study; observed; 95% confidence
Status SAP CAMP (Ver. 3.1)	NEAR THREATENED
Rationale	The taxon although widely distributed across the Himalaya, is subject to various threats from human interference, logging, habitat loss, fires, human habitations, expansion, developmental activities, encroachment, war, etc., which makes it susceptible to declines in areas subject to such threats. Hence categorised as

	Near Threatened.
2001 Red List (Ver. 2.3)	Lower Risk - near threatened
Justification	Better / new information available. Incorrect information used previously. Initial assessment at species level. Status according to Nepal population.
National Status	<p>Bhutan: Near Threatened Distributed on the wetsern side adjacent to Sikkim and contiguous with the Indian population. Threats as in the rest of its range, hence Near Threatened in Bhutan.</p> <p>India: Near Threatened Widely distributed and many in number. Since threats to habitat could play a negative role, the taxon is considered Near threatened in India.</p> <p>Nepal: Near Threatened Widely distributed and many in number. Since threats to habitat could play a negative role, the taxon is considered Near threatened in Nepal.</p> <p>Pakistan: Near Threatened Widely distributed and many in number. Since threats to habitat could play a negative role, the taxon is considered Near threatened in Pakistan.</p>
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	India: Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002 Nepal: National Parks and wildlife Conservation Act, 1973 listed as a common animal
CITES	Appendix I
Presence in Protected Areas	
India	<i>Bihar</i> : Valmiki WLS <i>Himachal Pradesh</i> : Chail WLS, Renuka WLS?
Nepal	<i>Jammu and Kashmir</i> : Changthang WLS, Dachigam NP, Hemis NP, Karakoram WLS <i>Central Province</i> : Langtang NP, Royal Chitwan NP <i>Eastern Province</i> : Makalu Barun NP <i>Mid-Western Province</i> : Royal Bardia NP
Pakistan	<i>NWFP</i> : Manshi WLS
Recommendations	
Research	Genetic research, taxonomic research, life history, survey studies, limiting factor research
Management	Habitat management, wild population management, monitoring, public education
Captive stocks	24 zoos in India (59.35.6.100), 1 zoo in Nepal (3.1.0.4). Subspecies not known.
Comments	In Nepal this taxon is sold as a dry meat delicacy.
Sources	Brandon-Jones, 2003; Brandon-Jones <i>et al.</i> , 2002; Chalise, 1997; Chalise, 2001; Chalise and Ghimire, 1998; CZA, 2000-2001; Ghimire, 2000 (Unpublished); Groves, 2001; Hilton-Taylor, 2000; Mammals of Pakistan C.A.M.P., 2003 (unpub.); Roberts, 1997; SAZARC, 2002 Biological Information Sheet (2002): M.K. Chalise, S.K. Sahoo, T.K. Shrestha C.A.M.P. questionnaire on protected areas (2002): R.Y. Naqash, P. Ram, A.R. Zargar
Compilers	D. Brandon-Jones, M. Chalise, M.K. Ghimire, S.K. Ghimire, B. J. Karki, Ajith Kumar, H. Kumar, M.K. Misra, S.K. Sahoo, M. Singh, P. Srivastava
Reviewers	D. Brandon-Jones, A. Eudey, M.S. Pradhan

Distribution of *Semnopithecus entellus schistaceus* in Bhutan, India, Nepal and Pakistan



Distribution of *Semnopithecus entellus schistaceus* in Bhutan, India, Nepal and Pakistan from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BHUTAN Western parts.	-	-	-	-	-	-	-	-	-	Wangchuk <i>et al.</i> , 2003
INDIA Bihar Valmiki NP	-	-	335.65	-	-	-	-	-	-	P. Ram, 2002
Himachal Prad. Chaur?	30°53	77°29	-	P	-	-	-	-	-	2750-3350m in the neighbourhood of Chaur, and sometimes even at the verge of the snow-line. Probably <i>S.e. schistaceus</i> . Brandon-Jones, unpub.
Jakú hill	31°06	77°11	-	-	-	-	-	-	-	2470m. Brandon-Jones, unpub.
Hattu Peak	31°14	77°30	-	-	-	-	-	-	-	On Hátú mountain, elevation 3250m, and in winter as high as 2440m at Shimla with 100-130 mm of snow. Brandon-Jones, unpub.
<i>Bilaspur</i> Badha Ghate?	31°05	76°12	7	F, CL	None	-	-	20-50 (23)	9	EOO: 16 km ² (District). Present pop. trend: Stable. S.K. Sahoo. Provisionally <i>S.e. schistaceus</i> .
Chhanjiijiar?	-	-	6	F, CL	None	-	-	41-60 (41)	16	EOO: 12.5 km ² (District). Population trend (Present): Stable. S.K. Sahoo. Provisionally <i>S.e. schistaceus</i> .
<i>Kangra</i> Chichian	-	-	-	-	-	-	-	-	-	Intermediate with <i>S.e. ajax</i> . Brandon-Jones, unpub.
Kangra, town and fort	32.05	76.15	-	-	-	-	-	-	-	Intermediate with <i>S.e. ajax</i> . Brandon-Jones, unpub.
Kangra Valley	-	-	-	-	-	-	-	-	-	Intermediate with <i>S.e. ajax</i> . Brandon-Jones, unpub.
Samayala	-	-	-	-	-	-	-	-	-	Intermediate with <i>S.e. ajax</i> . Brandon-Jones, unpub.

Distribution of *Semnopithecus entellus schistaceus* in Bhutan, India, Nepal and Pakistan from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Kullu Jagatsukh	-	-	-	-	-	-	-	-	-	Intermediate with <i>S.e. ajax</i> . Brandon-Jones, unpub.
Rahla	-	-	-	-	-	-	-	-	-	Intermediate with <i>S.e. ajax</i> . Brandon-Jones, unpub.
Simla Baldeyan	~31°06'	~77°10'	12	F, CL	Human settlement (Pr) Habitat loss (F)	-	Decline 20 yrs.	31	12	EOO: 6500 km ² S.K.Sahoo
Bamta	~31°06'	~77°10'	6	F	None	-	-	10-30 (10)	5	EOO: 30 km ² (District). S.K. Sahoo
Bharari	~31°06'	~77°10'	5	SU	Habitat loss (P/F), human settlement (Pr)	-	Increase 20 yrs.	40-60 (42)	17	EOO: 9 km ² (District). S.K. Sahoo
Chharbara	-	-	40	F	Habitat loss (P/Pr/F)	-	Decline 20 yrs.	10-20	4	EOO: 8.6 km ² (District). S.K. Sahoo
Chopal	-	-	30	F, CL	Habitat loss (P/Pr/F)	-	Decline 20 yrs.	50-70 (61)	26	EOO: 110.5 km ² (District). S.K. Sahoo
Dasholi	-	-	5	F, CL	Habitat loss (P/Pr/F)	-	Decline 20 yrs.	34	13	EOO: 20.5 km ² (District). S.K. Sahoo
Durgapur	-	-	4.5	F	Habitat loss (P/Pr/F)	-	-	21	8	EOO: 25 km ² (District). S.K. Sahoo
Junga	-	-	6	F	Habitat loss (P/F)	-	Decline 20 yrs.	31	14	EOO: 30.5 km ² (District). S.K. Sahoo
Koti	31°06'	77°07'	7	F	-	-	-	20-50 (17)	1?	EOO: 14.9 km ² (District). S.K. Sahoo
Kufri	-	-	7	SU	Habitat loss (P/Pr/F)	-	Decline 20 yrs.	50-100 (56)	21	35.4 km ² (District)??. S.K. Sahoo
Mackrog	-	-	7	F, CL	Habitat loss (P/Pr/F)	-	Decline 20 yrs.	30-50 (37)	16	EOO: 15 km ² (District). S.K. Sahoo
Mashobra	31°07'	77°13'	8	SU, F	Habitat loss (P/Pr/F)	-	Decline 20 yrs.	50-70 (59)	19	EOO: 19.5 km ² (District). S.K. Sahoo
Narkanda	31°16'	77°27'	9	F, CL	Habitat loss (P/Pr/F)	-	Decline 20 yrs.	20-70 (27)	13	EOO: 23.5 km ² (District). S.K. Sahoo.
Oilan forest	-	-	7	F	None	-	-	10-25 (14)	5	Brandon-Jones, 2003 EOO: 25.5 km ² (District). Present pop. trend: stable. S.K. Sahoo
Simla Urban	31°06'	77°13'	20	U/SU	Trapping (p), habitat loss (P/F)	-	Increase 20 yrs.	400-600	164	S.K. Sahoo
Simla rural	31°06'	77°13'	13	Co (CL)	Habitat loss (P/Pr/F)	-	Decline 20 yrs.	86 (80-105)	33	Brandon-Jones, unpub. S.K. Sahoo Brandon-Jones, unpub.

Distribution of *Semnopithecus entellus schistaceus* in Bhutan, India, Nepal and Pakistan from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Suni	-	-	4	F	None	-	-	49	24	EOO: 8.6 km ² (District). Present pop. trend: stable. S.K. Sahoo
Sirmour Bodhan?	31°2	77°08	4000 6	Ru/F	Habitat loss (P/F)	-	Decline 20 yrs.	27	15	EOO: 21 km ² (District) S.K. Sahoo. Provisionally S.e. schistaceus, but possibly S.e. hector
Chamora?	-	-	2	F, CL	None	-	Decline 20 yrs.	27	10	EOO: 6 km ² (District) S.K. Sahoo. Provisionally S.e. schistaceus, but possibly S.e. hector
Choordhara?	-	-	17	F	None	-	-	51	20	EOO: 53.9 km ² (District). Present pop. trend: stable. S.K. Sahoo. Provisionally S.e. schistaceus, but possibly S.e. hector
Ganesh Ka Bagh?	-	-	2	F, CL	None	-	-	-	-	EOO: 5 km ² (District). Present pop. trend: stable. S.K. Sahoo. Provisionally S.e. schistaceus, but possibly S.e. hector
Gumma?	31°02	77°08	8	F	Habitat loss (P/F), industries (F)	-	Decline 20 yrs.	8	3	EOO: 60.5 km ² (District). S.K. Sahoo. Provisionally S.e. schistaceus, but possibly S.e. hector
Haripur?	31°2	77°08	6	F	None	-	Decline 20 yrs.	16	5	EOO: 23 km ² (District). S.K. Sahoo. Provisionally S.e. schistaceus, but possibly S.e. hector
Kotibonch?	-	-	6	Ru/F	Habitat loss (P/F)	-	Decline 20 yrs.	27	15	EOO: 21 km ² (District). S.K. Sahoo. Provisionally S.e. schistaceus, but possibly S.e. hector
Malwala?	-	-	8	F	None	-	-	41	18	EOO: 8 km ² (District). Present pop. trend: stable. S.K. Sahoo. Provisionally S.e. schistaceus, but possibly S.e. hector
Renuka WLS?	31°02	77°08	15	F, CL	Forest fire (P/Pr), habitat loss (F)	-	Decline 20 yrs.	40-80	19	EOO: 43 km ² (District). S.K. Sahoo. Provisionally S.e.

Distribution of *Semnopithecus entellus schistaceus* in Bhutan, India, Nepal and Pakistan from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Rohnof?	31°02	77°08	10.5	F	None	-	-	23	9	<i>schistaceus</i> , but possibly <i>S.e.hector</i> EOO: 31 km ² (District) S.K. Sahoo. Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e.hector</i>
Sarahan?	31°31	77°48	3	F, CL	Habitat loss (F)	-	Decline 20 yrs.	21	8	EEO: 8.7 km ² (District) S.K. Sahoo. Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e.hector</i>
Sataun?	-	-	2	F	Habitat loss (F)	-	Decline 20 yrs.	23	-	EEO: 5.3 km ² (District) S.K. Sahoo. Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e.hector</i>
Shilai?	31°02	77°08	5	F, CL	Habitat loss (P/Prr/F)	-	Decline 20 yrs.	-	-	EEO: 44.5 km ² (District) S.K. Sahoo. Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e.hector</i>
Thal ka Nala?	-	-	3	F	-	-	-	-	-	EEO: 7 km ² (District). Present pop. trend: stable. Have not seen langurs there may be some. S.K. Sahoo Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e.hector</i>
Uchh Ghat?	-	-	5	Ru/F	Habitat loss (F)	-	Decline 20 yrs.	38	16	EEO: 17 km ² (District) S.K. Sahoo. Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e.hector</i>
<i>Solan</i> Arki?	31°08	76°58	5000 11	F, CL	Habitat loss (P/F)	-	-	36	14	EEO: 26 km ² (District) S.K. Sahoo. Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e.hector</i>
Barog?	~30°55	~77°07	6	SU	-	-	-	33	14	EEO: 10.5 km ² (District) S.K. Sahoo. Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e.hector</i>
Chail WLS	30°56	77°12	10	Forest	None	-	-	70-100 (72)	32	EEO: 18 km ² (District) S.K. Sahoo. Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e.hector</i>

Distribution of *Semnopithecus entellus schistaceus* in Bhutan, India, Nepal and Pakistan from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Kasauli?	31°54	76°57	10	SU	Trapping (P), habitat loss (P/F)	Decline 20 yrs.	-	58-75 (58)	34	EOO: 14.2 km ² (District)S.K. Sahoo. Provisionally S.e. <i>schistaceus</i> , but possibly S.e. <i>hector</i> . D. Brandon-Jones, pers. comm.
Kummarhati?	-	-	5	SU	Trapping (P), habitat loss (P/F)	Decline 20 yrs.	-	23	9	EOO: 7.3 km ² (District) S.K. Sahoo. Provisionally S.e. <i>schistaceus</i> , but possibly S.e. <i>hector</i>
Parwanoo?	-	-	4	F/CL	Habitat loss (P/F)	Decline 20 yrs.	-	23	10	EOO: 7.5 km ² (District)S.K. Sahoo. Provisionally S. e. <i>schistaceus</i> , but possibly S.e. <i>hector</i>
Sabathu?	-	-	10	F, CL	Habitat loss (P/F)	Decline 20 yrs.	-	30	11	EOO: 15.4 km ² (District)S.K. Sahoo. Provisionally S.e. <i>schistaceus</i> , but possibly S.e. <i>hector</i>
Solan?	30°54	77°06	3	SU	Trapping (P), habitat loss (P/F)	Decline 20 yrs.	-	41	17	EOO: 8.4 km ² (District) S.K. Sahoo
Jammu & Kashmir <i>Kargil</i> Karakoram WLS	-	-	5000	-	-	-	-	-	-	
<i>Kishengara</i> Gugai Nala	-	-	-	-	-	-	-	-	-	2440-3660m. Brandon-Jones, 2003
<i>Ladakh</i> Changthang WLS Hemis NP	-	-	4000 4100	-	-	-	-	-	-	
<i>Srinagar</i> Dachigam NP Nishat Garden?	- 34°05	- 74°49	141 -	-	-	-	-	-	-	2440m. on the hills just behind Nishat Garden, about 13 km NE of Srinagar, Kashmir. S.e. <i>schistaceus</i> or intermediate with S.e. <i>ajax</i>

Distribution of *Semnopithecus entellus schistaceus* in Bhutan, India, Nepal and Pakistan from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Sikkim										
Chuntang	27°38	88°35	-	-	-	-	-	-	-	2100-3700m. Brandon-Jones, 2003
Lachen	27°44	88°33	-	Forest	-	-	-	-	-	1600m. Brandon-Jones, unpub. 2750m. Fairly plentiful (although restricted to the heavy forest) in the Lachen Valley from about 1500-3000 m. Brandon-Jones, 2003
Lachung	27°42	88°45	-	-	-	-	-	-	-	Fairly plentiful (although restricted to the heavy forest) in the Lachen Valley from about 1500-3000m. Brandon-Jones, 2003
Lingtam	27°13	88°44	-	-	-	-	-	-	-	Brandon-Jones, unpub.
Sedonchen	27°15	88°46	-	-	-	-	-	-	-	1900m. Brandon-Jones, unpub. 2100m. Brandon-Jones, unpub.
Uttaranchal										
near Chakrata?	30°42	77°51	-	-	-	-	-	50	-	Probably <i>S.e.schistaceus</i> Brandon-Jones, unpub.
Molta?	30°30	79°39	-	-	-	-	-	-	-	Village of Molta, 3000m. in the Tons valley about 6 km from the confluence of Har-Ki-Dun, Uttaranchal. Brandon-Jones, 2003
<i>Dehra Dun</i>										
Mussoorie	30°27	78°05	-	-	-	-	-	-	-	Brandon-Jones, unpub.
<i>Kumaon</i>										
Kumaon	-	-	-	-	-	-	-	-	-	3660m. Provisional Identification Brandon-Jones, unpub.
NEPAL										
Central Nepal										
<i>Kathmandu</i>										
Kathmandu	-	-	-	-	-	-	-	-	-	Approximate type locality of <i>S.e. schistaceus</i> (it is doubtful any specimens were collected in Kathmandu itself). Brandon-Jones, unpub. Shrestha, 1997
Lang Tang NP										
				1710						

Distribution of *Semnopithecus entellus schistaceus* in Bhutan, India, Nepal and Pakistan from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Chitwan</i> Rannagar	27°44	84°27	5	STr D, Sal	Agriculture (P/Pr/F), timber and fodder collection (P/Pr/F)	- -	300	156	EOO: 10 km ² . Chalise, 1994-95; Chalise, 1995; Chalise, 1999a 1500-3000 m. Brandon-Jones, 2003 Fairly plentiful (although restricted to the heavy forest) in the Lachen Valley from about 1500-3000m. Brandon-Jones, 2003
Royal Chitwan NP Lachung	27°42	88°45	932	-	-	- -	-	-	Brandon-Jones, unpub. 1900m. Brandon-Jones, unpub. 2100m. Brandon-Jones, unpub.
Lingtam Sedonchen	27°13 27°15	88°44 88°46	-	-	-	- -	-	-	Probably <i>S.e.schistaceus</i> Brandon-Jones, unpub. Village of Molta, 3000m. in the Tons valley about 6 km from the confluence of Har-Ki-Dun, Uttaranchal. Brandon-Jones, 2003
Uttaranchal near Chakrata?	30°42	77°51	-	-	-	-	50	-	
Molta?	30°30	79°39	-	-	-	-	-	-	
<i>Dehra Dun</i> Mussoorie	30°27	78°05	-	-	-	-	-	-	Brandon-Jones, unpub.
<i>Kumaon</i> Kumaon	-	-	-	-	-	-	-	-	3660m. Provisional Identification Brandon-Jones, unpub.
NEPAL Central Nepal <i>Chitwan</i> Rimiche? (Syatru)	28°20	81°20	-	TBL, P	Selective logging (P/Pr/F), firewood and fodder collection (P/Pr/F)	- Stable	13	7	Chalise, 1997; Chalise & Ghimire, 1998; Chalise, 2001; M.K. Ghimire, (unpublished). Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e. ajax</i>
<i>Kathmandu</i> Kathmandu	-	-	-	-	-	-	-	-	Approximate type locality of <i>S.e. schistaceus</i> (it is doubtful any specimens were

Distribution of *Semnopithecus entellus schistaceus* in Bhutan, India, Nepal and Pakistan from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Pyuthan</i> Montane cave? (Shoragdvari)	28°08	87°10	2	TBL	Selective logging (P/Pr/F), firewood and fodder collection (P/Pr/F)	-	25	14	collected in Kathmandu itself). Brandon-Jones, unpub. Chalise, 1997; Chalise & Ghimire, 1998; Chalise, 2001; M.K. Ghimire, unpublished. Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e. ajax</i> Chalise, 1997; Chalise & Ghimire, 1998; Chalise, 2001; M.K. Ghimire, unpublished. Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e. ajax</i>
Temple side? (Shoragdvari)	28°08	87°10	-	TBL	Selective logging (P/Pr/F), firewood and fodder collection (P/Pr/F)	-	45	24	Chalise, 1997; Chalise & Ghimire, 1998; Chalise, 2001; M.K. Ghimire, unpublished. Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e. ajax</i>
<i>Sankhuwasabha</i> Khonglewa (Lakuwa-Tamku)	27°28	87°10	500	TBL	Jhum cultivation (P/Pr/F), firewood and fodder collection (P/Pr/F)	-	65	37	Provisionally <i>S.e. schistaceus</i> , but possibly <i>S.e. ajax</i> Brandon-Jones, unpub. pers. comm.
<i>Sindhu</i> Satthar hills/ Gurkha Helambu Valley Tarke Ghyang	28°00	84°38	-	-	-	-	-	-	Groves, 2001; The holotype of <i>P. [ithecus] entellus achilles</i> . 3660m. Brandon-Jones, unpub. 2430m. Brandon-Jones, unpub.
<i>Syania</i> 40 East of Pokhra town?	-	-	0	STr	Deforestation, mining, pollutants	-	-	-	Probably <i>S.e. schistaceus</i> , but possibly <i>S.e. ajax</i> , T. K. Shrestha pers. comm.; Brandon-Jones, unpub.
Eastern Nepal Makalu Barun NP	-	-	-	-	-	-	-	-	
Western Nepal Royal Bardia NP	-	-	-	-	-	-	-	-	
PAKISTAN NWFP Amb state?	34°18	72°51	-	-	-	-	-	-	Provisional identification Brandon-Jones, unpub.
Dhanial forests?	34°36	73°38	-	-	-	-	-	-	Provisional identification

Distribution of *Semnopithecus entellus schistaceus* in Bhutan, India, Nepal and Pakistan from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Kadir gali?	34°41	73°42	-	-	-	-	-	-	-	Probably <i>S.e. schistaceus</i> , Brandon-Jones, unpub. Above Mahandri. Provisional identification. Brandon-Jones, 2003
Lolab	34°30	74°35	-	-	-	-	-	-	-	Brandon-Jones, unpub. West of Kunhar river.
Sharab Forest Rest House?	34°43	73°59	-	-	-	-	-	-	-	Provisional identification Brandon-Jones, unpub.
<i>Hazarria</i> Kalam	35°32	72°35	-	-	-	-	-	-	-	Provisional identification Brandon-Jones, unpub.
Siran river c. Baffa	34°26	73°13	-	-	-	-	-	-	-	Provisional identification Brandon-Jones, unpub.
<i>Manshera</i> (Kaghan)?	34°47	73°32	-	-	-	-	-	-	-	Provisional identification Brandon-Jones, unpub.
Beari-Chore?	-	-	-	-	-	-	-	-	-	C. Shafique pers. comm. Probably <i>S.e. schistaceus</i> Brandon-Jones, pers. comm. 2440m.
Kaj Nag Mountain	-	-	-	-	-	-	-	-	-	C. Shafique pers. comm.
Khunjo Kalleh?	-	-	-	-	-	-	-	-	-	Probably <i>S.e. schistaceus</i> Brandon-Jones, pers. comm.
Manshi WLS?	-	-	23.21	-	-	-	-	-	-	C. Shafique pers. comm.
Malkandi	-	-	-	MT	-	-	-	80	-	Probably <i>S.e. schistaceus</i> Brandon-Jones, pers. comm. Saeed-uz-zaman, 1979, 1981; C. Shafique pers. comm.
Shogran	34°37	73°28	-	MT	-	-	-	>50	-	Probably <i>S.e. schistaceus</i> Brandon-Jones, pers. comm. A. Khan, 1999; South east face of Kunhar Valley. C. Shafique pers. comm. Probably <i>S.e. schistaceus</i> . Brandon-Jones, 2003
Siri	-	-	-	MT, SA	-	-	-	>70	-	A. Khan, 1999
<i>Nagan-Nadi</i> dt?	-	-	37.5	-	-	-	-	-	-	C. Shafique pers. comm. Probably <i>S.e. schistaceus</i> Brandon-Jones, pers. comm.

Distribution of *Semnopithecus entellus schistaceus* in Bhutan, India, Nepal and Pakistan from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Indus Kohistan Pallas valley	34°52-35°16	72°52-73°35	100	MT	-	-	-	10-30	-	N.A. Raja, 1995
Mukchaki village (adjacent area)	-	-	-	-	-	-	-	-	-	Surveys in 1994 reported sightings at 3200 m. Probably <i>S.e. schistaceus</i> . Provisional identification. Brandon-Jones, C. Shafiq pers. comm. Probably <i>S.e. schistaceus</i> Brandon-Jones, unpub.
Bankad Dubair?	-	-	-	-	-	-	-	-	-	Provisional identification Brandon-Jones, unpub.
Jhelum town/valley (Mundkro forest?)	32°57	73°44	-	-	-	-	-	-	-	Provisional identification Brandon-Jones, unpub.
Muzaffarbad NP	-	-	20	MT	Habitat degradation (P/Pr/F)	-	-	~300	-	I. Ahmad, 1997
Muzaffarbad Dirkot	-	-	10	MT	Habitat degradation (P/Pr/F)	-	-	~40	-	I. Ahmad, 1997
Leepa Valley	-	-	-	-	-	-	-	-	-	I. Ahmad, 1997

BLE - Broadleaved Evergreen forest, CL - Cropland, Co - Commensal land, D - Deciduous forest, F - Forest, MT - Moist Temperate forest, P - Pine forest, Ru - Rural, Sal - Sal forest, SA - Sub-Alpine, S Tr - Sub-tropical forest, SU - Semi-urban, TBL - Temperate broadleaved forest, TS - Temperate Scrub, U - Urban

***Semnopithecus priam priam* Blyth, 1844**

VULNERABLE

Synonyms	<i>Semnopithecus pallipes</i> Blyth, 1844 <i>Pr[esbytis] priamus</i> Blyth, 1847 <i>Presbytis thersites</i> Blyth, 1847 <i>Semnopithecus priamus</i> Blyth, 1847 <i>S[emnopithecus] albipes</i> I. Geoffroy Saint-Hilaire, 1851 <i>Semnop[ithecus] albimanus</i> Schlegel, 1876 <i>Semnopithecus leucoprinnus</i> Hornaday, 1885 <i>Pithecus entellus pallipes</i> Pocock, 1928 <i>Pithecus entellus priamellus</i> Pocock, 1928
Family	Cercopithecidae
Common names	English: Coromandel Grey Langur, Madras Grey Langur, Tufted Grey Langur
Level of assessment	Subspecies
Notes on taxonomy	This taxon was recognized as a subspecies of <i>S. entellus</i> by Brandon-Jones <i>et al.</i> (2002). <i>Semnopithecus priam</i> as recognised by Groves (2001) is a more agreeable taxonomic status. This species is represented by two subspecies -- <i>S.p. priam</i> and <i>S.p. thersites</i> . The types of <i>priam</i> and <i>thersites</i> are in the Zoological Survey of India collection, Kolkata.
Habit	Arboreal, semiterrestrial, folivorous, diurnal
Habitat	Dry deciduous forest
Niche	Folivorous
Elevation	100-1000m.
Distribution	
Global	Endemic to India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	501-2,000 km ²
Locations/Subpopulations	40 / Not known. Fragmented
Habitat status	Decrease in area by >10% in the last 20 years and is predicted to decrease by >10% in the next 10 years due to habitat loss. Decrease in quality due to human interference.
Threats	Hunting, habitat loss
Trade	Local trade in meat and in live animal.
Population	
Generation time	12 years
Total population	Not known
Mature individuals	Not known
Population trend	Population stable at present but is predicted to decline by >10% in the next 10 years.

Data Source	Informal sightings, indirect information; inferred; 95% confidence
Status SAP CAMP (Ver. 3.1)	VULNERABLE B2ab(i,ii,iii,iv,v)
Rationale	This subspecies is distributed widely, south of river Krishna in Andhra Pradesh to Madurai in Tamil Nadu, but the area of occupancy is very few and far in between. Due to its highly fragmented distribution and threats on its habitats, the taxon is susceptible to declines at various localities and hence categorised as Vulnerable.
2001 Red List (Ver. 2.3)	Data Deficient
Justification	New / better information available at the workshop
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.
Wildlife Legislation	Schedule II, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix I
Presence in Protected Areas	
India	<i>Andhra Pradesh:</i> Sri Venkateswara NP, Nellapattu WLS <i>Karnataka:</i> Bandipur NP, Biligiri Rangaswamy Temple WLS, Nagarhole NP? <i>Kerala:</i> Wayanad WLS?, Silent Valley NP? <i>Tamil Nadu:</i> Mudumalai WLS
Recommendations	
Research	Taxonomic research (on zoo animals also), life history, survey
Management	Habitat management, public education, PHVA
Captive stocks	24 zoos in India (59.35.6.100). Subspecies not known.
Comments	This subspecies occurs south of river Krishna in Diguva Metta (intermediate form with <i>S.e. anchises</i>) and has a range extending down south all the way to Madurai in the dry zone. It mixes with <i>S.e. achates</i> in Nagarhole, with <i>Trachypithecus johnii johnii</i> in Nilgiris, with <i>S.e. hypoleucos</i> in the Wayanad Plateaux and with <i>S. priam thersites</i> in Palni Hills. The Eastern Ghats population in Tamil Nadu is highly threatened due to uncontrolled hunting by settlers in the hills. Many populations have been decimated in the recent past.
Sources	Brandon-Jones, 2003; Brandon-Jones <i>et al.</i> , 2002; CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2000; KFD, 1997; KFRI, 1993; SAZARC, 2002 Biological Information Sheet (2002): C. Srinivasulu C.A.M.P. questionnaire on protected areas (2002): C.S. Rao
Compilers	D. Brandon-Jones, R. Ali, H.R. Bhat, S. Ganapathiappan, G.K. Joseph, R. Krishnamani, Ajith Kumar, P.O. Nameer, M.S. Pradhan, S. Ram, K.K. Ramachandran, G. Ramaswamy, A.K. Sharma, M. Singh, S.F.W. Sunderraj
Reviewers	D. Brandon-Jones, A. Eudey

Distribution of *Semnopithecus priam priam*



Distribution of *Semnopithecus priam priam* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA										
Andhra Pradesh										
Dasariadoddi	-	-	-	-	-	-	-	-	-	Brandon-Jones, unpub.
Diguvametta-	-	-	-	-	-	-	-	-	-	Brandon-Jones, unpub.
Kondagorlapenta	14.22	78.55	-	-	-	-	-	-	-	Brandon-Jones, unpub.
<i>Ananthapur</i>										
Dharmavaram & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Guntakal & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Kadri & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Chittoor</i>										
Ponganur & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Sri Kalahasti	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Sri Venkateswara NP	-	-	353.62	F	-	-	-	-	-	C.S. Rao, 2002; C. Srinivasulu, BIS
Tirupathi & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Cuddapah</i>										
Prodattur & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Raychoti & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Rajampet & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Kurnool</i>										
Adoni & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Dhone & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Katam & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Mahanandhi	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nallamala hills	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nandyal & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
<i>Nellore</i>										
Gudur & adj.	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS
Nellapattu WLS	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BIS

Distribution of *Semnopithecus priam priam* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
near Nellore	14°26	79°58	-	-	-	-	-	-	-	Brandon-Jones, unpub.
Srihanikota island	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BJS
<i>Prakasam</i> Giddalur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BJS. Intermediate with <i>S.p. priam</i> . Brandon-Jones, Unpub.
Markapur & adj. forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BJS. Intermediate with <i>S.p. priam</i> . Brandon-Jones, Unpub.
Nallamala hills forests	-	-	-	F	-	-	-	-	-	C. Srinivasulu, BJS. Intermediate with <i>S.p. priam</i> . Brandon-Jones, Unpub.
Karnataka Sivasamudram	12°16	77°10	-	-	-	-	-	-	-	Coimbatore side of the Cauvery river at Sivasamudram (Cauvery Falls). Brandon-Jones, unpub.
<i>Bangalore</i> Bangalore?	-	-	-	-	-	-	-	-	-	Requires confirmation but probably <i>S. p. priam</i> . Brandon-Jones, 2003
<i>Chamarajnagar</i> Bandipur WLS	-	-	-	-	Habitat loss, hunting and encroachment (P/Pv/F)	Declining	-	-	-	Present pop. trend: stable. Mewa Singh, Ajith Kumar. Probably <i>S. p. priam</i> . Brandon-Jones, 2003
Honnametti Estate (BRT WLS)	11°54	77°14	-	-	-	-	-	-	-	Brandon-Jones, unpub.
<i>Coorg</i> Nagathole NP?	-	-	643.39	-	-	-	-	-	-	Intermediate between <i>S.e. achates</i> and <i>S.p. priam</i> . Brandon-Jones, unpub.
Kerala <i>Palghat</i> Silent Valley NP?	-	-	89.52	MDE	Human intervention	-	-	-	-	60% of the total numbers are adults. Joseph & Ramachandran, 1996. Most probably <i>S.p. thersites</i> , but

Distribution of *Semnopithecus priam priam* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Wynaad</i> Wyanad Plateau and WLS?	~11°29'	~76°24'	-	-	-	-	-	-	-	possibly <i>S.e. dussumieri</i> Brandon-Jones, pers. comm.
Tamil Nadu Nilgiri hills (Eastern slopes)	-	-	-	-	-	-	-	-	-	Intermediate with <i>S.e. hypoleucos</i> . Brandon-Jones, 2003
Tiruvalur	-	-	-	-	-	-	-	-	-	Brandon-Jones, unpub.
<i>Chennai</i> Chennai	13°05'	80°17'	-	-	-	-	-	-	-	The lectotype and paralectotype of <i>S[emnopithecus] priam</i> , <i>Pr[esbytis] priamus</i> and presumably <i>S. pallipes</i> was collected in Chennai. Brandon-Jones, unpub.
<i>Nilgiri</i> Mudumalai WLS	11°32'	76°38'	7000	DD	Habitat loss (Pr)	Decline	-	-	-	Present pop. trend: Stable. Mewa Singh, Ajith Kumar, P.O. Nameer, January 2001. In: Brandon-Jones, unpub.
Udhagamandalam	11°24'	76°42'	-	-	-	-	-	-	-	Madura Coats a (natural) <i>S. e. priam</i> x <i>S. johnii</i> hybrid? Brandon-Jones, unpub.
<i>Dharmapuri</i> Hogenakal Falls	12°07'	77°46'	-	-	-	-	-	-	-	260m. Brandon-Jones, unpub.; Groves, 2001.
<i>Dindugal</i> Palni Hills?	~10°18'	~77°31'	-	DD, Rp	-	-	-	-	-	Mewa Singh. Intermediate between <i>S.p. priam</i> and <i>S.p. thersites</i> . Brandon-Jones, unpub.
<i>Madurai</i> Alagar Hills	09°49'	77°49'	-	DD, Rp	-	-	-	-	-	Mewa Singh. Brandon-Jones, pers. comm.

Distribution of *Semnopithecus priam priam* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Salem	12°06	78°36	-	-	-	-	-	-	-	300m. Brandon-Jones, unpub.
Tirthamalai	~12°10	~77°40	-	-	-	-	-	-	-	300m. Brandon-Jones, unpub.
Muthur										
Tiruchirappalli	10°49	78°41	-	-	-	-	-	-	-	Brandon-Jones, unpub.
Tiruchirappalli										

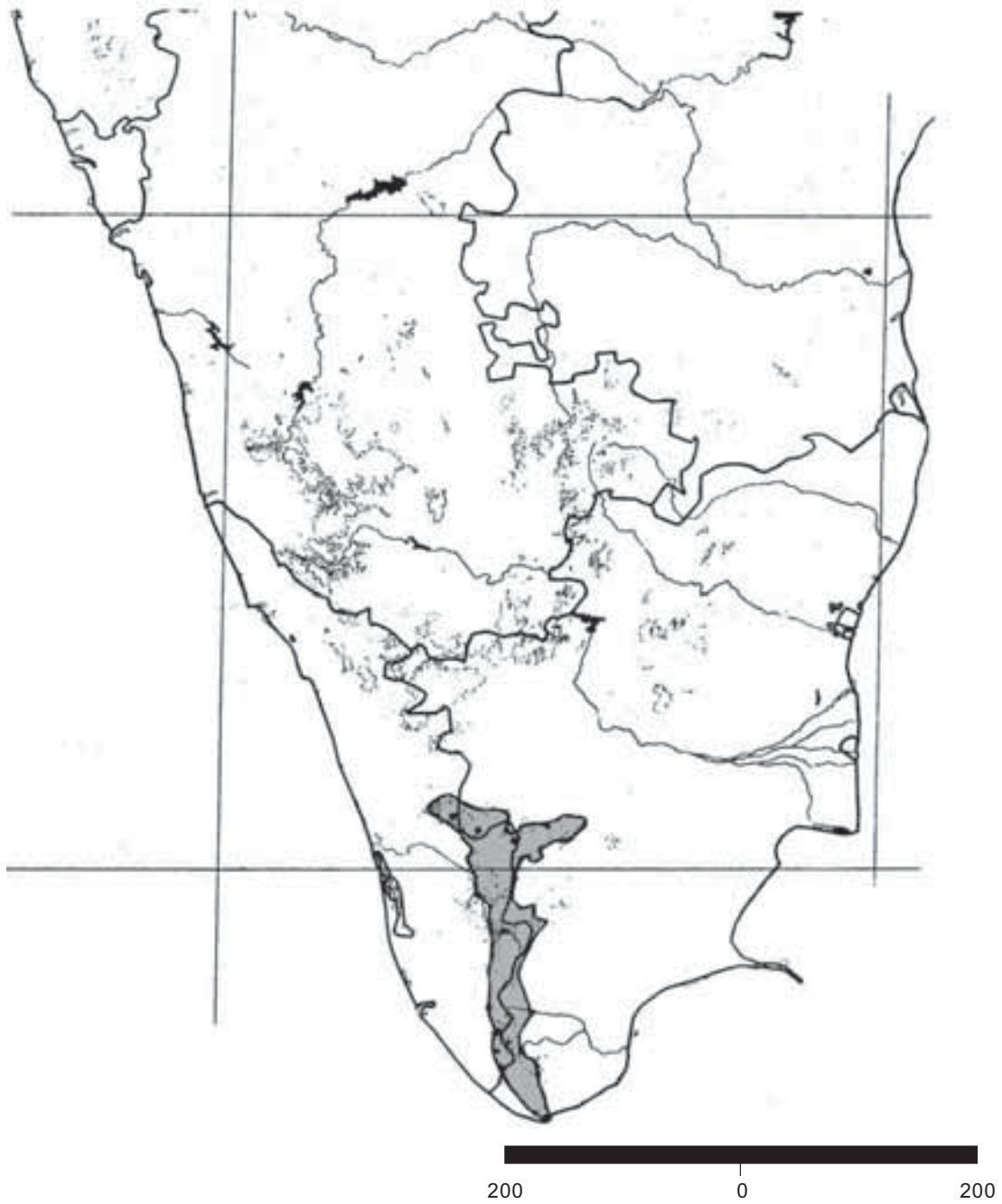
CL - Cropland, DD - Dry Deciduous forest, Rp - Riparian forest, U - Urban area

Semnopithecus priam thersites* (Blyth, 1847)*ENDANGERED in India**

Family	Cercopithecidae
Common names	Malayalam: <i>Manthi</i> ; Tamil: <i>Vellamanthi</i> ; English: Grey Langur
Level of assessment	Population
Notes on taxonomy	This taxon was recognized as a subspecies of <i>S. entellus</i> by Brandon-Jones <i>et al.</i> (2002). <i>Semnopithecus priam</i> as recognised by Groves (2001) is a more agreeable taxonomic status. This species is represented by two subspecies -- <i>S.p. priam</i> and <i>S.p. thersites</i> . The types of <i>priam</i> and <i>thersites</i> are in the Zoological Survey of India collection, Kolkata.
Habit	Arboreal, semi-terrestrial, folivorous, diurnal
Habitat	Dry deciduous forest, garden and cultivation areas
Niche	Folivorous
Elevation	Up to 1000m.
Distribution	
Global	India, Sri Lanka
Extent of Occurrence	5,001-20,000 km ² (within India only)
Area of Occupancy	11-500 km ² (within India only)
Locations/Subpopulations	18 / <30. Fragmented
Habitat status	Decrease in area by <10% in the last 20 years and is predicted to decrease by >10% in the next 20 years due to conversion of forest land into cultivable area and habitat loss, human intervention. Decrease in quality due to habitat alteration.
Threats	Powerlines, roads, human settlement, accidental mortality, habitat loss
Trade	Not in trade
Population	
Generation time	12 years
Total population	Not known
Mature individuals	Not known
Population trend	Declining
Data source	Museum study; field study; observed; 95% confidence
Status	
SAP CAMP (Ver. 3.1)	ENDANGERED in India B2ab(i,ii,iii,iv,v)
Rationale	This subspecies is distributed south of Palghat Gap in the Western Ghats foothills, with restricted area of occupancy. Due to its highly fragmented distribution and threats to its habitats and populations, the taxon is categorised as Endangered.

2001 Red List (Ver. 2.3)	Vulnerable (Globally)	A1cd
Justification	Better / new information was available. The assessment is at the population level, not at the taxon level.	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Schedule II, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002	
CITES	Appendix I	
Presence in Protected Areas		
India	<i>Kerala</i> : Chinnar WLS, Neyyar WLS, Peppara WLS, Parambikulam WLS, Shendurney WLS <i>Tamil Nadu</i> : Grizzled Giant Squirrel WLS, Indira Gandhi WLS, Kalakad WLS, Mundanthurai WLS	
Recommendations		
Research	Taxonomic research (on zoo animals also), survey studies, ecology and behaviour	
Management	Habitat management, wild population management, public education, PHVA pending	
Captive stocks	24 zoos in India (59.35.6.100). Subspecies not known.	
Comments	This is a southern Western Ghats taxon restricted to the south of Palghat Gap along the foothills up to 1000m. It mixes with <i>S.p. priam</i> population along the foothills of Palni Hills in Tamil Nadu. In 1981, Kurup said they were in villages (111 in Kanyakumari and 66 in Tirunelveli), but recent observations by Rauf Ali reveal that Tirunelveli and Kanyakumari populations no more occur .	
Sources	Brandon-Jones, 2003; CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2000; KFRI, 1993; KFRI, 1997; Kurup, 1981; SAZARC, 2002 CAMP questionnaire on protected areas (2002): T.U. Uthup	
Compilers	D. Brandon-Jones, H.R. Bhat, G.K. Joseph, H. Kumar, R. Krishnamani, P.O. Nameer, M.S. Pradhan, S. Ram, K.K Ramachandran, G. Ramaswamy, A.K. Sharma, M. Singh, S.F.W. Sunderraj	
Reviewers	D. Brandon-Jones, A. Eudey	

Distribution of *Semnopithecus priam thersites* [India population]



Distribution of *Semnopithecus priam thersites* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA Kerala Aramboli Pass (8-10 km to the south)	-	-	-	-	-	-	-	-	-	Brandon-Jones, unpub.
<i>Cochin</i> Shernelly (Nelliampathy estate)	10°32'	76°40'	-	-	-	-	-	-	-	The holotype of <i>Pithecus entellus priamellus</i> was collected at Shernelly, 460m, Nelliampathy Plateau about 40 km south east of Shamelli
<i>Idukki</i> Chinnar WLS	-	-	-	DD, Rp	Habitat loss (Pr), habitat degradation (Pr)	Decline	Stable	250	150	KFRI, 1993, 1997; P.O. Nameer, April 1999, September 2003
<i>Palghat</i> Parambikulam WLS	-	-	-	-	-	-	-	-	-	Brandon-Jones, unpub.
<i>Trivandrum</i> Achenkoi?	-	-	-	MD	Fragmentation, habitat loss (Pr)	-	-	-	-	Mature individuals: 50% of total population. Present Pop. trend: Increasing, not recorded during the 1993 census, sighted in 1997 census. Distribution south of Palghat is considered to be the subspecies <i>S.e. dussumieri</i> . KFRI Wildlife census 1993, 1997. Probably <i>S.p. thersites</i> . Brandon-Jones, pers. comm.
Neyyar WLS Peppara WLS	-	-	-	MD	Fragmentation, habitat loss (Pr)	-	-	-	-	Mature individuals: 50% KFRI Wildlife census 1993, 1997. Probably <i>S.p. thersites</i> Brandon-Jones, pers. comm.
<i>Quilon</i> Shendurney WLS?	-	-	-	MD	Fragmentation, habitat loss (Pr)	-	-	-	-	Mature individuals: 50% of total population. Present Pop. trend: Increasing, not recorded during the 1993 census, sighted

Distribution of *Semnopithecus priam thersites* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Tamil Nadu <i>Colibatore</i> Aliyar-Vaiparai road (Indira Gandhi WLS)	10°30	77°00	-	DD, Rp	-	Declining	Stable	1919	1200	in 1997 census. Ninth hairpin bend, Annamalai Hills, 800m (about 40 km south east of Sharmelli Estate). Mewa Singh; Brandon-Jones, unpub.
<i>Dindugal</i> Paini Hills?	~10°18	~77°31	-	DD, Rp	-	-	-	-	-	Mewa Singh. Intermediate between <i>S.p. priam</i> and <i>S.p. thersites</i> . Brandon-Jones, unpub.
<i>Kanyakumari</i> Kanyakumari	08°05	77°35	-	CL, U	Urbanisation (Pr)	-	-	111	65	Present pop. trend: Stable. ZSI, 1981. This was suggested by Jerdon (1867) but British Museum specimens from near there are referable to <i>S.p. thersites</i> . Brandon-Jones, 2003
<i>Madurai</i> High Wavy Mountains	09°32	77°25	-	-	-	-	-	-	-	Among the foothills of the High Wavy Mountains. Brandon-Jones, 2003
Dohnavur	08°30	77°30	-	S	-	-	-	-	-	Plains along the foothills near Dohnavur and among the massive rock faces in the scrub jungle below the evergreen belt. Brandon-Jones, unpub.
<i>Tirunelveli</i> Grizzled Giant Squirrel WLS	-	-	-	DD, Rp	Habitat loss (Pr), habitat degradation (Pr)	-	-	-	-	Mewa Singh
Kalakad WLS, Mundanthurai WLS	~08°30	~77°34	-	DD, Rp	Habitat degradation (P/Pr)	-	-	100	60	Rauf Ali, pers. comm. In: D. Brandon-Jones, unpub.. Present pop. trend: Stable. W. Sunderraj, pers. comm.
Lower Papanasam Dam	08°43	77°23	-	-	-	-	-	-	-	Tambraparni River, just below the Lower Papanasam Dam, c. 200 m. Brandon-Jones, unpub.

Distribution of *Semnopithecus priam thersites* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Nambikoil	-	-	-	DD, Rp	Habitat degradation (P/Pr)	-	-	50	30	Present pop. trend: Stable. Mewa Singh, pers. comm.
Tirunelveli urban	08°45	77°43	-	CL, U	Road accidents (Pr), urbanization (Pr)	-	-	66	35-40	Present pop. trend: Stable. ZSI, 1981

CL - Cropland, DD - Dry Deciduous forest, MD - Moist Deciduous forest, MD-E - Moist Deciduous to Evergreen forest, Rp - Riparian forest, S - Scrub jungle, U - Urban area

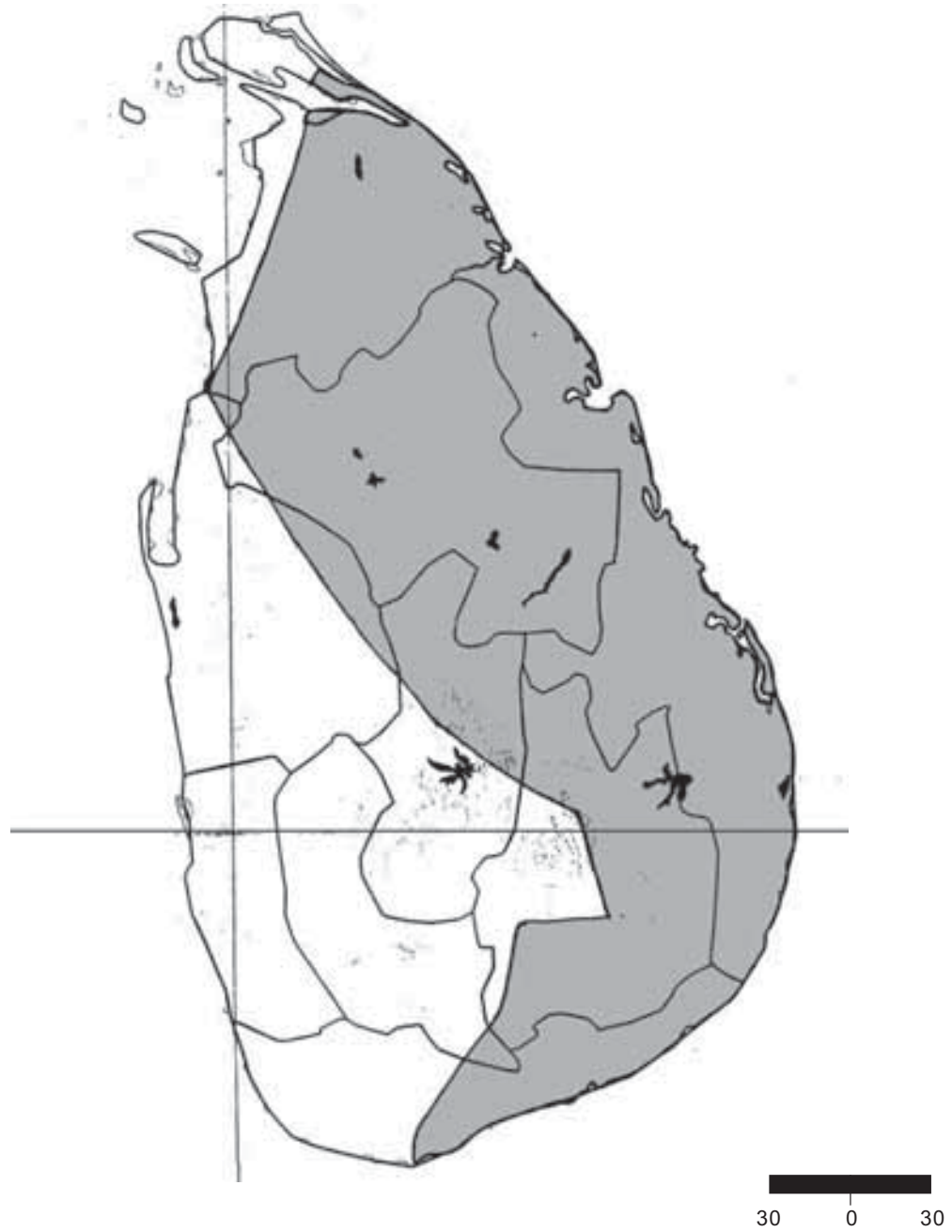
***Semnopithecus priam thersites* (Blyth, 1847)**

ENDANGERED in Sri Lanka

Synonyms	<i>Presbytes priamus</i> (Kelaart, 1812) <i>Presbytis entellus thersites</i> (Blyth, 1847) <i>Presbytis thersites</i> (Kelaart, 1852) <i>Pithecus entellus thersites</i> (Phillips, 1935) <i>Presbytis thersites</i> (Pocock, 1939)
Family	Cercopithecidae
Common names	Sinhalese: <i>Alu, Konda Vandura</i> ; Tamil: <i>Mandhi Kurangu, Saambal Kurangu</i> ; English: Grey langur, Hanuman Langur
Level of assessment	Population
Notes on taxonomy	The generic name was taken from Brandon Jones <i>et al.</i> 2002. Subspecies is separated from the Indian subcontinent by the Indian Ocean (Palk Strait). The population estimated here is only for Sri Lanka.
Habit	Terrestrial, arboreal, folivore, diurnal, frugivore, more common near water bodies
Habitat	Tropical dry evergreen forest
Elevation	Up to 350m.
Distribution	
Global	Sri Lanka
Extent of Occurrence	43,600 km ²
Area of Occupancy	9,700 km ²
Locations/Subpopulations	>120 / Many. Fragmented.
Habitat status	Decrease in area by >50% in the last 50 years or more and is predicted to decline by >20% in the next 5 years. Since 1956, more than 50% of the forests were lost. In addition, since 1978, after the Accelerated Mahaweli Project, extensive areas of dry zone forests were lost. The remaining forests are continuing to be decimated owed to a variety of economic and agricultural interests. Decrease in quality due to deforestation leading to desertification and loss of diversity of dry zone forests, depriving grey langurs (as well as other wildlife) of a resource food base as well as water.
Threats	Hunting for food, poisoning, trade, habitat loss, habitat fragmentation, loss of ecologically important species, increased human animal conflict. Hunting of this taxon for subsistence and local (village level) trade is common in some areas near National Parks (e.g. Ruhuna NP) and hunting for trade has reached commercial levels.
Trade	Local and commercial trade for meat. Taxon hunted for sustenance/subsistence living for food, threat has recently increased through commercial trade in meat.
Population	
Generation time	11 years
Total population	Not known
Mature individuals	Not known
Population trend	Declined by >50% in the last 25 years and is predicted to decline by >20% in the next 5 years
Data Source	Census or monitoring, field study, informal sightings, indirect information; estimated; 95% confidence

Status		
SAP CAMP (Ver. 3.1)	ENDANGERED in Sri Lanka	A2cd+4cd
Rationale	The Sri Lankan population of this taxon, is isolated from the Indian population and is also under severe pressure due to various threats to the habitat. The rate of decline in the population is correlated to habitat loss, which is >50% over 3 generations and is likely to decline in the future over the next 10-20 years.	
2001 Red List (Ver. 2.3)	Vulnerable (Globally)	A1cd
Justification	Better / new information available. The assessment is at the population level, not at the taxon level.	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Protected under the Fauna and Flora Protection Ordinance Act No. 2, 1937 and subsequent amendments including Act No. 49, 1993.	
CITES	Appendix I	
Presence in Protected Areas	<p><i>Central Province:</i> VRR Sanctuary, Knuckles</p> <p><i>Eastern Province:</i> Ampara Sanctuary, Buddaragala Sanctuary, Kanthale Naval Sanctuary</p> <p><i>North Central Province:</i> Wilpattu, Ritigala Strict Nature Reserve, Angamedilla NP, Flood Plains NP, Giritala NP, Moragaswawe NP, Somawathie NP, Wasgamuwa NP</p> <p><i>Sabaragamuwa Province:</i> Udawalawe NP</p> <p><i>Uva Province:</i> Bundala NP, Lunugamvehera NP, Madura Oya NP, Ruhuna NP</p>	
Recommendations		
Research	Survey, genetic research, taxonomic research, life history, limiting factor, epidemiology, trade	
Management	Habitat management, monitoring, public education, limiting factor management, implement extant laws, work in local communities, PHVA. A coordinated Species Management Program is recommended for Sri Lanka.	
Captive stocks	Zoos, subspecies not known, but not a viable conservation option.	
Comments	This species should be conserved in the natural habitat and allow the species to reproduce in the wild. Although there is a law to protect wildlife, implementation of the law is rare unless under extreme circumstances (e.g. commercial hunting from Ruhuna NP). According to government data, during the last 42 years (1956-1993), the country has lost 50% of its forest cover, but the loss is greater than 50% if the habitat change is during the last 10 years (1994-2003) is included. There is a close relationship between the loss of critical habitat and population number. Hunting in NPs by the "Northern Tamil Tiger war" has negatively impacted grey langur populations.	
Sources	<p>Brandon-Jones <i>et al.</i>, 2002; Hilton-Taylor, 2001</p> <p>Ecological and Distribution data (as in alphabetical order):</p> <p>IUCN Sri Lanka. Biodiversity Field Research Team, Primate Biology Programme, Smithsonian Institution and Institute of Fundamental studies,</p> <p>Original data from W. Dittus, Sunil Gunatilake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe</p> <p>University of Jaffna: S. Wijeyamohan</p> <p>Biological Information Sheets (2002): W. Dittus, R. Somaweera</p>	
Compilers	<p>Chief compilers: W. Dittus and A. Watson</p> <p>Working group: J. Dela, W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe, S. Wijeyamohan</p>	
Reviewers	D. Brandon-Jones, W. Dittus, A. Eudey, A. Watson	

Distribution of *Semnopithecus priam thersites* [Sri Lanka population]



Distribution of *Semnopithecus priam* thersites in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA										
Central Prov.										
Kandy	07°20	80°57	-	-	-	-	-	-	-	Participants from Sri Lanka
Hasalaka	07°13	80°58	-	-	-	-	-	-	-	Participants from Sri Lanka
Minipe	~07°15	~80°47	-	DS	-	-	-	-	-	Participants from Sri Lanka
VRR Sanctuary										
Matale										
Aluvihare	07°30	80°37	-	-	-	-	-	-	-	Participants from Sri Lanka
Dambulla - IFS	07°51	80°40	-	-	-	-	-	-	-	Participants from Sri Lanka
Arboretum										
Inamagula	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Kandalama	07°52	80°43	-	-	-	-	-	-	-	Participants from Sri Lanka
Knuckles	07°24	80°47	-	-	-	-	-	-	-	Participants from Sri Lanka
Laggala-Pallegama										
Menikdena	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Nalanda	07°40	80°37	-	-	-	-	-	-	-	Participants from Sri Lanka
Palapatwala	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Eastern Prov.										
Ampara										
Akkaraipattu	07°13	81°50	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Ampara Sanct.	07°16	81°40	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Buddaragala Sanct.-										
Deegawapiya	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Inginiyagala	07°16	81°30	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Lahugala NP	06°54	81°42	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Panama	06°45	81°47	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Pathiyathalawa	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Pottuvil	06°52	81°50	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Uhana	07°22	81°37	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Batigoloo										
Baticoloo	07°43	81°42	-	MDE	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Semnopithecus priam thersites* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Chenkaladi	07°46	81°05	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Walachchanai	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
<i>Trincomalee</i>	08°22	81°00	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Kantale FR	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Kanniya	08°40	81°12	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Nilaveli	08°22	81°19	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Seruwawilla	08°34	81°13	-	MDE	-	-	-	-	-	Participants from Sri Lanka
North Central										
<i>Anuradhapura</i>	08°20	80°22	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Anuradhapura	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Ayukana	08°02	80°45	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Habarana	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Harowapothana	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Kahatagasdigiliya	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Kabitigolawa	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Kikirawa	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Madaragam Aru (Wilpattu) near WL dept. bungalow	-	-	-	R	-	-	-	-	-	Participants from Sri Lanka
Maradanmaduwa (Wilpattu) near WL dept. bungalow	08°40	80°52	-	R	-	-	-	-	-	Participants from Sri Lanka
Medawachchiya	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Mihintale	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Noitchiyagama	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Pomparippu (Wilpattu)	08°20	79°52	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Ritigala Strict Nature Reserve	08°05	80°39	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Thanthirimalai	-	-	-	W	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Semnopithecus priam* thersites in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
(Wilpattu)										
Polonnaruwa	07°50	80°55	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Angamedilla NP	07°46	81°11	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Aralaganwilla	07°50	80°52	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Attanakadawela	07°46	80°49	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Bakamuna FR	06°58	80°36	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Dimbulagalla	07°44	80°47	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Elahara FR	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Flood Plains NP	07°59	80°55	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Giritale NP	07°54	81°07	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Mannampitiya	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Medirigiriya	08°01	80°54	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Minneriya	08°01	80°46	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Moragaswawe NP	07°56	8°02	-	MDE	-	Stable	Stable	-	-	Dittus & A. Watson, 1990 todote
Polonnaruwa	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Siripura	08°16	81°10	-	-	-	-	-	-	-	Participants from Sri Lanka
Somawathie NP	07°50	81°01	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Wasgamuwa NP: Dasthota	07°49	81°01	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Wasgamuwa NP: Yakkurae	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Weilikanda	~7	~79	-	MDE	-	-	-	-	-	Participants from Sri Lanka
North Western	07°35	80°04	-	MDE	-	-	-	-	-	Participants from Sri Lanka
<i>Kurunagala</i>	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Bingiriya	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Hettipola	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Kuliyaipitiya	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Pomparippu	08°01	79°55	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Puttalam	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Semnopithecus priam* *thersites* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Wellawaya	06°44	81°06	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Northern Prov.										
<i>Jaffna</i>	09°40	80°13	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Kodikamam	09°24	80°25	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Kilinochchi</i>	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
A9 Road	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Iyakachchi	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Pallai	09°24	80°25	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Mullaitivu</i>	08°43	80°31	-	MDE	-	-	-	-	-	Participants from Sri Lanka
A9 Road	08°49	80°31	-	MDE	-	-	-	-	-	Participants from Sri Lanka
<i>Vavuniya</i>	08°45	80°30	-	-	-	-	-	-	-	Participants from Sri Lanka
Madukanda	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Mamaduwa	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Vavuniya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Sabaragamuwa										
<i>Ratnapura</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Embilipitiya	06°22	80°04	-	-	-	-	-	-	-	Participants from Sri Lanka
Moragoda	06°28	80°37	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Rakwana	06°27	80°52	-	W	-	-	-	-	-	Participants from Sri Lanka
Udawalawe NP	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Uva Province										
<i>Ampara</i>	07°32	81°11	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Maduru Oya NP	07°12	81°39	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Badulla</i>	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Damana	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Giranthurukotte	06°40	80°01	-	-	-	-	-	-	-	Participants from Sri Lanka
Karamatiya	07°32	81°11	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Koskanda	07°19	80°59	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Maduru Oya NP (Badulla section)	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Mahiyangana	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka

Distribution of *Semnopithecus priam thersites* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Rathkinda (in Maduru oya NP)	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Rawanella falls RF	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Uhitiya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Uma Oya	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Hambantota</i> Ambalantota	06°07	81°01	-	AS	-	-	-	-	-	Participants from Sri Lanka
Angunakola-pelessa	06°27	81°01	-	AS	-	-	-	-	-	Participants from Sri Lanka
Beliatta	06°51	80°45	-	AS	-	-	-	-	-	Participants from Sri Lanka
Bundala NP	06°11	81°16	-	AS	-	-	-	-	-	A. Watson & A. Kittle, 2002
Hambantota town	06°07	81°07	-	AS	-	-	-	-	-	Participants from Sri Lanka
Hungama	-	-	-	AS	-	-	-	-	-	Participants from Sri Lanka
Kirinda	-	-	-	AS	-	-	-	-	-	Participants from Sri Lanka
Lunugavehera NP	06°20	81°12	-	AS	-	-	-	-	-	Participants from Sri Lanka
Mulgirigala	06°07	80°43	-	AS	-	-	-	-	-	A. Watson & A. Kittle, 2002
Ranna	06°05	80°52	-	AS	-	-	-	-	-	Participants from Sri Lanka
Ridiyagama	06°12	80°59	-	AS	-	-	-	-	-	Wet Zone border area.
Ruhuna NP Bl.1	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
1. Athun oruwa wewa	-	-	-	AS, WH caiman	-	-	-	-	-	Participants from Sri Lanka
2. Bambawewa	06°21	80°51	-	AS, WH	-	-	-	-	-	A. Watson & A. Kittle, 2002
3. Banduwewa	-	-	-	AS, WH	-	-	-	-	-	A. Watson & A. Kittle, 2002
4. Buttuwawewa	-	-	-	AS, WH caiman	-	-	-	-	-	A. Watson & A. Kittle, 2002
5. Gonagala wewa	-	-	-	AS, WH	-	-	-	-	-	A. Watson & A. Kittle, 2002
6. Heen Wawa	~07°28	~80°58	-	AS, WH	-	-	-	-	-	A. Watson & A. Kittle, 2002
7. Jamburagala	06°19	81°26	-	AS, WH Rock	-	-	-	-	-	A. Watson & A. Kittle, 2002

Distribution of *Semnopithecus priam* *thersites* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
8. Kumbukkan Oya	06°30	81°42	-	MDE	-	-	-	-	-	A. Watson & A. Kittle, 2002
9. Katagamuwa wewa	-	-	-	AS, WH	-	-	-	-	-	A. Watson & A. Kittle, 2002
10. Magulmahavihara	-	-	-	AS, WH	-	-	-	-	-	A. Watson & A. Kittle, 2002
11. Menikganga	-	-	-	AS, WH	-	-	-	-	-	A. Watson & A. Kittle, 2002
12. Modaragala	-	-	-	AS, WH	-	-	-	-	-	A. Watson & A. Kittle, 2002
				caimans	-	-	-	-	-	A. Watson & A. Kittle, 2002
				caimans	-	-	-	-	-	A. Watson & A. Kittle, 2002
13. Palatupana	06°17	81°24	-	AS, WH	-	-	-	-	-	A. Watson & A. Kittle, 2002
14. Wilapala	06°18	81°26	-	AS, WH	-	-	-	-	-	A. Watson & A. Kittle, 2002
				Rock	-	-	-	-	-	Participants from Sri Lanka
Suriya Wewa	06°19	81°00	-	AS	-	-	-	-	-	Participants from Sri Lanka
Tangalla	06°01	80°47	-	AS	-	-	-	-	-	Participants from Sri Lanka
Tissamaharama	06°17	81°17	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Weerawita	-	-	-	AS	-	-	-	-	-	Participants from Sri Lanka
Matara	-	-	-	-	-	-	-	-	-	IUCN 2000 Biodiversity Unit.
Dondra	~5	~80	-	C, WZ	-	-	-	-	-	Participants from Sri Lanka
Monaragala	06°45	81°13	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Butthala	-	-	-	AS, WH	-	-	-	-	-	A. Watson & A. Kittle, 2002
Katharagama	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Kuda Oya	06°31	81°07	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Monaragala	06°52	81°20	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Okkampiyya	06°45	81°16	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Sella Kathara-gama	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Thanamalwila	-	-	-	MDE	-	-	-	-	-	Participants from Sri Lanka
Wallawaya	06°44	81°07	-	MDE	-	-	-	-	-	Participants from Sri Lanka

AS - Arid Scrub forest, C, WZ - Coastal area, Wet Zone, DS - Dry Sanctuary, MDE - Monsoon Dry Evergreen Forest, R - Riverine forest, WH - Waterhole

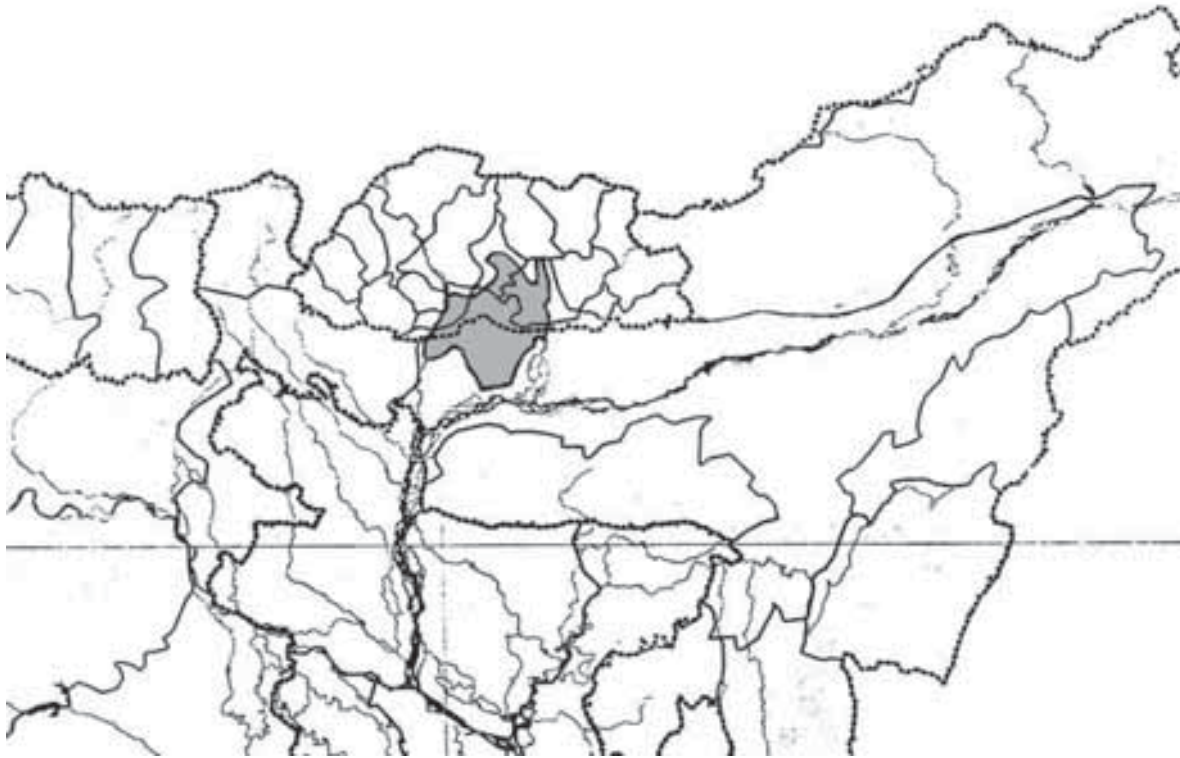
***Trachypithecus geei* (Ali and Santapau, 1956)**

ENDANGERED

Synonyms	<i>Presbytis geei</i> (Khajuria, 1956)
Family	Cercopithecidae
Common names	Assamese: <i>Sonali bandar</i> ; Bengali: <i>Sonali-bandar</i> ; Bodo: <i>Mokre gophur</i> ; Hindi: <i>Sunheara bandar</i> ; Nepali: <i>Sunaulo bandar</i> , <i>Sugrib</i> ; English: Gee's Golden Langur, Golden Leaf Monkey
Level of assessment	Species
Notes on taxonomy	Recently a new subspecies, <i>T.g. bhutanensis</i> , has been designated in northern Bhutan by Wangchuk (2003). The Indian population is the nominate subspecies. However, due to doubts in the taxonomy, the assessment is at the species level in this exercise.
Habit	Predominantly arboreal, diurnal, folivorous
Habitat	Tropical evergreen, moist deciduous and sal-dominated forest, deciduous broad-leaf, semi-evergreen, evergreen broad-leaved forests and fields.
Niche	Upper and middle canopy dweller.
Elevation	50-3,000m.
Distribution	
Global	Bhutan, India
Extent of Occurrence	<5,000 km ²
Area of Occupancy	<2,300 km ² [Bhutan = <1400 km ² ; India = <900 km ²]
Locations/Subpopulations	32 / 7. Fragmented. 30% decline in the last 10 years.
Habitat status	Decrease in area by >30% in the last 10 years and is predicted to decline by >20% in the next 10 years due to encroachment and anthropogenic activities for rehabilitation. Decrease in quality due to loss of lodging trees, fruiting trees, altered habitat. Anthropogenic activities for rehabilitation is the primary cause of change.
Threats	Crop plantations, grazing, harvesting non-woody vegetation for firewood and charcoal production, selective logging, timber collection, human settlement, deforestation, fragmentation, trade, killed by domestic dogs, habitat loss, high juvenile mortality, inbreeding
Trade	Local trade in live animals as pets and in road shows. Trade insignificant.
Population	
Generation time	10-12 years (inferred from other langur species)
Total population	4500
Mature individuals	2800 [Bhutan = <2,000; India = <1,000]
Population trend	Declined by >30% in the last 30 years and is predicted to decline by >30% in the next 10 years
Data source	Field study, literature; observed; 95% confidence
Status	
SAP CAMP (Ver. 3.1)	ENDANGERED B1ab(i,ii,iii,iv,v); C1+2a
Rationale	Fairly wide range but restricted area for this golden langur with 32 locations and 7 subpopulations severely fragmented. Severe threats from humans is causing continuing decline in area, extent and quality of habitat. Hunting and encroachments have resulted in decreasing mature individuals and locations or subpopulations, which make the taxon Endangered due to restricted area and low population

	numbers that are continuously declining.
2001 Red List (Ver. 2.3)	Endangered A1acd; C2a
Justification	Better / new information available currently and change in species/subspecies taxonomy.
National Status	<p>Bhutan: Endangered B1ab(i,ii,iii,iv,v); C1+2a Bhutan has a better proportion of the population and the situation is not as serious in the country, hence the category is retained as Endangered.</p> <p>India: Endangered B1ab(i,ii,iii,iv,v); C1+2a ↑ Critically Endangered The loss to habitat in India is at an alarming rate and there has been a decrease in habitat for this species by more than 50% in the last 30 years. The southern locations within India are severely fragmented from the northern Manas population, making the isolated fragments vulnerable to extinction. Hence the status in India is upgraded to Critically Endangered.</p>
Uncertainty	Assessment for this taxon based on full range of plausible values, evidentiary and with full consensus of the working group
Wildlife Legislation	India: Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix I
Presence in Protected Areas	
Bhutan	Black Mountain NP, Phipsoo WLS, Royal Manas NP, Trumshingla NP
India	Assam: Chakrasila WLS, Manas NP
Recommendations	
Research	Taxonomic research, survey studies, limiting factor research, habitat fragmentation
Management	Habitat management, wild population management, monitoring, public education, PHVA
Captive stocks	<p>South Asia: India in 5 zoos (2.5.0.7)</p> <p>A coordinated Species Management Program recommended for South Asia. There is an up-to-date studbook managed by Wildlife Institute of India (Dehra Dun) for Central Zoo Authority for this species.</p>
Comments	<p>Entire range of Golden langur in both the countries should be evaluated by satellite imagery photographs. Detailed survey on the current status and demographic trends of Golden Langur is essential. Trans-border exchange of information and research and management plan recommended. Due to localised distribution <i>T. geei</i> is confined only into a small patch of forest in India and Bhutan. In India they are restricted only to national parks, wildlife sanctuaries and secondary forests of degraded habitat in unclassified forests comprising only around 1000 km², while in Bhutan, the estimated range is 1400 km². Again in India the species pose severe pressure in the form of loss of habitat and needs special measures for conservation. Hotspots like northeastern India (Eastern Himalaya) where the problems are very unique, a unique solution/ action plan is required to solve these problems. So a broad, viable conservation is recommended to preserve their habitat. In Bhutan, the population is secure as the habitat is still large and contiguous and no poaching or capture occur.</p>
Sources	<p>Choudhury, 2002; CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2001; SAZARC, 2002; Srivatsava <i>et al.</i>, 2001; Wangchuk, 1995; Wangchuk, 2003; Wangchuk <i>et al.</i>, 2003</p> <p>Biological Information Sheet (2002): J. Biswas, T. Wangchuk</p>
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, M. M. Feeroz, Awadesh Kumar, R. Medhi, S. Mitra
Reviewers	D. Brandon-Jones, D. Chetry, J. Das, A. Eudey, S. Mitra, M.S. Pradhan

Distribution of *Trachypithecus geei* in Bhutan and India



Distribution of *Trachypithecus geei* in Bhutan and India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BHUTAN Royal Manas, Black Mountain & Pipsu WLS, Pipsugaon, Trumshingla	-	-	1400	SE	-	-	-	3000-5000	-	T. Wangchuk, pers. comm. Nature Conservation Division, NP Royal Govt. of Bhutan; Choudhury, 2002; Wangchuk, et al. 2003
INDIA Assam <i>Borigaon</i> Bamungaon RF	~26°28'	~90°34'	<3	MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline 10 yrs	8-10	8	Links with adjacent forest lost since 1970s, Heavily degraded. Choudhury, 2002. J. Biswas et al., IUSPP
Bhairab Pahar PRF	-	-	<10	-	Habitat destruction (P/Pr)	-	-	>60	-	Links with adjacent forest lost since 1970s, Heavily degraded. Choudhury, 2002
Bhumeswar Hill PRF	-	-	<5	-	Habitat destruction (P/Pr)	-	-	<10?	-	Heavily degraded. A few survived till 1990s. Current situation not known. Choudhury, 2002
Khakarpur PRF	-	-	<5	-	Habitat destruction (P), Habitat degradation (Pr), encroachment (Pr)	-	-	>10	-	Links with adjacent forest lost since 1970s, Heavily degraded. Direct sighting by Forest dept. Choudhury, 2002
Kakojana RF	-	-	<10	-	-	-	-	60	-	Links with adjacent forest lost since 1970s, Heavily degraded. J. Biswas et al., IUSPP
1. Hapachara	-	-	13	Sec	Habitat destruction (P/Pr/F), hunting (Pr), lesser immature individuals (F)	Decline	Decline 10 yrs.	25	17	J. Biswas et al., IUSPP
2. Khagarpur	-	-	5	-	Habitat destruction (P/Pr/F), hunting (Pr), lesser immature individuals (F)	Decline	Decline 10 yrs.	80	65	Completely degraded. Choudhury, 2002
Malegarh Hills (Kharagaon PRF) Nakkatt RF	-	-	<4	-	Habitat destruction (Pr)	-	-	4-5	-	J. Biswas et al., Links with adjacent forest lost since 1970s, Heavily degraded. Choudhury, 2002
<i>Dhubri</i>	-	-	<10	MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline	19	2	Fragmented since 1990. Felling in the fringe areas. Choudhury, 2002
Bengalduva	-	-	<4	-	Habitat destruction (Pr)	-	-	>300	-	Choudhury, 2002

Distribution of *Trachypithecus geei* in Bhutan and India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Beshkamari RF	-	-	<0.5	-	Habitat destruction (Pr)	-	-	>10	-	Links with adjacent forest lost since 1970s. Choudhury, 2002
Chakrasila WLS	26°20'	90°18'	40	MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline 10 yrs.	150	113	J. Biswas et al., IUSPP
Sarpamari RF	-	-	<1	-	Habitat destruction (Pr)	-	-	3-4	-	Heavily degraded, location on National highway. Choudhury, 2002
Srigram RF	-	-	<4	-	Habitat destruction (Pr)	-	-	> 10	-	Partly degraded habitat. Choudhury, 2002
Kokrajhar Bengtoli RF	-	-	<5	-	Habitat destruction (Pr), heavy felling (Pr)	-	-	-	-	Fragmentation and heavy felling since 1990s. Completely degraded. Choudhury, 2002
Manas NP	-	-	40	-	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline 10 yrs.	Decline 10 yrs.	150-175	31	J. Biswas et al., IUSPP
A. Chirrang RF	-	-	350	-	-	-	-	-	-	Lost 30% of habitat in 1990. Choudhury, 2002
1. Bismurie	~26°23'	~90°16'	-	Sec	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline 10 yrs.	18	12	J. Biswas et al., IUSPP
2. Darrangapara	~27°40'	~92°55'	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline 10 yrs.	32	10	J. Biswas et al., IUSPP
3. Digilbari	-	-	-	MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline 10 yrs.	116	66	J. Biswas et al., IUSPP
4. Karigaon	-	-	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline 10 yrs.	5	3	J. Biswas et al., IUSPP
5. Pantapara	-	-	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline 10 yrs.	10	6	J. Biswas et al., IUSPP
6. Santipur	-	-	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline 10 yrs.	19	11	J. Biswas et al., IUSPP
7. Saralpara	-	-	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline 10 yrs.	60	36	J. Biswas et al., IUSPP
8. Ultapani	-	-	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline 10 yrs.	105	65	J. Biswas et al., IUSPP
Katrigocha RF	-	-	<5	-	Habitat destruction (Pr)	-	-	>10	-	Partly degraded. Choudhury, 2002
B. Manas RF	-	-	40	-	-	-	-	>100	-	Fragmented due to felling and encroachment in 1990s. Choudhury, A., 2002
1. Abhyapuri	~26°28'	~90°34'	3.5	MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline 10 yrs.	Decline 10 yrs.	9	5	J. Biswas et al., IUSPP
2. Bhairai Hill	~26°28'	~90°34'	11.5	MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline	9	5	J. Biswas et al., IUSPP

Distribution of *Trachypithecus geei* in Bhutan and India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
3. Bordangi	-	-	-	SE	lesser immature individuals (F) Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	11	5	J. Biswas <i>et al.</i> , IUSPP
4. Hatichera	-	-	-	SE	lesser immature individuals (F) Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	37	21	J. Biswas <i>et al.</i> , IUSPP
5. Hilly Khola	-	-	-	SE, MD	lesser immature individuals (F) Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	12	7	J. Biswas <i>et al.</i> , IUSPP
6. Khoragaon	-	-	4	MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	19	11	J. Biswas <i>et al.</i> , IUSPP
7. Kusumdisa	-	-	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	16	9	J. Biswas <i>et al.</i> , IUSPP
8. Lalai	-	-	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	55	31	J. Biswas <i>et al.</i> , IUSPP
Kochugaon RF	-	-	15	-	Large forest villages (Pr), encroachment (Pr), heavy felling (Pr)	-	10 yrs. -	<50	-	Heavily degraded, hardly 10% of original habitat remains. Choudhury, 2002
Nadangiri RF	-	-	<6	-	Habitat fragmentation (Pr)	-	-	>20	-	Links with other adjacent forests including Nayekgaon PRF lost in 1990s. Partly degraded. Choudhury, 2002.
Nayekgaon PRF	-	-	<8	-	Habitat fragmentation (Pr)	-	-	45	-	Links with other adjacent forests including Chakrasila lost in 1990s. Partly degraded. Choudhury, 2002
C. Ripu RF	-	-	350	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline	>400 ?	37	J. Biswas <i>et al.</i> , IUSPP
1. Ballamjhora	-	-	51	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	31	17	J. Biswas <i>et al.</i> , IUSPP
2. Geylengdung	-	-	-	SE, MD	lesser immature individuals (F) Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	?	9	J. Biswas <i>et al.</i> , IUSPP
3. Guabari	-	-	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	?	3	J. Biswas <i>et al.</i> , IUSPP
4. Hollonjhora	-	-	3	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	?	31	J. Biswas <i>et al.</i> , IUSPP
5. Jamduar	-	-	-	Sec	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	?	23	J. Biswas <i>et al.</i> , IUSPP
6. Jamduar	-	-	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	42	44	J. Biswas <i>et al.</i> , IUSPP
7. Janali	-	-	60	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	?	116	J. Biswas <i>et al.</i> , IUSPP
8. Raimona	-	-	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	10 yrs. Decline	184	-	J. Biswas <i>et al.</i> , IUSPP

Distribution of *Trachypithecus geei* in Bhutan and India from literature and recent field studies... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
9. Samaguri	26°26	93°25	-	SE, MD	Habitat destruction (P/Pr/F), lesser immature individuals (F)	Decline	Decline 10 yrs.	7	4	J. Biswas et al., IUSPP
<i>Kokrajhar and Dhubri</i> Abhoya rubber plantation, Nayekgaon	-	-	<3	P	Habitat fragmentation (Pr)	-	-	64	-	Choudhury, 2002

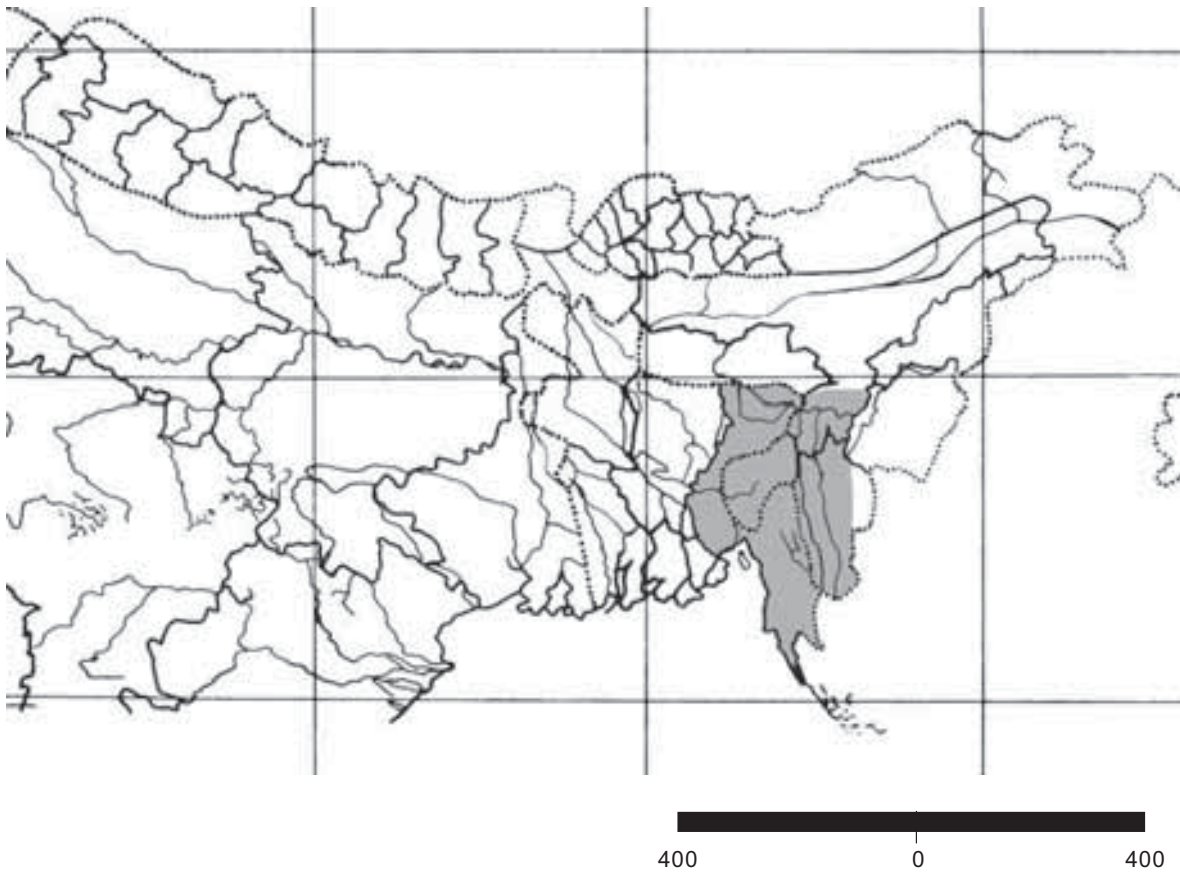
Sec - Secondary forest, SE - Semi-evergreen forest, MD - Moist Deciduous forest, P - Plantation area

Trachypithecus obscurus phayrei* (Blyth, 1847)*ENDANGERED in South Asia**

Synonyms	<i>Presbytis phayrei</i> Blyth, 1847 <i>Trachypithecus phayrei phayrei</i> (Blyth, 1847) <i>Presbytis barbei</i> Blyth, 1867 <i>Semnopithecus holotephreus</i> Andersons, 1878 <i>Presbytis melamera</i> Elliot, 1909
Family	Cercopithecidae
Common names	Assamese: <i>Chashma Bandar</i> ; Bengali: <i>Chashma Bandar</i> ; Bengali in Bangladesh: <i>Chashma pora hanuman</i> ; Mizo: <i>Dawr</i> ; Nepali: <i>Chasme Bandar</i> ; English: Phayre's Langur, Phayre's Leaf Monkey
Level of assessment	Subspecies
Habit	Diurnal, predominantly arboreal and folivorous
Habitat	Mixed moist deciduous forest, primary secondary moist evergreen forest, bamboo dominated areas, often near tea gardens, semi-evergreen forests.
Niche	Middle and top canopy.
Elevation	Up to 800m.
Distribution	
Global	Bangladesh, India, Myanmar
South Asia	Bangladesh, India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	>2,000 km ²
Locations/Subpopulations	23 / 9. Fragmented.
Habitat status	Decrease in area by >50% in the last 10 years and is predicted to decline by >30% in the next 10 years due to habitat destruction, habitat shrinkage, agriculture and establishment of tea gardens. Decrease in quality due to altered habitat, primary forest destruction. Establishment of tea gardens and paper mills is the primary cause of change.
Threats	Timber plantations, livestock ranching, shifting agriculture, firewood collection and charcoal production, infrastructure, human settlement, deforestation, fragmentation, collecting, illegal hunting for food, habitat loss, pesticides/chemical pollution, industrial pollution, inbreeding
Trade	Local trade in live animal for zoos and meat for food
Population	
Generation time	10-12 years (inferred from other langur species)
Total population	<1,600 [Bangladesh = <100; India = <1500]
Mature individuals	<600 [Bangladesh = <50; India = <550]
Population trend	Declining by >10% (Period not given) and is predicted to decline by >10% (Period not given)
Data source	Census or monitoring, field study, informal sightings, indirect information, literature; observed; 95% confidence.

Status		
SAP CAMP (Ver. 3.1)	ENDANGERED	C1+2a(i)
Rationale	Widely distributed leaf monkey found in 23 locations and 9 subpopulations in the northeastern parts of India and Bangladesh. Loss of habitat and other human-induced threats have caused the population numbers to be restricted to around 700 mature individuals making this primate Endangered.	
2001 Red List (Ver. 2.3)	Endangered	C2a
National Status	Bangladesh: Critically Endangered A2c; C1+2a(i); D Less than 50 mature individuals exist in Bangladesh, which is a decline of >80% in the last 20 years, making this taxon extremely vulnerable to extinction in the near future. The population is also isolated from the Indian locations. Hence the higher category of Critically Endangered is retained in Bangladesh. India: Endangered C1+2a(i) Widely distributed leaf monkey found in a few locations. Loss of habitat and other human-induced threats have caused the population numbers to be restricted making this primate Endangered in India.	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Bangladesh: Schedule III, Bangladesh Wildlife (Preservation) (Amendment) Act, 1974. India: Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002	
CITES	Appendix II	
Presence in Protected Areas		
Bangladesh	<i>Sylhet</i> : Lawachara NP, Rama-Kalenga WLS	
India	<i>Mizoram</i> : Dampa WLS <i>Tripura</i> : Gumti WLS, Sepahijala WLS, Trishna WLS	
Recommendations		
Research	Taxonomy, life history, survey	
Management	Habitat management, wild population management, monitoring, public education, PHVA	
Captive stocks	Bangladesh: Dhaka Zoo (2000) (1.2.0.3)	
Comments	Extensive surveys with proper documentation required. Project based research to be initiated on a large scale. Ongoing projects on habitat (Ph.D.) and demography in India and distribution survey in northeastern India by Joydeep Bose. Two new localities have already been discovered in April 2002 by Joydeep Bose. The taxonomy still has to be verified. The Bangladesh population has declined by >90% in 20 years when Ahsan and Khan (1984) reported 1050 individuals. The habitat of this taxon is primarily affected by excessive jhuming and encroachment. The time between successive jhuming practice has reduced resulting in secondary growth of bamboo thickets (J. Biswas, BIS).	
Sources	Bhattacharya and Chakraborty, 1990; Blyth, 1847; Choudhury, 1990; Choudhury, 1994, Choudhury, 1996; Choudhury, 1997; CZA, 2000-2001; Groves, 2001; Gupta, 1994; Hilton-Taylor, 2001; Mukherjee <i>et al.</i> , 1993; SAZARC, 2002 Biological Information Sheet (2002): J. Biswas, J. Bose, M.M. Feeroz CAMP questionnaire on protected areas (2002): S. Debbarma	
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, M. M. Feeroz, Awadesh Kumar, R. Medhi, S. Mitra.	
Reviewers	D. Brandon-Jones, J. Bose, D. Chetry, A. Eudey, S. Mitra, M.S. Pradhan	

Distribution of *Trachypithecus obscurus phayrei* in Bangladesh and India



Distribution of *Trachypithecus obscurus phayrei* in Bangladesh and India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BANGLADESH Chittagong Konerhat	-	-	-	SE	Habitat destruction (P/Pr/F)	-	-	1050	410	Ahsan & Khan, 1984
Sylhet <i>Moulvi Bazar</i> Rama-Kelanga WLS (Srimangal FR)	-	-	-	SE	Habitat destruction (P/Pr/F)	-	-	-	-	Feeroz, <i>et al.</i> , 1993; Kalin pers. comm.
West Bhanugach FR (Lawachara WLS)	24°21	91°48	20	SE	Habitat destruction (P/Pr/F)	Decline	Decline	10-20	-	Feeroz, M.M., 1999
INDIA Assam <i>Karimganj</i> Patharia RF (Lakhichara, Section 13, Dhalchari Rakhari Samarthal No. 7, Border road bridge, Bornatillamokam)	24°11- 24°31	92°27- 92°53	76	TWE, SE, B	Hunting (P), encroachment (P/Pr), deforestation (F)	Decline	Decline	50	17	IUSPP Annual reports, II Survey
Sarjui village (Tilbhum RF, Bisarithilla south)	-	-	17.95	TWE, SE, B	Hunting (P), encroachment (P/Pr), deforestation (F)	Decline	Decline	12	-	IUSPP Annual reports, II Survey
Innerline RF (Baichuri, Gollacharra, Khuinallah, Pachpirmukam, Damcherra, Kalapahar, Gasuria, Utkal)	-	-	1079.97	TWE SE, B	Hunting (P), encroachment (P/Pr), deforestation (F)	Decline	Decline	61	29	IUSPP Annual reports, II Survey
Sundar Ganai	-	-	151.51	TWE, SE, B	Hunting (P), encroachment (P/Pr), deforestation (F)	Decline	Decline	13	6	IUSPP Annual reports, II Survey
Mizoram <i>Mamit</i> Teirei rest house, Near Nallar (In Dampa WLS)	22°32, 92°13	23°41, 22°27	500	TWE, SE, B	Hunting (P), bamboo plantation (Pr)	-	-	15	-	Raman <i>et al.</i> , 1995

Distribution of *Trachypithecus obscurus phayrei* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Tripura										
<i>North Tripura</i>			5235							Groves, 2001
No exact location	-	-	18.53	MTr, B	Habitat destruction (P/Pr/F)	-	-	41	33	Mukherjee <i>et al.</i> , 1993
No exact location	-	-	-	MTr, B	Habitat destruction (P/Pr/F)	-	-	124	50	Gupta, 1994
<i>South Tripura</i>										
No exact location	-	-	-	MTr, B	Jhoom cultivation (P/Pr/F)	-	-	614	233	Gupta, 1994
No exact location	23°50	91°15	5235	MTr, B	Habitat destruction (P/Pr/F)	-	-	75	50	Mukherjee, <i>et al.</i> , 1993
Gurmi WLS	-	-	-	-	-	-	-	-	-	
Trishna WLS	-	-	-	-	-	-	-	-	-	
<i>West Tripura</i>										
No exact location	-	-	-	MTr, B	Habitat destruction (P/Pr/F)	-	-	148	97	Mukherjee, <i>et al.</i> , 1993
No exact location	-	-	-	MTr, B	Habitat destruction (P/Pr/F)	-	-	161	59	Gupta, 1994, Mukherjee <i>et al.</i> , 1993
Sepahijala WLS	23°37-	91°17-	-	RP, TTC, Z, MMD, P	Encroachment (P/Pr/F), replacement of primary forest with secondary vegetation (P/Pr/F)	-	-	100	-	Joydeep Bose (In prep.) 19 groups. Found in adjacent areas too. S. Debbarma, 2002

B - Bamboo forest, MTr - Moist Tropical forest, MMD - Moist mixed deciduous forest, P - Plantation area, RP - Rubber plantation area, SE - Semi-evergreen forest, TTC - Toy train complex, TWE - Tropical Wet Evergreen forest, Z - Zoo area

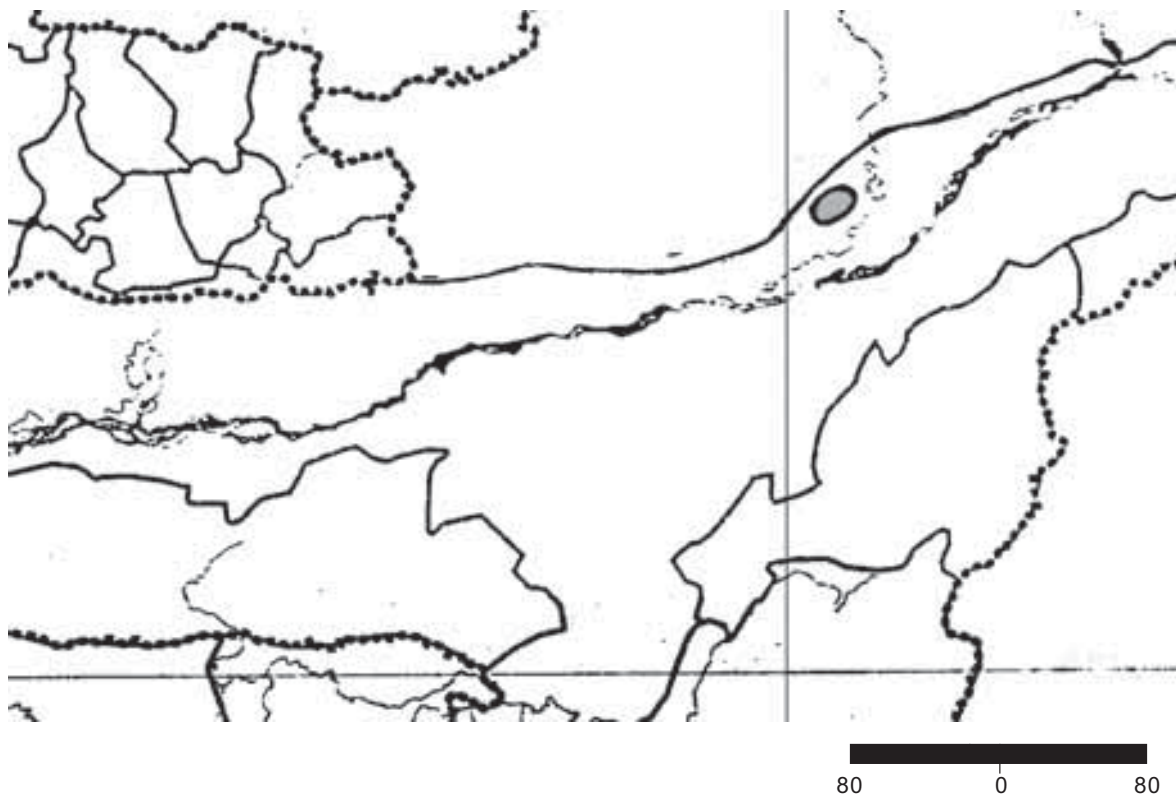
***Trachypithecus pileatus brahma* (Wroughton, 1916)**

DATA DEFICIENT

Synonyms	<i>Presbytis brahma</i> Wroughton, 1916
Family	Cercopithecidae
Common names	Assamese: <i>Tupimuria bandar</i> ; Garo: <i>Rangol</i> ; Hindi: <i>Topi-wala bandar</i> ; Khasi: <i>Tongo</i> ; Bengali: <i>Topi Bandar</i> ; English: Buff-bellied Langur, Capped Langur
Level of assessment	Subspecies supposedly known only from the Dafla Hills, north of Brahmaputra. Category C taxon. Taxonomic status to be reviewed.
Habit	Arboreal, diurnal
Habitat	Subtropical forest, broadleaved forest, evergreen deciduous forest, bamboo forest
Niche	Upper and middle canopy dweller. Up to 2000m.
Distribution	
Global	Endemic to India
Extent of Occurrence	Not known
Area of Occupancy	Not known
Locations/subpopulations	Not known
Habitat status	Not known
Threats	Not known
Trade	Not known
Population	
Generation time	Not known
Total population	Not known
Mature individuals	Not known
Population trend	Not known
Data Source	Museum study, indirect information; inferred; 95% confidence
Status	
SAP CAMP (Ver. 3.1)	DATA DEFICIENT
Rationale	Nothing is known about the distribution, threats or populations of this primate. This taxon is known from only a single individual collected in 1911.
2001 Red List (Ver. 2.3)	Endangered (A1cd, C2a)
Justification	This taxon was previously wrongly assessed.
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.

Wildlife Legislation	Schedule I, Indian Wildlife (Protection) Act, 1972 amended up to 2002
CITES	Appendix I
Presence in Protected Areas	None
Recommendations	
Research	Taxonomic research, survey, life history studies, extensive survey
Management	Habitat management, monitoring, public education
Captive stocks	12 zoos in India (8.5.0.13). Subspecies not known.
Comments	Detailed and continuous monitoring and census survey is recommended in its geographic range.
Sources	CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2000; Jenkins, 1987; SAZARC, 2002
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, M.M. Feeroz, Awadesh Kumar, R. Medhi, S. Mitra
Reviewers	D. Brandon-Jones, D. Chetry, J. Das, A. Eudey, M.S. Pradhan, G.S. Solanki

Type distribution of *Trachypithecus pileatus brahma* in India



Distribution of *Trachypithecus pileatus brahma* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA Assam <i>Lakkimpur</i> Seajuli (Dafila hills)	27°21	94°06	-	-	-	-	-	-	-	One adult male was collected on 23 Nov 1911. Napier, 1987; Groves, 2001

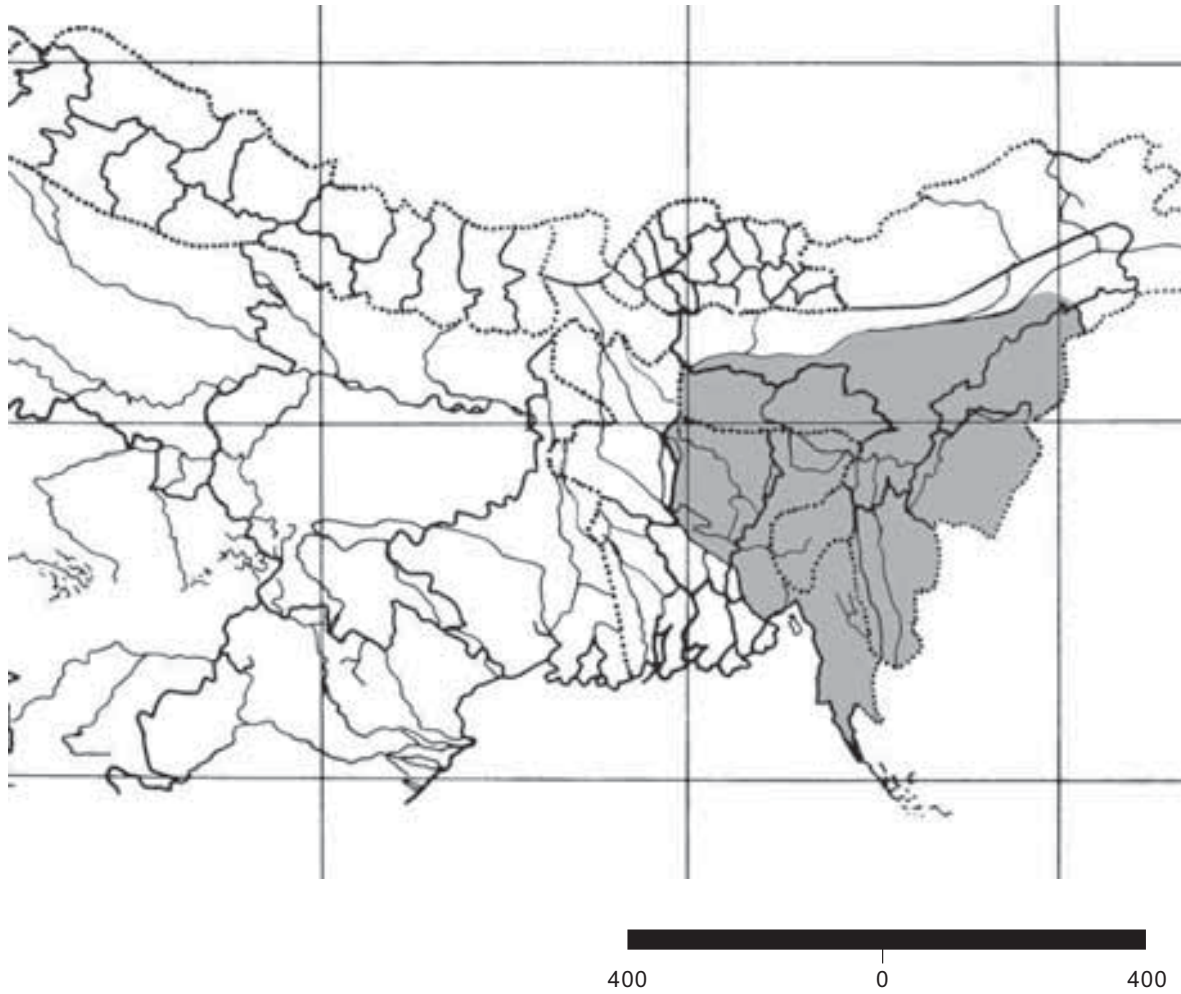
***Trachypithecus pileatus durga* (Wroughton, 1916)**

ENDANGERED

Synonyms	<i>Presbytis durga</i> (Wroughton, 1916) <i>Pithecus pileatus saturatus</i> (Hinton, 1923)
Family	Cercopithecidae
Common names	Assamese: <i>Topimuria bandar</i> ; Bengali: <i>Topi bengali</i> ; Garo: <i>Rangol</i> ; Hindi: <i>Topi wala Bandar</i> ; Khasi: <i>Tongo</i> ; English: Capped Langur, Orange-bellied Capped Leaf Monkey
Level of assessment	Subspecies
Notes on taxonomy	The real existence of this subspecies and its relationship to <i>T.p. pileatus</i> needs to be tested carefully. Both the individual variation within a troop and even whether the darkness of the upper side and redness of the underside are not somehow a purely phenotypic result of temperature and humidity (Groves, 2001).
Habit	Predominantly arboreal, top and middle canopy dweller, diurnal
Habitat	Subtropical forest, broadleaved forest, evergreen forest, moist deciduous forest, bamboo forests
Niche	Top and middle canopy dweller.
Elevation	10-600m.
Distribution	
Global	Bangladesh, India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	<4,200 km ² [Bangladesh = <150 km ² ; India = <4,000 km ²]
Locations/subpopulations	<45 / <60. [Bangladesh = <12; India = <35]. Fragmented.
Habitat status	Decrease in area of >40% in the last 20 years and predicted to decline by >30% in the next 20 years due to jhum cultivation and encroachment. Decrease in quality due to loss of lodging trees.
Threats	Crop plantations, timber, selective logging, firewood and charcoal production, human settlement, building roads, dams, power lines, deliberate fires, soil loss/erosion, fragmentation, hunting for sport, meat and traditional medicine, trapping, human interference, predators
Trade	Local trade for meat, tail for food, skin for knife covers and for fur; live animal as pets.
Population	
Generation time	10-12 years (inferred from other langur species)
Total population	<1100 [Bangladesh = <300; India = <800]
Mature individuals	<550 [Bangladesh = <150; India = <400]
Population trend	Declining by >30% in the last 20 years and is predicted to decline by >20% in the next 20 years.
Data source	Census or monitoring, field study; observed; 95% confidence

Status		
SAP CAMP (Ver. 3.1)	ENDANGERED	C1+2a(i)
Rationale	Widely distributed capped langur in India and Bangladesh recorded in 49 locations and 41 subpopulations identified. Very few mature individuals due to decreasing habitat and other human influence makes this primate Endangered. An estimated 550 mature individuals make up the population with no subpopulation having more than 250 mature individuals.	
2001 Red List (Ver. 2.3)	Endangered	A1cd, C2a
National Status	Bangladesh: Critically Endangered B2ab(i,ii,iii,iv,v); C2a(i) The Bangladesh population is fragmented with a few exceptions of bordering locations being contiguous with the Indian populations. Since the threat to this taxon is high in the country, it is prone to declines and local extinctions, hence the national status is retained as Critically Endangered for the country. India: Endangered C1+2a(i) Widely distributed in northeastern india, but highly fragmented locations and relatively small population makes this taxon Endangered within the country. This status is retained as such.	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Bangladesh: Schedule III, Bangladesh Wildlife (Preservation) (Amendment) Act, 1974. India: Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002	
CITES	Appendix I	
Presence in Protected Areas		
Bangladesh:	<i>Chittagong</i> : Chunathi WLS <i>Sylhet</i> : Ram-Kalenga WLS	
India:	<i>Assam</i> : Gibbon WLS, Kaziranga NP, Pabitora WLS <i>Mizoram</i> : Dampa NP, Murlen NP, Nengpui WLS <i>Tripura</i> : Gumti WLS, Sepahijala WLS, Trishna WLS	
Recommendations		
Research	Taxonomy, survey, habitat fragmentation	
Management	Habitat management, wild population management, monitoring, public education, PHVA. A coordinated Species Management Program is recommended for South Asia.	
Captive stocks	12 zoos in India (8.5.0.13). Subspecies not known.	
Comments	The distributional range proposed by D. Brandon-Jones <i>et al.</i> (2002) is confusing as the subspecies has a large overlapping range with that of <i>T. pileatus pileatus</i> with no obvious demarkation. A detailed survey on the distributional range and its limits of occurrence of both the subspecies of capped langur is highly recommended. Coat color of this subspecies found in central Bangladesh varied significantly between the northeastern and the southeastern populations.	
Sources	CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2000; Napier, 1985; SAZARC, 2002 Biological Information Sheet (2002): J. Biswas, M.M. Feeroz, R. Medhi CAMP questionnaire on protected areas (2002): M. Barua, S. Debbarma, G. Santha	
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, R. Medhi	
Reviewers	D. Brandon-Jones, D. Chetry, J. Das, A. Eudey, M.S. Pradhan	

Distribution of *Trachypithecus pileatus durga* in Bangladesh and India



Distribution of *Trachypithecus pileatus durga* in Bangladesh and India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BANGLADESH Chittagong Chunathi WLS	21°58'	92°04'	11	E	Habitat destruction (P/Pr/F)	Decline	Decline	19	7	Feeroz, 1991, 1999; Ahsan, 1984, 1994; Kalai, 1991
Hazarikhil Kaptai	- 22°21'	- 92°17'	6 5	E E	Habitat destruction (P/Pr/F) Habitat destruction (P/Pr/F)	Decline Decline	Decline Decline	10-17 10	6-11 5	Ahsan, 1984; Feeroz, 1991 Ahsan, 1984, M.M. Feeroz pers. comm.
Cox's Bazar Bhomarighona Himchari	- -	- -	12 6	E E	Habitat destruction (P/Pr/F) Habitat destruction (P/Pr/F)	Decline Decline	Decline Decline	25 15	11 9	Ahsan, 1984; Feeroz, 1999 Feeroz, 1999
Dhaka Mymensingh Madhupur	24°43'	90°04'	49	D	Habitat destruction (P/Pr/F)	Decline	Decline	41-69	19-31	Ahsan, 1984; Kalin, 1991; Stanford, 1991
Sylhet Fanchugaon	-	-	5	SE	Habitat destruction (P/Pr/F)	Decline	Decline	10	6	Feeroz <i>et al.</i> , 1995
<i>Moulvi Bazar</i> Adampur	23°18'	89°52'	10	SE	Habitat destruction (P/Pr/F)	Decline	Decline	17	9	Feeroz, 1999; Feeroz, 1999; Feeroz & Islam, 2000
Pathalia RF	24°11'	24°31'	10	SE	Habitat destruction (P/Pr/F)	Decline	Decline	14	8	Feeroz, 1999; Feeroz & Islam, 2000
Rama Kalenga WLS	-	-	12	SE	Habitat destruction (P/Pr/F)	Decline	Decline	27	17	Feeroz, 1999; Feeroz & Islam, 2000
West Bhanugach FR	24°21'	91°48'	20	SE	Habitat destruction (P/Pr/F)	Decline	Decline	66	41	Feeroz & Islam, 2000
INDIA Assam Cachar										
Bamak RF Innerline RF	~24°53'	~92°35'	204 996	SE, B SE, B	Habitat destruction (P/Pr/F), Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline Decline	Decline Decline	8 1	5 1	IUSPP Annual reports IUSPP Annual reports
Lamsakhang	25°48'	93°04'	-	-	-	-	-	-	-	One adult female has been collected from this region on 7 Sep 1920 at an elevation of 242m. Napier, 1985
North Cachar Hills RF	25°30'	93°00'	270.5	SE, D	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	18	9	IUSPP Annual reports

Distribution of *Trachypithecus pileatus durga* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Golaghat</i> Golaghat	26°30	93°59	-	-	-	-	-	-	-	One adult female on 31 Dec 1919 and an adult female on 28 Jan 1920 has been collected at an elevation of 0.909m and 12.1m. respectively. Napier, 1985 IUSPP Annual reports
Kaziranga NP	~26°37	~93°18	-	SE, MD	Hunting (P/Pr/F)	Increase	Increase	166	108	IUSPP Annual reports
<i>Hailakandi</i> Katakhal RF	-	-	-	SE, MD	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	6	4	IUSPP Annual reports
<i>Jorhat</i> Gibbon WLS	-	-	-	-	-	Decline	Decline	304	181	IUSPP Annual reports; 10 groups. G. Santha, 2002
<i>Kamrup</i> Amchang RF	26°19	91°15	-	MD	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	8	5	IUSPP Annual reports
Apricola RF	26°19	91°15	-	MD	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	5	4	IUSPP Annual reports
Borjuri RF	-	-	-	MD	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	1	1	IUSPP Annual reports
Dhaniangon RF	-	-	-	MD	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	5	3	IUSPP Annual reports
South Amchang RF	-	-	-	MD	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	9	6	IUSPP Annual reports
<i>Karimganj</i> Innerline RF	-	-	113	SE, B	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports
Longai RF	-	-	151	SE, D	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports
Patharia RF	24°11	24°31	76.47	SE, D	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	6	3	IUSPP Annual reports
Singla RF	~27°02	~88°19	270.5	SE, B	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	14	11	IUSPP Annual reports
<i>Lakhimpur</i> Bara Hapjan	27°32	95°30	-	-	-	-	-	-	-	One adult male has been recorded to be collected on 3 Nov 1919 from this area at an elevation of 60m. Napier, 1985; Groves, 2001
<i>Mariagaon</i> Pabitora WLS	-	-	-	-	-	-	-	-	-	Found adjacent to the protected area. M. Barua, 2002

Distribution of *Trachypithecus pileatus durga* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
<i>Naga hills</i> Lakhuni	26°33	94°27	-	-	-	-	-	-	-	One adult male has been recorded to be collected from this region on 10 Sep. 1919. Napier, 1985
<i>North Cachar</i> Krunging RF	-	-	108	SE, B	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	25	17	IUSPP Annual reports
Lanka	25°56	92°57	-	-	-	-	-	-	-	One adult male has been collected at an elevation of 121m. on 22 Oct 1920. Napier, 1985
Longingnang RF	-	-	493	SE, B	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	18	10	IUSPP Annual reports
Mizoram <i>Champai</i> Murlen NP	23°37	93°18	-	SE	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	-	-	IUSPP Annual reports
<i>Chintuipui</i> Nengpui RF	-	-	-	SE	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	5	2	IUSPP Annual reports
Nengpui WLS	-	-	110	SE	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	18	9	IUSPP Annual reports
<i>Mamit</i> Dampa NP	-	-	500	SE	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	9	5	IUSPP Annual reports
Tripura <i>South Tripura</i> Gumti WLS	-	-	389.54	SE	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	-	-	IUSPP Annual reports
Trishna WLS	-	-	190.70	MD	Hunting (P/Pr/F), habitat destruction (F)	-	-	4	2	IUSPP Annual reports
<i>West Tripura</i> Sepahijala WLS	-	-	18.53	MD	Hunting (P/Pr/F)	Decline	Decline	16	9	IUSPP Annual reports
										14 groups. Found in adjacent areas too. S. Debbarma, 2002

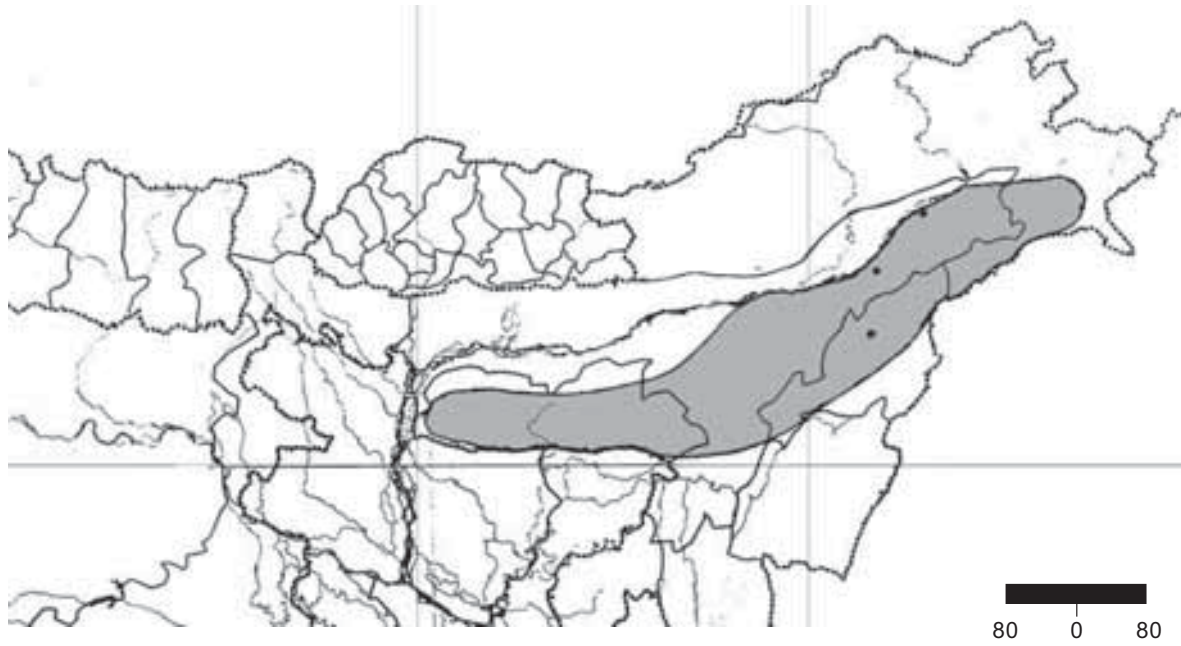
B - Bamboo thickets, D - Deciduous forest, E - Evergreen forest, MD - Moist Deciduous forest, SE - Semi-evergreen forest

Trachypithecus pileatus pileatus* (Blyth, 1843)*ENDANGERED in South Asia**

Synonyms	<i>Presbytis pileatus</i> Blyth, 1843 <i>Semnopithecus pileatus</i> (Blyth, 1843) <i>Semnopithecus argentatus</i> Horsfield, 1851
Family	Cercopithecidae
Common names	Assamese: <i>Tupimuria bandar</i> ; Bengali: <i>Mukpori Hanuman</i> ; Bengali: <i>Topi-bandar</i> ; Garo: <i>Rangel</i> ; Hindi: <i>Topiwala bandar</i> ; Khasi: <i>Tongo</i> ; Mizo: <i>Ngau</i> ; English: Blonde-bellied Capped Leaf Monkey, Capped Langur
Level of assessment	Subspecies
Habit	Predominantly arboreal, diurnal, foliovorus
Habitat	Mixed forests
Niche	Top and middle canopy dweller.
Elevation	400-3,000m
Distribution	
Global	India, Myanmar
South Asia	India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	<3,500 km ²
Locations/Subpopulations	<50 / <75. Fragmented.
Habitat status	Decrease in area by >20% in the last 10 years and is predicted to decrease by >30% in the next 10 years due to habitat loss. Decrease in quality due to altered habitat. Primary causes of change due to encroachment, jhum cultivation, monoculture of plants.
Threats	Shifting agriculture, grazing, plantations, agriculture, timber, selective logging, firewood and charcoal production, human settlement, building roads, dams, power lines, deliberate fires, soil loss/erosion, forest fragmentation, hunting for sport, food and traditional medicine, accidental mortality, trapping, human interference, predators, habitat loss, poor reproduction
Trade	Local, domestic and international trade for fur, meat; tail for food and live animals for zoos.
Population	
Generation time	10-12 years (inferred from other langur species)
Total population	<600
Mature individuals	<350
Population trend	Declining and is predicted to decline.
Data source	Census or monitoring, field study; suspected; subjective

Status		
SAP CAMP (Ver. 3.1)	ENDANGERED in South Asia	C1+2a(i); D
Rationale	Restricted in range in India in 33 locations and 15 subpopulations. Habitat and populations suffer from severe human-induced threats which have resulted in only very few mature individuals estimated currently. Restricted numbers indicate that the taxon is Endangered. Since nothing is known of the neighbouring Myanmar population, the assessment is retained as Endangered for South Asia.	
2001 Red List (Ver. 2.3)	Endangered (Globally)	A1cd, C2a
Uncertainty	Assessment is based on full range of plausible values and it is based on evidence. Based on the consensus of the entire working group and also based on the consensus of all the participants	
Wildlife Legislation	India: Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002	
CITES	Appendix I	
Presence in Protected Areas		
India:	<i>Arunachal Pradesh</i> : Namdapha NP <i>Meghalaya</i> : Balphakram NP, Nokrek NP, Siju WLS	
Recommendations		
Research	Life history, survey, ecological and behavioural study	
Management	Habitat management, wild population management, monitoring, PHVA pending	
Captive stocks	12 zoos in India (8.5.0.13). Subspecies not known	
Comments	A distribution map of the species should be made. Information compiled here is based on data from Assam and Arunachal Pradesh. Exact population number in Arunachal Pradesh is not yet available. For further survey, probable area of distribution will be India (Nagaland, Mizoram, Manipur, Tripura, Meghalaya) and Bangladesh. No subspecies demarcation is available with request to geographic area of the species. Status is based on actual sightings only. Further research is required for accurate evidence of the status.	
Sources	Blyth, 1843; Choudhury, 1989; CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2000; IUSPP Annual Reports, 1994-99; Napier, 1985; SAZARC, 2002 Biological Information Sheet (2002): J. Biswas, R. Medhi CAMP questionnaire on protected areas (2002): S.S. Chandiramani, W.G. Momin	
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, M. M. Feeroz, Awadesh Kumar, R. Medhi, S. Mitra	
Reviewers	D. Brandon-Jones, D. Chetry, J. Das, A. Eudey, S. Mitra, M.S. Pradhan	

Distribution of *Trachypithecus pileatus pileatus* in India



Distribution of *Trachypithecus pileatus* in India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
INDIA										
Arunachal Pradesh										
<i>Changlang</i>	-	-	-	-	-	-	-	-	-	S.S. Chandiramani, 2002
Namdapha NP	-	-	177	E	Poaching (P/Pr/F), encroachment (F)	Decline	Decline	-	-	American Society of Primatologists, 2002
Deban, Gibbon's and Haidibari										Collected on 1 Aug 1920, Napier, 1985
Assam	25°30'	94°31'	-	-	-	-	-	-	-	
Konshong										IUSPP Annual reports
<i>Dibrugarh</i>	27°29'	94°54'	-	TWE	-	-	-	-	-	IUSPP Annual reports
Dibrugarh										
<i>Jorhat</i>	26°45'	94°13'	-	TWE	-	-	-	59	29	IUSPP Annual reports
Jorhat RF										
<i>Karbi Anglong</i>	26°00'	93°43'	9.81	Mx	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports
Bokajan PRF										
Borjuri PRF	-	-	214.88	SE	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	12	8	IUSPP Annual reports
Borlander DCRF	-	-	-	Mx	Habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports
Daldali RF	-	-	123.33	Mx	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports
Dhansiri RF	-	-	70.39	Mx	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	3	1	IUSPP Annual reports
Disama RF	-	-	11.25	SE	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	2	2	IUSPP Annual reports
Dolamara PRF	-	-	5.53	Mx	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	8	7	IUSPP Annual reports
Englengjiri DCRF	-	-	-	SE	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	6	5	IUSPP Annual reports

Distribution of *Trachypithecus pileatus pileatus* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Hafjan PRF	-	-	-	Mx	deforestation (P/Pr/F), jhooming (P/Pr/F) Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline Decline	1	1	IUSPP Annual reports
Haithapahar	-	-	54.39	Mx	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline Decline	3	2	IUSPP Annual reports
Jungthung RF DCRF	-	-	32.57	SE	deforestation (P/Pr/F), jhooming (P/Pr/F), habitat destruction (P/Pr/F), Hunting and killing (P/Pr/F)	Decline Decline	5	5	IUSPP Annual reports
Kalaphar PRF	-	-	9.77	SE	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline Decline	3	3	IUSPP Annual reports
Kailoni RF	-	-	209.79	Mx	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline Decline	4	4	IUSPP Annual reports
Kaziranga PRF	~26°37'	~93°18'	33.88	Mx	deforestation (P/Pr/F), jhooming (P/Pr/F), Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline Decline	4	3	IUSPP, Annual reports
Khonbamon RF	-	-	-	SE	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline Decline	8	6	IUSPP Annual reports
Langlakso PRF	-	-	534.68	SE	deforestation (P/Pr/F), jhooming (P/Pr/F), Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline Decline	15	12	IUSPP Annual reports
Longnit DCRF	-	-	117.62	SE	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline Decline	10	8	IUSPP Annual reports
Mahamaya DCRF	-	-	-	Mx	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline Decline	10	7	IUSPP Annual reports
Mikir Hills RF	~26°25'	~93°20'	299.79	-	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline Decline	6	5	IUSPP Annual reports
Miyungdisa DCRF	-	-	-	SE	habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F), Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F)	Decline Decline	1	1	IUSPP Annual reports
Nambor North block RF	-	-	53.09	Mx	deforestation (P/Pr/F), jhooming (P/Pr/F), Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline Decline	10	7	IUSPP Annual reports
Nambor West	-	-	166.33	Mx	deforestation (P/Pr/F), jhooming (P/Pr/F), Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F)	Decline Decline	1	1	IUSPP Annual reports

Distribution of *Trachypithecus pileatus pileatus* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Patradisa DCRF	-	-	32.57	Mx	deforestation (P/Pr/F), jhooming (P/Pr/F) Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	3		IUSPP Annual reports
Tikok PRF	-	-	25.89	SE	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	3		IUSPP Annual reports
Western Mikir Hills RF	-	-	39.36	SE	deforestation (P/Pr/F), jhooming (P/Pr/F) Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	6		IUSPP Annual reports
<i>Khasi Hills</i> Laitkynsao	25°12'	91°40'	-	-	-	-	-	-	-	Napier, 1985
<i>Naga Hills</i> Mokokchung	26°19'	94°31'	-	-	-	-	-	-	-	Napier, 1985
<i>North Cachar Hills</i> Borail PRF	-	-	17.6	Mx	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	1		IUSPP Annual reports
Borail RF	-	-	15.90	SE	Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F), deforestation (P/Pr/F), jhooming (P/Pr/F)	Decline	Decline	1		IUSPP Annual reports
Khurimim RF	-	-	108.41	E	deforestation (P/Pr/F), jhooming (P/Pr/F) Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	3		IUSPP Annual reports
Langting Mupa RF	25°30'	90°07'	493.35	E	deforestation (P/Pr/F), jhooming (P/Pr/F) Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	2		IUSPP Annual reports
Parimur PRF	-	-	-	Mx	deforestation (P/Pr/F), jhooming (P/Pr/F) Hunting and killing (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	1		IUSPP Annual reports
Sibsagar Tinsukhia	26°58' 27°30'	94°39' 95°22'	- -	TWE TWE	-	-	-	91		IUSPP Annual reports IUSPP Annual reports
Meghalaya <i>Garo Hills</i> Tura	25°32'	90°14'	-	-	-	-	-	-		Adult male collected on 24 Feb 1920 and a juvenile on 8 Mar 1920. Napier, 1985

Distribution of *Trachypithecus pileatus pileatus* in India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
South Garo Hills	-	-	220	E, MD	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	65	41	IUSPP Annual reports
Balpakram NP	-	-	47.4	E, MD	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	25	16	IUSPP Annual reports Found in adjacent areas too. W.G. Momin, 2002
Rewak RF	-	-	6.4	E, MD	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	18	11	IUSPP Annual reports
Siju WLS	25°32'	90°14'	5.18	E, MD	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	31	16	IUSPP Annual reports
Songsek Tasek RF	25°38'	90°35'	23.3	E, MD	Hunting (P/Pr/F), habitat destruction (F)	Decline	Decline	16	10	IUSPP Annual reports

E - Evergreen forest, MD - Moist Deciduous forest, Mx - Mixed forest, SE - Semi-evergreen forest, TWE - Tropical Wet Evergreen forest

Trachypithecus pileatus tenebricus* (Hinton, 1923)*ENDANGERED**

Synonyms	<i>Pithecus pileatus tenebricus</i> Hinton, 1923
Family	Cercopithecidae
Common names	Assamese: <i>Tupimuria bandar</i> ; Bengali: <i>Topi banar</i> ; Bodo: <i>Golija makhre</i> ; Hindi: <i>Topi wala bandar</i> ; English: Capped Langur, Tenebrous Capped Leaf Monkey
Level of assessment	Subspecies
Habit	Predominantly arboreal, diurnal, folivorous
Habitat	Subtropical forest, broad-leaved forest, evergreen forest, deciduous forest
Niche	Top and middle canopy dweller.
Elevation	100-2,000m.
Distribution	
Global	Bhutan, India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	501-2,000 km ² [Bhutan = <500 km ² ; India = <500 km ²]
Locations/Subpopulations	<50 / <100 [Bhutan = <20; India = <30]. Fragmented
Habitat status	Decrease in area in the past (rate of decline and period not given) and is predicted to decrease in future (rate of decline and period not given) due to habitat destruction, firewood collection and hunting. Decrease in quality due to loss of fruiting trees.
Threats	Crop plantations, grazing, shifting agriculture, timber, roads, soil loss/erosion, deforestation, hunting for traditional medicine and food, poisoning, hooking, human interference, habitat loss.
Trade	Local trade for fur, meat, tail for food and medicine and whole animal for pets and zoos. Trade for food is resulting in population decline.
Population	
Generation time	9-12 years
Total population	<900 [Bhutan = <500; India = <400]
Mature individuals	<550 [Bhutan = <300; India = <250]
Population trend	Declining by >30% in the last 10 years and is predicted to decline by >10% in the next 10 years.
Data source	Census or monitoring, literature; suspected; minimum/maximum

Status		
SAP CAMP (Ver. 3.1)	ENDANGERED	C2a(i)
2001 Red List (Ver. 2.3)	Endangered	A1cd, C2a
Rationale	Restricted area of occupancy of less than 2,000km ² in South Asia along with a population estimate of <600 mature individuals makes this taxon Endangered according to criterion C. The taxon also faces considerable threat from humans and has declined in numbers in the wild, mostly in India.	
National Status	<p>Bhutan: Endangered C2a(i) The Bhutan population is more contiguous, but since it is restricted in distribution and in numbers, the taxon is categorised as Endangered as it faces some threats. The status is retained as such in Bhutan as the population is relatively healthy compared to the neighbouring Indian population.</p> <p>India: Endangered B2ab(i,ii,iii,iv,v); C1+2a(i) ↑ Critically Endangered The Indian population of this taxon is fragmented and under tremendous human pressure. The restricted taxon with few numbers is also declining drastically, making the situation more critical in India. Hence the status within the country is upgraded to Critically Endangered.</p>	
Justification	New / better information available at the workshop	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	India: Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002	
CITES	Appendix I	
Presence in Protected Areas		
Bhutan	Royal Manas NP	
India	<i>Arunachal Pradesh</i> : Eagle Nest WLS, Pakhui WLS <i>Assam</i> : Manas NP, Nameri NP	
Recommendations		
Research	Taxonomy, life history, survey studies, limiting factor research	
Management	Habitat management, wild population management, monitoring, public education, limiting factor management	
Captive stocks	12 zoos in India (8.5.0.13). Subspecies not known	
Comments	Extensive survey and proper documentation of the subspecies is urgently needed. Distribution of the <i>T. pileatus pileatus</i> and <i>T.p. durga</i> subspecies are not clear due to many overlapping localities and poor taxonomic studies.	
Sources	CZA, 2000-2001; Groves, 2001; Hilton-Taylor, 2001; Napier, 1985; IUSPP Annual Reports, 1994-99; SAZARC, 2002; Solanki and Kumar, 2000 Biological Information Sheet (2002): J. Biswas CAMP questionnaire on protected areas (2002): C. Loma	
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, M.M. Feeroz, Awadesh Kumar, R. Medhi, S. Mitra, G.S. Solanki	
Reviewers	D. Brandon-Jones, D. Chetry, J. Das, A. Eudey	

Distribution of *Trachypithecus pileatus tenebricus* in Bhutan and India



Distribution of *Trachypithecus pileatus tenebricus* in Bhutan and India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BHUTAN Royal Manas NP < 20 locations	26°51'	90°46'	-	-	-	-	-	-	-	Wangchuk <i>et al.</i> , 2003
INDIA Arunachal Pradesh <i>East Kameng</i> Pakhui WLS	-	-	61.5	-	-	-	-	-	-	Found in adjacent areas too. C. Loma, 2002
1. Dhichu Camp (adjacent area)	-	-	-	SE	Logging (P)	Decline 5 yrs.	Stable 5 yrs.	14	11	Solanki & A. Kumar, 2000
2. Lanka area (adjacent area)	25°56'	92°57'	-	SE	Logging (P)	Decline 5 yrs.	Stable 5 yrs.	7	5	Solanki & A. Kumar, 2000
3. Mithun Nallah (adjacent area)	-	-	-	SE	-	Decline 5 yrs.	Stable 5 yrs.	21	17	Solanki & A. Kumar, 2000
4. West Bank (adjacent area)	27°14'	92°51'	-	SE	Logging (P)	Decline 5 yrs.	Stable 5 yrs.	10	8	Solanki & A. Kumar, 2000
5. Phool Nallah (adjacent area)	-	-	-	SE	-	Decline 5 yrs.	Stable 5 yrs.	10	7	Solanki & A. Kumar, 2000
6. Tipi (adjacent area)	27°02'	92°40'	21.5	SE	-	Decline 5 yrs.	Stable 5 yrs.	27	20	Solanki & A. Kumar, 2000
7. Tipi (adjacent area)	27°02'	92°40'	-	SD	-	Decline 5 yrs.	Stable 5 yrs.	8	5	Solanki & A. Kumar, 2000
8. Bhola Nallah (adjacent area)	~27°14'	~92°51'	40	SE	Hunting (P)	Increase 5 yrs.	Stable 5 yrs.	15	9	Solanki & A. Kumar, 2000
9. Bhola Nallah (adjacent area)	~27°14'	~92°51'	-	SE	Wood collection (P)	Increase 5 yrs.	Stable 5 yrs.	17	12	Solanki & A. Kumar, 2000
<i>West Kameng</i> Eagle Nest WLS	-	-	-	-	-	-	-	-	-	
Assam <i>Barpeta</i> Manas NP	-	-	120	MxD	Predators (Pr/F)	Increase 5 yrs.	Stable 5 yrs.	37	16	J. Biswas, IUSPP Annual reports
1. Jangrang	-	-	-	MxD	Predators (Pr/F)	Increase 5 yrs.	Stable 5 yrs.	69	28	J. Biswas, IUSPP Annual reports
2. Mathanguri	-	-	-	MxD	Predators (Pr/F)	Increase 5 yrs.	Stable 5 yrs.	45	28	J. Biswas, IUSPP Annual reports
3. Sangrang	-	-	-	MxD	Predators (Pr/F)	Increase 5 yrs.	Stable 5 yrs.	45	28	J. Biswas, IUSPP Annual reports

Distribution of *Trachypithecus pileatus tenebricus* in Bhutan and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Goalpara Moghahar RF	-	-	16.5	SE, MD	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline 5 yrs.	Decline 5 yrs.	13	8	IUSPP Annual reports
Ronguli RF	-	-	-	SE, MD	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline 5 yrs.	Decline 5 yrs.	19	11	IUSPP Annual reports
Kamrup Bogranadi	-	-	-	-	-	-	-	-	-	One adult female on 4 Jan 1921 and a juvenile male on 14 Jan 1921 as been collected at an elevation of 909m and 606m elevation respectively. Napier, 1985
Gorbhanga RF	-	-	11.4	MD	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	8	6	IUSPP Annual reports
Jorsal RF	-	-	12.5	MD	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	9	6	IUSPP Annual reports
Kulsi Plantation RF	~25°50'	~91°20'	0.2	MD	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	6	5	IUSPP Annual reports
Kuwasingh RF	-	-	0.9	SE/B	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	6	3	IUSPP Annual reports
Matanga River	-	-	-	-	-	-	-	-	-	One adult male has been collected from this region at an elevation of 364m. On 31 Dec 1920. Napier, 1985
Pantani RF	-	-	-	MD	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	9	5	IUSPP Annual reports
Ranni RF	-	-	43.69	MD	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	11	9	IUSPP Annual reports
Sonitpur Nameri NP	~27°01'	~92°43'	-	SE	-	-	-	-	-	G.S. Solanki & A. Kumar pers. comm.
1. Balepong	-	-	-	-	-	-	-	-	-	G.S. Solanki & A. Kumar pers. comm.
2. Hathiputi Gate	-	-	4.5	SD, Dg	-	Decline	Decline	25	19	

B - Bamboo forest, MD - Moist Deciduous forest, MxD - Mixed Deciduous forest, SD - Semi-deciduous forest, SE - Semi-evergreen forest

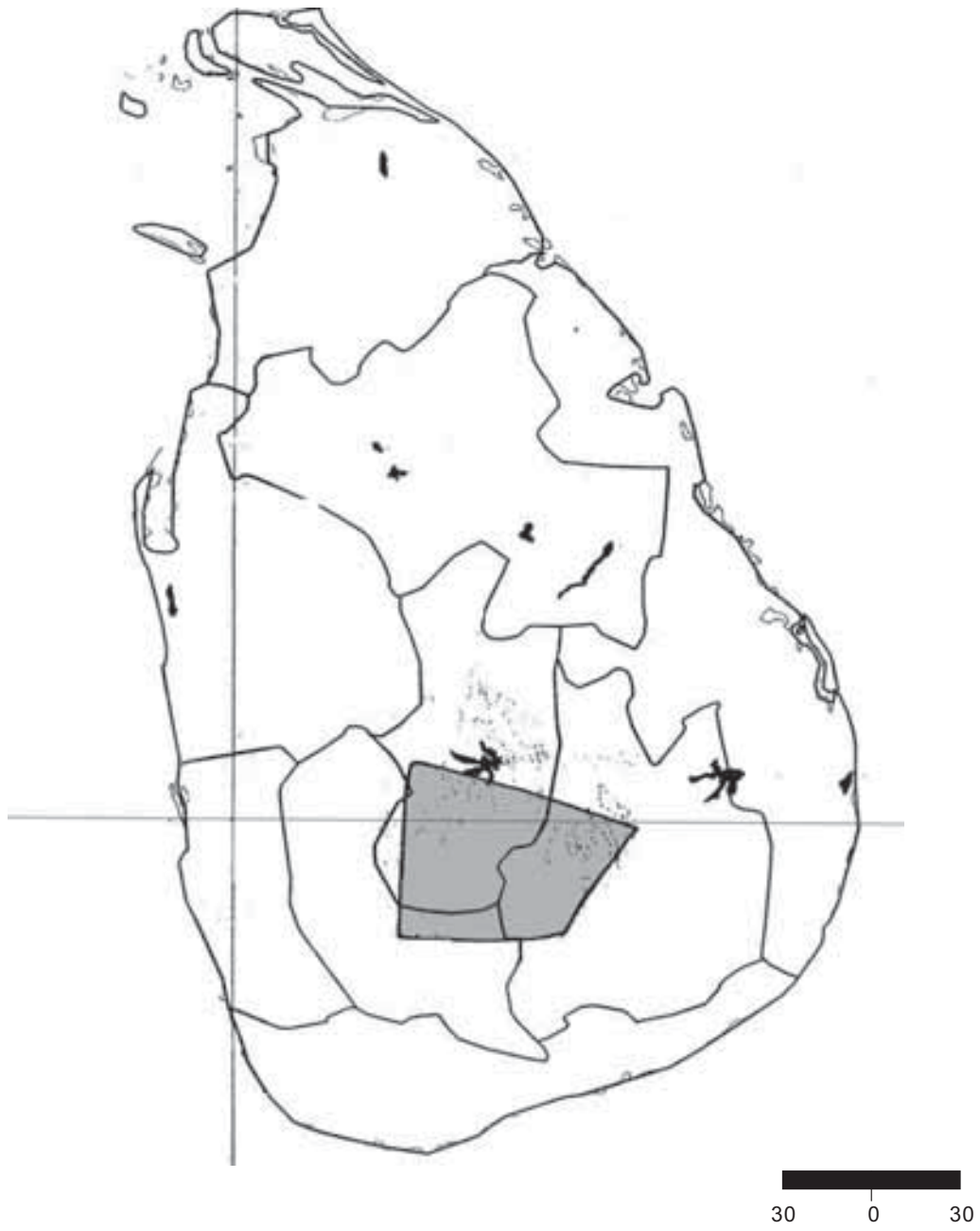
Trachypithecus vetulus monticola (Kelaart, 1850)

ENDANGERED

Synonyms	<i>Presbytis senex monticola</i> Kelaart, 1850 <i>Presbytis cephalopterus</i> var. <i>monticola</i> Kelaart, 1850 <i>Presbytis ursinus</i> Blyth, 1851 <i>Pithecus vetulus monticola</i> Phillips, 1936 <i>Kasi senex monticola</i> Pocock, 1939 <i>Kasi vetulus monticola</i> Hill, 1939
Family	Cercopithecidae
Common names	Sinhalese: <i>Kalu Wandura</i> ; Tamil: <i>Mundi Kurangu</i> ; English: Bear monkey, Purple-faced Langur, Montane Purple-faced Langur, Purple-faced Leaf Monkey
Level of assessment	Subspecies
Notes on taxonomy	A large high mountain subspecies. Despite its common designation of "purple-faced" there is no purple colour in this species. The face is black in all subspecies.
Habit	Folivorous, diurnal, arboreal
Habitat	Montane (hill country) tropical rain forest
Elevation	1,000-2,200m.
Distribution	
Global	Endemic to Sri Lanka
Extent of Occurrence	3,200 km ² . Protected areas only 265 km ²
Area of Occupancy	>2,350 km ² . Possibly higher if unprotected natural forests habitats, that have not yet been surveyed (e.g. Boga Valley) are included.
Locations/Subpopulations	34 / Not known. Fragmented.
Habitat status	Decrease in area by >50% in the last 42 years or more and is predicted to decrease by >10% in the next 10 years due to encroachment for plantations and agricultural crops. Decrease in quality due to destruction of critical food plants, refuges, and travel routes. Increased forest fragmentation will prevent genetic exchange among scattered subpopulations.
Threats	Deforestation, fragmentation and habitat loss (crop plantation, development, human settlement) and hunting for subsistence or small scale cash. According to government data, during 42 years (1956-1993), the country has lost 50% of its forest cover, and more than 50% if the last 10 years (1994-2003) is included. In addition, 80% of hill country forests were lost to tea plantations in the 19th century. There is a close relationship between loss of critical habitat and population number.
Trade	Local and domestic trade for meat and skin. Locally pocketed and isolated groups are prone to extinction owed to village-level subsistence exploitation.
Population	
Generation time	Not known but estimated at 8-14 years
Total population	Not known
Mature individuals	>10,000
Population trend	Total population and mature individuals are declining by >50% in 3 generations and is predicted to decline by >10% in the next 10 years. In the last 200 years, the population has declined by at least 80%.
Data source	Census or monitoring, field study, informal sightings, indirect information, museum records, literature, hearsay/belief; observed; 95% confidence

Status	ENDANGERED	A2cd+4cd; B1ab(ii,iii,iv,v)
SAP CAMP (Ver. 3.1)		
Rationale	<p>The Montane Purple-faced Leaf Monkey occurs only in restricted forests tracts of Sri Lanka most of which is threatened due to human interference (see under threats). Habitat fragmentation over the years has depleted the area available for this dry-zone taxon and restricted it to several small pockets. From 1956 – 1993 Sri Lanka lost more than 50% of forest cover to human activities, followed by a similar rate of decline in the remaining forest cover between 1994 and 2003. Correlating loss of habitat to populations, rate of decline in population is inferred at more than 50% over 3 generations. Also due to continuing trends past and predicted declines could reduce the population by more than 50% within the next 11 to 22 years due to continuing decline in area, extent and quality of habitat along with actual and potential levels of exploitation of the species observed in the wild.</p> <p>The taxon is also threatened due to its restricted distribution of less than 3200km² extent of occurrence and continuing decline in area, extent and quality of habitat, number of locations and in the number of mature individuals, the latter two inferred from threats to habitat and population from degradation and hunting, respectively.</p>	
2001 Red List (Ver. 2.3)	Endangered	A1cd
Justification	New / better information available at the workshop.	
Uncertainty	Assessment based on full range of plausible values, evidentiary and based on the consensus of the whole working group.	
Wildlife Legislation	Fauna and Flora Protection Ordinance Act No. 49 of 1993. Only endemic species, not listed as a protected species by law.	
CITES	Appendix II	
Protected Areas	<i>Central Province:</i> Peak Wilderness Sanctuary, Horton Plains NP, Hakgala Nature Reserve, Victoria, Randenigala, Rantembe Sanctuary	
Recommendations		
Research	Survey, genetics, taxonomy, ecology, behaviour, lifehistory, epidemiology, limiting factor (trade)	
Management	Habitat management, limiting factor management, monitoring. Implementation of legal status is a priority.	
Comments	Captive stocks are not a viable alternative to natural conservation. Preserve the taxon's natural habitat and allow normal reproduction to occur in the wild. Captive breeding is difficult owed to dietary constraints, and poor prospects for successful reintroduction and is not recommended. Techniques not known to propagate this taxon.	
Sources	<p>Groves, 2001; Hilton-Taylor, 2001, IUCN Sri Lanka, 2000 Ecological and Distributional Data (in alphabetical order): IUCN Sri Lanka, Biodiversity Field Research team (data communicated by R. Somaweera through workshop participants). National Conservation Review (NCR) 1997 data as analyzed by J.D.S. Dela Primate Biology Program, Smithsonian Institution and Institute of Fundamental Studies: original data from W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe. University of Jaffna: W. Wijeyamohan</p>	
Compilers	<p>Chief editors: J. Dela, W. Dittus, A. Watson Working group: J. Dela, W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, R. Somaweera, A. Watson, N. Weerasinghe, S. Wijeyamohan</p>	
Reviewers	D. Brandon-Jones, W. Dittus, J. Dela, A. Eudey, A. Watson	

Distribution of *Trachypithecus vetulus monticola*



Distribution of *Trachypithecus vetulus monticola* in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA									
Central Province									
<i>Kandy</i>									
Galaha	07°12'	80°40'	-	-	-	-	-	-	Participants from Sri Lanka
Gampola & Ambuluwawa	~07°09'	~80°34'	-	-	-	-	-	-	Participants from Sri Lanka
Horton Plains	~06°50'	~80°47'	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Loolkandura	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Nawalapitiya	07°03'	80°32'	-	-	-	-	-	-	Participants from Sri Lanka
VRR Sanctuary	~07°15'	~80°47'	-	-	-	-	-	-	NCR data. Dry east. Participants from Sri Lanka
<i>Nuwara Eliya</i>									
Adam's Peak	06°47'	80°30'	-	-	-	-	-	-	Groves, 2001 NCR data. Participants from Sri Lanka
Agarapatana	06°52'	80°43'	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Agrabopats	06°49'	80°48'	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Ambewella	06°52'	80°49'	-	-	-	-	-	-	Participants from Sri Lanka
Boga valley	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Bogawantalawa	06°47'	80°40'	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Dayagama	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Dikoya	06°52'	80°36'	-	-	-	-	-	-	Participants from Sri Lanka
Hakgala	06°55'	80°48'	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kandapola	07°52'	80°43'	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kotmale-Mawella	~07°01'	~80°36'	-	-	-	-	-	-	Participants from Sri Lanka
Maskeliya	06°50'	80°34'	-	-	-	-	-	-	Participants from Sri Lanka
Castlereagh	06°55'	80°49'	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Meepilimana	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Norton Bridge	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Norwood	06°50'	80°37'	-	-	-	-	-	-	Participants from Sri Lanka
Ohiya	~06°50'	~80°50'	-	-	-	-	-	-	NCR data. Participants from Sri Lanka

Distribution of *Trachypithecus vetulus monticola* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Pattipola	06°51	80°50	-	-	-	-	-	-	-	Participants from Sri Lanka
Pedro	06°55	81°07	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Pidurutthalagala	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Pussellawa – NE	06°54	81°15	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Rozelle	~06°58	~80°36	-	-	-	-	-	-	-	Participants from Sri Lanka
Wattawela	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Nuwara Eliya	06°58	80°46	-	-	-	-	-	-	-	Participants from Sri Lanka
Sabaragamuwa Province										
<i>Ratnapura</i>										Participants from Sri Lanka
Upper Belihul Oya										Participants from Sri Lanka
Uva Province										
<i>Badulla</i>										Participants from Sri Lanka
Badulla	06°58	81°02	-	-	-	-	-	-	-	Participants from Sri Lanka
Bandarawela	06°49	80°58	-	-	-	-	-	-	-	Participants from Sri Lanka
Diyatalawa	06°47	80°58	-	-	-	-	-	-	-	Participants from Sri Lanka
Namunukula	06°55	81°07	-	-	-	-	-	-	-	Participants from Sri Lanka

***Trachypithecus vetulus nestor* (Bennett, 1835)**

CRITICALLY ENDANGERED

Synonyms	<i>Kasi senex nestor</i> Pocock, 1939 <i>Kasi vetulus</i> Hill, 1936 <i>Kasi vetulus nestor</i> Hill, 1939 <i>Pithecus vetulus nestor</i> Phillips, 1935 <i>Pithecus vetulus phillipsi</i> Hinton, 1923 <i>Presbytis senex nestor</i> Bennet, 1935
Family	Cercopithecidae
Common names	Sinhala: <i>Kalu Wandura</i> ; Tamil: <i>Karung Kurangu</i> ; English: Purple-faced Langur, Purple-faced Leaf Monkey, Western Purple-faced Langur
Level of assessment	Subspecies
Notes on taxonomy	Wet-zone subspecies, from north of Kalu Ganga, Sri Lanka. Despite its common designation of "purple-faced" there is no purple color in this species. The face is black in all subspecies.
Habit	Diurnal, arboreal, folivore (natural), Refugee population feed heavily on fruits in urbanized habitats. Original forest population believed to be mainly folivorous like other subspecies of this species.
Habitat	Lowland tropical rain forest (natural), refugee populations presently inhabit semi-urban and rural home gardens, rubber plantation and areas with adequate canopy cover where these have replaced the original natural forest.
Elevation	Up to 1,000m.
Distribution	
Global	Endemic to Sri Lanka
Extent of Occurrence	4,200 km ²
Area of Occupancy	1,900 km ² , although only <4 km ² are natural forests
Locations/Subpopulations	Many (3 if only viable forests are considered). Fragmented. Continuous decline observed. Decline of subpopulations in home gardens and plantations by 50-80% in 10 years.
Habitat status	Decrease in area by >50% in the last 10 years and is predicted to decline by >80% in the next 10 years due to urbanization and development (the range already lacks natural forest). Decrease in quality due to fragmentation, reduction or loss of area, loss of quantity and diversity of food supply, refuges and travel routes between subpopulations.
Threats	Crop plantations, development (infrastructure, industry), human settlement, deforestation, fragmentation, illegal trade for food, pylon collision, habitat loss
Trade	Local trade at village level for meat but not significant
Population	
Generation time	8-14 years
Total population	Not known
Mature individuals	>10,000
Population trend	Total population and mature individuals are declining by >50% in the last 11 years or >80% in 3 generations and is predicted to decline by >80% in the next 10 years.
Data source	Census or monitoring, field study, informal sightings, indirect information; inferred; minimum values

Status	CRITICALLY ENDANGERED	A2cd+3cd+4cd
SAP CAMP (Ver. 3.1)		
Rationale	The purple-faced langur occurs in the wet zone of Sri Lanka most of which is threatened due to human interference (see under threats). Habitat fragmentation over the years has depleted the area available for this dry-zone taxon and restricted it to several small pockets. From 1956 – 1993 Sri Lanka lost more than 50% of forest cover to human activities, followed by a similar rate of decline in the remaining forest cover between 1994 and 2003. Correlating loss of habitat to populations, rate of decline in population is inferred at more than 80% over 3 generations. Also due to continuing trends past and predicted declines could reduce the population by more than 50% within the next 11 to 22 years due to continuing decline in area, extent and quality of habitat along with actual and potential levels of exploitation of the species observed in the wild. A decline of more than 80% in the next three generations is predicted.	
2001 Red List (Ver. 2.3)	Endangered	A1cd
Justification	New / better information available at the workshop.	
Uncertainty	Assessment based on full range of plausible values and evidence. Consensus of entire working group	
Wildlife Legislation	Fauna and Flora Protection Ordinance 1937 as amended by Act 1993	
CITES	Appendix II	
Presence in Protected areas		
Sri Lanka	<i>Sabaragamuwa Province:</i> Kitulgala WLS, Kurulukale Sanctuary (Highly disturbed) <i>Western Province:</i> Attidiya-Belanwila Forest (highly disturbed), Ingiriya, Muthurajawala	
Recommendations		
Research	Genetics, taxonomy, life history, behaviour, survey, limiting factor research, epidemiology, study to identify viable method of conserving the subspecies	
Management	Habitat management, public education, limiting factor management, work in local communities. A coordinated Species Management Program is recommended for Sri Lanka.	
Captive stocks	Colombo Zoo, subspecies not known	
Comments	The subspecies requires habitat conservation. Techniques not established to propagate the taxon. In last 200 years, the population declined by at least 90% owed to expansion of human habitation. The subspecies is living mainly in human modified areas - these areas too are changing rapidly due to urbanization - so even the existing habitat is severely threatened. Its natural habitat (lowland rainforest) within the range is almost non-existent.	
Sources	Groves, 2001; Hilton-Taylor, 2000; IUCN Sri Lanka, 2000 Ecological and Distribution data (in alphabetical order). IUCN Sri Lanka, Biodiversity Field Research team (data communicated by R. Somaweera through workshop participants). National Conservation Review (NCR) 1997 data as analysed by J.D.S. Dela Primate Biology Program, Smithsonian Institution and Institute of Fundamental Studies: original data from W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, R. Somaweera, A. Watson, N. Weerasinghe. University of Jaffna: S. Wijeyamohan	
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Reviewers	D. Brandon-Jones, W. Dittus, J. Dela, A. Eudey, A. Watson	

Distribution of *Trachypithecus vetulus nestor*



Distribution of *Trachypithecus vetulus nestor* in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA									
Central Province									
<i>Kandy</i>	07°04	80°28	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Dolosbage</i>									
<i>Nuwara Eliya</i>	06°58	80°28	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Ginigathena</i>									
<i>Kelani Valley</i>	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
North Western Province									
<i>Kurunegala</i>									
<i>Nathagane</i>	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Wariyapola</i>	07°37	80°13	-	-	-	-	-	-	Participants from Sri Lanka
Sabaragamuwa Province									
<i>Kegalle</i>									
<i>Alagalla</i>	~7	~80	-	-	-	-	-	-	Participants from Sri Lanka
<i>Alawathenne</i>	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Ambepussa</i>	07°15	80°10	-	-	-	-	-	-	Participants from Sri Lanka
<i>Kagalle town</i>	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Kitulgala</i>	07°00	80°24	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Kurulukelle</i>	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Ruwanwella</i>	07°02	80°15	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Urakande</i>	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Ratnapura</i>									
<i>Gilimale-Eratne</i>	06°44	80°26	-	-	-	-	-	-	Could be intermediate subspecies with <i>T.v. monticola</i> . NCR data. Participants from Sri Lanka

Distribution of *Trachypithecus vetulus nestor* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Western Province	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Colombo	06°49	79°52	-	-	-	-	-	-	-	Participants from Sri Lanka
Athurugiriya	-	-	-	-	-	-	-	-	-	
Attidiya in Belanwila Sanctuary	06°57	80°12	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Avissawela	06°42	79°58	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Bolgoda	06°50	80°00	-	-	-	-	-	-	-	Participants from Sri Lanka
Homagama	~06°52	~79°56	-	-	-	-	-	-	-	Participants from Sri Lanka
Maharagama	06°47	79°55	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Piliyandala	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Sri Jayawarena pura, Battaramulla, Kadawatte	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Gampaha	06°51	80°10	-	-	-	-	-	-	-	Participants from Sri Lanka
Labugama	07°15	80°07	-	-	-	-	-	-	-	Participants from Sri Lanka
Mingama	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Muthurajawela	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Kalutara	06°43	80°03	-	-	-	-	-	-	-	Participants from Sri Lanka
Horana	06°43	80°10	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Ingiriya FR	06°43	79°54	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Panadura	06°40	79°55	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Wadduwa	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka

Trachypithecus vetulus philbricki (Phillips, 1927)

ENDANGERED

Synonyms	<i>Presbytis senex senex</i> Erxleben, 1777 <i>Pithecus philbricki</i> Philips, 1927 <i>Kasi senex senex</i> Pocock, 1939 <i>Kasi vetulus philbricki</i> Hill, 1939 <i>Presbytis senex harti</i> Deraniyagala, 1955
Family	Cercopithecidae
Common names	Sinhalese: <i>Kalu Wandura</i> ; Tamil: <i>Mundhi Kurungu</i> ; English: Purple-faced Langur, Dry Zone Purple-faced Langur, Northern Purple-faced Langur
Level of assessment	Subspecies
Notes on taxonomy	This is the subspecies formerly called <i>Presbytis senex senex</i> until Napier (1985) revised the nomenclature. Despite its common designation of "purple-faced" there is no purple color in this species. The face is black in all subspecies.
Habit	Diurnal, arboreal, folivorous
Habitat	Dry evergreen forests (Tropical monsoon and deciduous dry forest). Confined to moister areas of dry zone with tall closed forest canopy near permanent sources of water.
Niche	Diurnal, arboreal, folivorous. through dry zone but locally confined to moister tall stature forests
Elevation	Up to 800m.
Distribution	
Global	Endemic to Sri Lanka
Extent of Occurrence	19,900 km ² . Only 2,500 km ² of good high forests estimated to be left, but only a fraction of this (the moister areas) are suitable for the taxon.
Area of Occupancy	3,300 km ²
Locations/Subpopulations	34 / Not known. Fragmented. Only the tall stature moister areas are suitable, therefore area of occupancy is far less than indicated. Decline in locations/subpopulations in concert with habitat decline. Extreme fluctuations unknown, but probable in relation to periodic cyclones especially in the north east of Sri Lanka. Cyclones wreak most damage to this subspecies niche of upper forest canopy as has been shown at Polonnaruwa.
Habitat status	Decrease in area by >50% in the last 40 years or more and is predicted to decline by >10% in the next 10 years due to development, agriculture, deforestation (habitat loss). Decrease in quality due to loss of natural food plants, refugia and routes of travel for genetic exchange among isolated population fragments. Plantations and home gardens offer no long term survival prospects.
Threats	Shifting agriculture, deforestation, human settlement, development, hunting for food, habitat loss, occasional cyclones in far northeastern areas of range. According to government data, during 42 years (1956-1992), the country has lost 50% of its forest cover, but more than 50% if the last 10 years (1994-2003) is included. The Mahaweli Development Scheme after 1978 had further reduced available habitat for this taxon. There is a close relationship between loss of critical

	habitat and population number as this species is arboreal.	
Trade	Local trade for meat and skin. Hunted mainly for subsistence living and trade at local village level. Skin in some areas are used to make drums. This may lead to extinction of subpopulations.	
Population		
Generation time	8-14 years	
Total population	Not known	
Mature individuals	Not known	
Population trend	Total population and mature individuals declined by >50% over 3 generations and is predicted to decrease by 20-30% in the next 10 years. In the last 200 years, the population has declined by 80%.	
Data Source	Census or monitoring, field study, informal sightings, indirect information; inferred	
Status		
SAP CAMP (Ver. 3.1)	ENDANGERED	A2cd+4cd
Rationale	This subspecies of the purple-faced monkey is threatened due to human interference (see under threats). Habitat fragmentation over the years has depleted the area available for this dry-zone taxon and restricted it to several small pockets. From 1956 – 1993 Sri Lanka lost more than 50% of forest cover to human activities, followed by a similar rate of decline in the remaining forest cover between 1994 and 2003. Correlating loss of habitat to populations, rate of decline in population is inferred at more than 50% over 3 generations. Also due to continuing trends past and predicted declines could reduce the population by more than 50% within the next 11 to 22 years due to continuing decline in area, extent and quality of habitat along with actual and potential levels of exploitation of the species observed in the wild.	
2001 Red List (Ver. 2.3)	Endangered	A1cd
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Protected under the Flora and Fauna Protection Ordinance Act No. 49 of 1993	
CITES	Appendix II, at the species level	
Presence in Protected areas		
	<i>Central Province:</i> Knuckles FR (east) <i>North Central Province:</i> Angamedilla NP, Anuradhapura Sanctuary, Flood Plains NP, Kaudulla NP, Minneriya-Giritale NP, Mihintale Sanctuary, Moragaswewa NP, Polonnaruwa Sanctuary, Ritigala Strict Nature Reserve, Somawathie NP, Wasgamova NP <i>North Western Province:</i> Wilpattu NP <i>Uva Province:</i> Madura Oya NP	
Recommendations		
Research	Taxonomic research, life history, survey, limiting factor research, epidemiology, trade, zoogeography, population genetics, ecology, behaviour	
Management	Habitat management, monitoring, limiting factor management, PHVA, implementation of extant laws a priority	
Comments	Preserve their natural habitat and allow natural reproduction take its course in the	

wild. Captive breeding is difficult owed to dietary constraints, and poor prospects for successful reintroduction and is not recommended. The fact these highly arboreal langurs are locally restricted to moist tall forests (e.g., riverine) indicates a numerical presence far less than would be suggested by total natural forest cover in the dry zone of Sri Lanka. Hunting of this taxon for subsistence and local (village level) trade is common. Notably, this taxon has not been seen in Ruhuna NP (Blocks 1and2)

Sources

Dittus, 1985; Groves, 2001; Hilton-Taylor, 2000; IUCN Sri Lanka, 2000

Ecological and distributional data (in alphabetical order):

IUCN Sri Lanka, Biodiversity Field Research team (data communicated by R. Somaweera through workshop participants).

National Conservation Review (NCR) 1997 data as analysed by J.D.S. Dela Primate Biology Program, Smithsonian Institution and Institute of Fundamental Studies: original data from W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe.

University of Jaffna: S. Wijeyamohan

Biological Information Sheet (2002): W. Dittus

Compilers

Chief editors: J. Dela, W. Dittus, A. Watson

Working group: J. Dela, W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, R. Somaweera, A. Watson, N. Weerasinghe, S. Wijeyamohan

Reviewers

D. Brandon-Jones, W. Dittus, J. Dela, A. Eudey, A. Watson

Distribution of *Trachypithecus vetulus philbricki*



Distribution of *Trachypithecus vetulus philbricki* in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA										
Central Province										
<i>Kandy</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Corbet's Gap (Knuckles)	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kalupahana (Knuckles)	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Matale</i>	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Dotlugala mountain	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Eligamuwa OSF	07°40	80°43	-	-	-	-	-	-	-	Participants from Sri Lanka
Elkaduwa & Hunasgiriya	~07°17	~80°42	-	-	-	-	-	-	-	Participants from Sri Lanka
Hiriwaduna OSF	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Inamaluwa	07°55	80°40	-	-	-	-	-	-	-	Participants from Sri Lanka
Kaludiya-pokuna OSF	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Kandalama	07°52	80°43	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Karagastenne	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Knuckles NR	07°24	80°47	-	-	-	-	-	-	-	Participants from Sri Lanka
Kosgahakele OSF	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Laggala-Pallegama	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Meemura	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Menikdena OSF (Archaeological Reserve)	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
arboretum)	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Puswellagolla OSF	~06°54	~81°15	-	-	-	-	-	-	-	Participants from Sri Lanka
Reverse turn	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Eastern Province										
<i>Trincormalee</i>										
Kantalae FR	08°22	81°00	-	-	-	-	-	-	-	Groves, 2001. Participants from Sri Lanka

Distribution of *Trachypithecus vetulus philbricki* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
North Central Province										
<i>Anuradhapura</i>	08°20	80°22	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Getalagamakanda</i>	08°16	18°30	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Horowapotana</i>	08°33	80°49	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Luboruruwa</i>	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Padawiya</i>	08°48	80°45	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Ranawekanda</i>	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Ritigala Strict Nature Reserve</i>	08°05	80°39	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Madaragam Aru</i>	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Polonnaruwa</i>										
<i>Angamedilla NP</i>	07°50	80°55	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Flood Plains NP</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Giritale NP</i>	07°59	80°55	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Mannampitiya</i>	07°54	81°07	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Minneriya</i>	08°01	80°54	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Moragaswewa NP</i>	08°01	80°46	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Polonnaruwa Sanctuary</i>	07°56	81°02	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Somawathie NP</i>	08°16	81°10	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Welikanda</i>	07°55	81°13	-	-	-	-	-	-	-	Participants from Sri Lanka
Northern Province										
<i>Thunakai</i>	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Kilinochchi</i>										
<i>A9 Road</i>	09°24	80°25	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Mullaitivu</i>										
<i>A9 Road</i>	09°24	80°25	-	-	-	-	-	-	-	Participants from Sri Lanka
Uva Province										
<i>Badulla</i>										
<i>Maduru Oya NP</i>	07°32	81°11	-	-	-	-	-	-	-	Participants from Sri Lanka

***Trachypithecus vetulus vetulus* (Erxleben, 1777)**

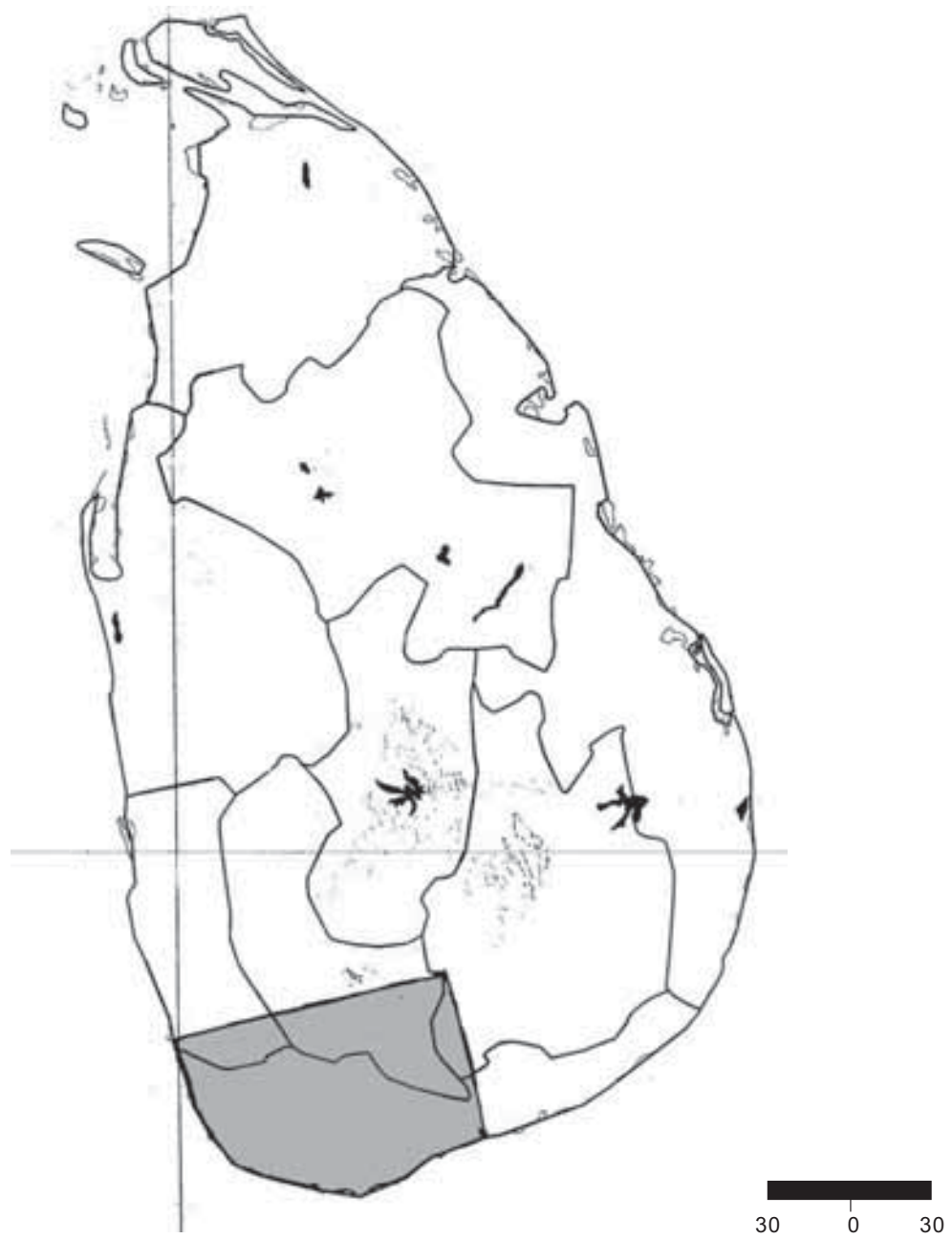
ENDANGERED

Synonyms	<i>Cercopithecus vetulus</i> Erxleben, 1777 <i>Presbytis senex vetulus</i> Erxleben, 1777 <i>Cercopithecus kephalopterus</i> Zimmermann, 1780 <i>Cercopithecus cephalopterus</i> Boddaert, 1785 <i>Simia veter</i> Shaw, 1800 <i>Cercopithecus latibarbatus</i> E. Geoffroy, 1812 <i>Cercopithecus leucoprymnus</i> Otto, 1825 <i>Semnopithecus fulvogriseus</i> Desmoulins, 1825 <i>Presbytis cephalopterus</i> Kelaart, 1856 <i>Semnopithecus kelaarti</i> Schlegel, 1876 <i>Kasi senex vetulus</i> Pocock, 1939 <i>Pithecus vetulus vetulus</i> Pocock, 1939
Family	Cercopithecidae
Common names	Sinhala: <i>Kalu Wandura</i> ; Tamil: <i>Mundi Kurangu</i> ; English: Purple-faced Leaf Monkey, Purple-faced Langur, Southern Lowland Wetzone Purple-faced langur
Level of assessment	Subspecies
Notes on taxonomy	Despite its common designation of "purple-faced" there is no purple color in this species. The face is black in all subspecies.
Habit	Arboreal, diurnal, folivore
Habitat	Lowland and midland tropical rainforest and modified areas with adequate canopy cover. Where its natural habitat has been destroyed, groups may refuge in home gardens and plantations, but these commensal habitats, too, are threatened and offer no long-term survival prospects for the taxon.
Niche	Wet zone.
Elevation	Up to 1,000m
Distribution	
Global	Endemic to Sri Lanka
Extent of Occurrence	5,700 km ² . including home gardens and plantations. Occurrence in natural forest (its evolutionary niche) is less than 1,000 km ² .
Area of Occupancy	3,600 km ² of which only 780 km ² are natural forest areas and only a fraction of this is under protection.
Locations/Subpopulations	Many / Many. Fragmented.
Habitat status	Decrease in area by >50% in the last 50 years and is predicted to decrease by <10% in the next 10 years due to habitat loss. Decrease in quality due to loss of ecologically important natural food plants and fragmentation of forest impeding out-breeding among subpopulations.
Threats	Selective logging (wet zone forests in 1970s), human settlement, hunting, trade, habitat loss (encroachment for agriculture/plantation/human habitation). Ill-conceived government organised translocation schemes of langur groups coming into conflict with man, pose a threat to taxon survival and overall biodiversity. According to government data, during the last 42 years (1956-1993), the country has

	lost 50% of its forest cover, and more than 50% if the last 10 years (1994-2003) is included. There is a 1:1 relationship between loss of critical habitat and population number.	
Trade	Local trade for meat for food and pelage for making drums at village level for subsistence.	
Population		
Generation time	8-14 years	
Total population	Not known	
Mature individuals	Not known	
Population trend	Total population and mature individuals declining by 50% or more over 3 generations and is predicted to decline by <10% in the next 10 years.	
Data source	Informal sightings, indirect information, inferences, observed; 95% confidence	
Status		
SAP CAMP (Ver. 3.1)	ENDANGERED	A2cd+4cd
Rationale	The Southern Lowland Wet Zone Purple-faced Monkey is threatened due to human interference (see under threats). Habitat fragmentation over the years has depleted the area available for this dry-zone taxon and restricted it to several small pockets. From 1956 – 1993 Sri Lanka lost more than 50% of forest cover to human activities, followed by a similar rate of decline in the remaining forest cover between 1994 and 2003. Correlating loss of habitat to populations, rate of decline in population is inferred at more than 50% in the last 33 years (3 generations). Also due to continuing trends past and predicted declines could reduce the population by more than 50% within the next 11 to 22 years due to continuing decline in area, extent and quality of habitat along with actual and potential levels of exploitation of the species observed in the wild.	
2001 Red List (Ver. 2.3)	Endangered	A1cd
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	Protected under the Flora and Fauna Protection Ordinance 1937 as amended by Act 1993	
CITES	Appendix II	
Presence in Protected areas		
Sri Lanka	<i>Sabaragamuwa Province:</i> Udawalawe NP (near permanent water only), Peak Wilderness (Ratnapura sector), Gilimale-Eratne Conserved Forest, Morahela Conserved Forest, Sinharaja Conserved Forest (NWHS) Forest Reserve <i>Southern Province:</i> Dombaghakanda Forest Reserve, Kekunadara Conserved Forest, Oliyagankale Conserved Forest, Heycodi Conserved Forest, Kombala-Kottawale Conserved Forest, Kauneliya Conserved Forest, Messava Conserved Forest, Nahiti-Mukalana Conserved Forest, Detwale Conserved Forest	
Recommendations		
Research	Genetics, taxonomy, life history, survey, ecology and behavioural studies	
Management	Habitat management, public education, government education, implementation of extant conservation laws	

Captive stocks	Probably, but subspecies status is uncertain, In any case, captive breeding is not recommended as a conservation strategy. Techniques not known to propagate this taxon.
Comments	<p>This is the southerly wet-zone subspecies. Historically, it was found in the rainforest from south of the Kalu Ganga to about Ranna, ascending to nearly 1,000m. Its current distribution is more restricted and fragmented. Preserve their natural habitat and allow natural reproduction take its course. Where the subspecies lives near man, it may be considered as pest. Possible local home gardens and plantation extinction of pocketed social groups or subpopulations owed to village level exploitation and killing as pests.</p> <p>Captive breeding is difficult owed to dietary constraints, and poor prospects for successful reintroduction and is not recommended. The forest areas in which the subspecies occurs in is very small, the largest being Sinharaja which is 11187 ha. Other than for Sinharaja CF, all mentioned conserved forests have minimal protection.</p>
Sources	<p>Groves, 2001; Hilton-Taylor (Compiler), 2001; IUCN Sri Lanka, 2000 Ecological and Distribution data (in alphabetical order): IUCN Sri Lanka, Biodiversity Field Research team (data communicated by R. Somaweera through workshop participants). National Conservation Review (NCR) 1997 data as analysed by J.D.S. Dela Primate Biology Program, Smithsonian Institution and Institute of Fundamental Studies: original data from W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe. University of Jaffna: S. Wijeyamohan</p>
Compilers	<p>Chief editors: J. Dela, W. Dittus, A. Watson Working group: J. Dela, W. Dittus, S. Gunatillake, N. Kodithuwakku, K. Liyanage, A. Watson, N. Weerasinghe, S. Wijeyamohan</p>
Reviewers	D. Brandon-Jones, W. Dittus, J. Dela, A. Eudey, A. Watson

Distribution of *Trachypithecus vetulus vetulus*



Distribution of *Trachypithecus vetulus vetulus* in Sri Lanka from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
SRI LANKA										
Western Province										
<i>Matugama</i>	06°29	80°03	-	-	-	-	-	-	-	Participants from Sri Lanka
Anasigalla										Participants from Sri Lanka
Sabaragamuwa Province										
<i>Kegalle</i>										Participants from Sri Lanka
Peak Wilderness	06°46	80°32	-	-	-	-	-	-	-	Participants from Sri Lanka
<i>Ratnapura</i>										NCR data. Participants from Sri Lanka
Asantanakande OSF	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Balangoda	06°39	80°42	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Bambara kande	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Bambarabotuwa FR	06°39	80°33	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Deigoda PF	06°30	80°24	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Delwala PR	06°31	80°28	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Denihena (Sinharaja FR)	06°35	80°43	-	R	-	-	-	-	-	Participants from Sri Lanka
Gongala OSF	07°00	90°49	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Hadapan Ella	06°26	80°35	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kabaragalapata OSF	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kiribatgala OSF	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kobahandunkanda PR	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kudawe (Sinharaja FR)	06°25	80°25	-	R	-	-	-	-	-	NCR data. Participants from Sri Lanka
Messana PR	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Morahela	06°40	80°41	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka

Distribution of *Trachypithecus vetulus* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Mulawella (Sinharaja FR)	-	-	-	R	-	-	-	-	-	Lanka Participants from Sri Lanka
Nihiti Mukalana	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Paragala OSF	06°14	80°32	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Peak Wildemess Sanctuary	06°46	80°32	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Rakwana	06°28	80°37	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Rammalakanda FR	06°15	80°37	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Samanala Wewa FR	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Sinhagalle (Sinharaja FR)	-	-	-	R	-	-	-	-	-	Participants from Sri Lanka
Sinharaja Research Station	06°24	80°30	-	R	-	-	-	-	-	Participants from Sri Lanka
Suryakande (Sinharaja FR)	-	-	-	R	-	-	-	-	-	Participants from Sri Lanka
Udawalawe NP	06°27	80°52	-	-	-	-	-	-	-	Participants from Sri Lanka
Walankanda	06°28	80°32	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Walawe Basin FR	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Weddagala	06°27	80°25	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Southern Province										
Galle										
Akurassa PR	06°05	80°28	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kudagala PR	06°16	80°10	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Darakuikanda PR	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Dedyagala FR	06°10	80°25	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Dellawa PR	06°19	80°27	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka

Distribution of *Trachypithecus vetulus vetulus* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Galle town	06°03	80°13	-	-	-	-	-	-	-	Participants from Sri Lanka
Hiniduma	06°19	80°19	-	-	-	-	-	-	-	Participants from Sri Lanka
Kanneliya FR	06°17	80°20	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kombala-Kottawa CF	~06°04	~80°20	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Malambura	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Sinharaja CF	06°24	80°30	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Tibiruwakota OSF	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
<i>Hambantota</i>	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kanumuldeniya	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Katuwana	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka
Mulgirigala	06°07	80°43	-	-	-	-	-	-	-	Participants from Sri Lanka
Rammalakanda	06°15	80°37	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Ranna	06°05	80°52	-	-	-	-	-	-	-	Historical extent is as far as south of Ranna, but there are no recent observations of this taxon from there. Participants from Sri Lanka
<i>Matara</i>	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Badullagale FR	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Deniyaya	06°20	80°32	-	-	-	-	-	-	-	Participants from Sri Lanka
Derunagala OSF	~6	~80	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Diyadawa FR	06°13	80°31	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kalubowitigana OSF	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kekanadura	08°57	80°35	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kirindi Mahayay-akele CF	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kurulagala, OSF	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka

Distribution of *Trachypithecus vetulus* in Sri Lanka from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Masmulkale FR	-	-	-	-	-	-	-	-	-	Lanka NCR data. Participants from Sri Lanka
Muliyama FR	-	-	-	-	-	-	-	-	-	Lanka NCR data. Participants from Sri Lanka
Oliyagankelle FR	-	-	-	-	-	-	-	-	-	Lanka NCR data. Participants from Sri Lanka
Panilkande FR	06.21	80.39	-	-	-	-	-	-	-	Lanka NCR data. Participants from Sri Lanka
Paravahara Silver Kande FR	-	-	-	-	-	-	-	-	-	Lanka Participants from Sri Lanka NCR data. Participants from Sri Lanka
<i>Kalutara</i> Beruwela	06.28	79.58	-	-	-	-	-	-	-	Participants from Sri Lanka Participants from Sri Lanka
Bulathsinhala	06.40	80.10	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Dombagahana Kande	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Kalugala	-	-	-	-	-	-	-	-	-	Participants from Sri Lanka NCR data. Participants from Sri Lanka
Kalutara Mathugama	06.35 06.32	79.59 80.05	-	-	-	-	-	-	-	Participants from Sri Lanka NCR data. Participants from Sri Lanka
Meegahatenna	-	-	-	-	-	-	-	-	-	NCR data. Participants from Sri Lanka
Ranwaragala-kandakanda	-	-	-	-	-	-	-	-	-	Lanka NCR data. Participants from Sri Lanka
Waturana FR Yagirala FR	- 06.26	- 80.09	-	Sw -	-	-	-	-	-	Participants from Sri Lanka NCR data. Participants from Sri Lanka

R - Rain forest, Sw - Swamp forest

***Bunopithecus hoolock hoolock* (Harlan, 1834)**

ENDANGERED in South Asia

Synonyms	<i>Simia golock</i> (Bechstein, 1795) <i>Hylobates fuscus</i> (Wilson Lewis, 1834) <i>Simia hoolock</i> (Harlan, 1834) <i>Hylobates choromandus</i> (Ogilby, 1837) <i>Hylobates scyritus</i> (Ogilby, 1840) <i>Hylobates hoolock</i> (Blanford, 1881-1891) <i>Hylobates hoolock hoolock</i> (Groves, 1967)
Family	Hylobatidae
Level of assessment	Subspecies
Common names	Assamese: <i>Holou bandar</i> ; Bengali: <i>Ulluk</i> ; Bilaspuri: <i>Bonmanush</i> ; Bodo: <i>Hulu makhra</i> ; Garo: <i>Heru, Huru</i> ; Hindi: <i>Uluk</i> ; Karbi: <i>Jambli, Kinghoiduk</i> ; Khasi: <i>Hulu, Hulaing</i> ; Manipuri: <i>Yommu</i> ; Mizo: <i>Hahuk</i> ; Nepali: <i>Bon Manchhe</i> ; Rai: <i>Sokpha</i> ; Rankhol: <i>Saha</i> ; Riang: <i>Hulao</i> ; Rongmi: <i>Paang</i> ; Rukni: <i>Hoolau</i> ; English: Western Hoolock, Hoolock Gibbon
Habit	Terrestrial, arboreal, brachiator, frugivorous, diurnal, monogamous, territorial
Habitat	Tropical semi-evergreen forest, tropical moist deciduous forest, subtropical broad-leaved hill forest, mixed-evergreen forest
Niche	Middle, upper/ top canopy dweller.
Elevation	10-1,400m.
Distribution	
Global	Bangladesh, India, Myanmar
South Asia	Bangladesh, India
Extent of Occurrence	>20,000 km ²
Area of Occupancy	Approximately 740 km ² [Bangladesh = 134 km ² ; India = 605 km ²]
Locations/subpopulations	126 / 97. Fragmented. Continuous decline in locations or subpopulations observed (50% in 8 years).
Habitat status	Decrease in area by >30% in the last 10 years and is predicted to decrease by >30% in the next 10 years due to habitat loss and encroachment. There is decrease in quality of habitat due to loss of fruiting trees, sleeping trees and an increase in canopy gaps.
Threats	Selective logging, firewood and timber collection, jhumming, charcoal production, human settlement, roads, dams, powerlines, fragmentation, soil loss/erosion, deliberate fires, hunting for food, sport, traditional medicine and cultural use, trade, accidental mortality by trapping, unplanned tourism, habitat loss, poor reproduction.
Trade	Local, commercial and domestic trade for blood, bones, fur, meat and phalanges for food and medicine. Live animals are in trade for zoos and as pets.
Population	
Generation time	17 years

Total population	<750 [Bangladesh = <140; India = <610]	
Mature individuals	<450 [Bangladesh = <80; India = <370]	
Population trend	Declined by >50% in the last 50 years (3 generations) and is predicted to decline by >50% in the next 50 years.	
Data Source	Census or monitoring, field study, informal sightings, indirect information, museum records, literature, hearsay/belief; observed; 95% confidence	
Status		
SAP CAMP (Ver. 3.1)	ENDANGERED in South Asia	A2abcd+3bcd; C1+2a(i)
Rationale	<p>The Hoolock Gibbon is found in around 126 locations and 97 subpopulations in India and Bangladesh, most of which is threatened due to human interference (see under threats). Habitat fragmentation over the years has depleted the area available for this habitat-specific taxon and restricted it to several small pockets that are non-viable. Hunting along with habitat degradation has been observed to reduce the population of Hoolock Gibbon in South Asia by more than 50% in the last 50 years (3 generations) due to continuing decline in extent of occurrence, area of occupancy and quality of habitat along with exploitation of the taxon in the wild. The rate of decline is also predicted to continue at the same level over the next 50 years (3 generations) since more habitat destruction is predicted for human settlements, increasing population, refugee problems, encroachments and hunting. The number of mature individuals is around 440 in South Asia, with no subpopulations having more than 250 mature individuals and a continuing decline of over 20% over 2 generations. The South Asian population is bigger than the few individuals found in Myanmar, hence the status is retained as Endangered.</p>	
2001 Red List (Ver. 2.3)	Endangered (globally)	A1cd
National Status	<p>Bangladesh: Critically Endangered C1+2a(i) The population within Bangladesh is severely fragmented and there are no migrations between the neighbouring populations. Since the threats to the taxon are high, the restricted and small population is under severe threat. The category of Critically Endangered is therefore retained for the population within the country.</p> <p>India: Endangered A2abcd+3bcd; C1+2a(i) The Indian population of this taxon, which is fragmented from the Bangladesh or Myanmar populations is further fragmented into many non-viable remnants, which due to threats to habitat, are highly threatened. Hence the category of Endangered is retained for this taxon in India.</p>	
Uncertainty	The assessment is based on full range of plausible values, evidentiary and with full consensus of all participants of the working group.	
Wildlife Legislation	<p>Bangladesh: Schedule III, Bangladesh Wildlife (Preservation) (Amendment) Act, 1974.</p> <p>India: Schedule I, Part I, Indian Wildlife (Protection) Act, 1972 amended up to 2002</p>	
CITES	Appendix II	
Presence in Protected Areas		
Bangladesh	<i>Chittagong</i> : Chunati WLS <i>Sylhet</i> : Lawachara WLS	
India	<i>Arunachal Pradesh</i> : Kamlang WLS, Mehao WLS, Namdapha NP <i>Assam</i> : Bherjan WLS, Borajan WLS, Dibru-Saikhowa NP, Garampani WLS, Gibbon WLS, Kaziranga NP <i>Meghalaya</i> : Balpakram NP, Nokrek NP, Nongkhylem WLS, Siju WLS	

Mizoram: Dampa WLS, Khawnglung WLS, Murlen NP, Nengpui WLS, Phawangpui WLS

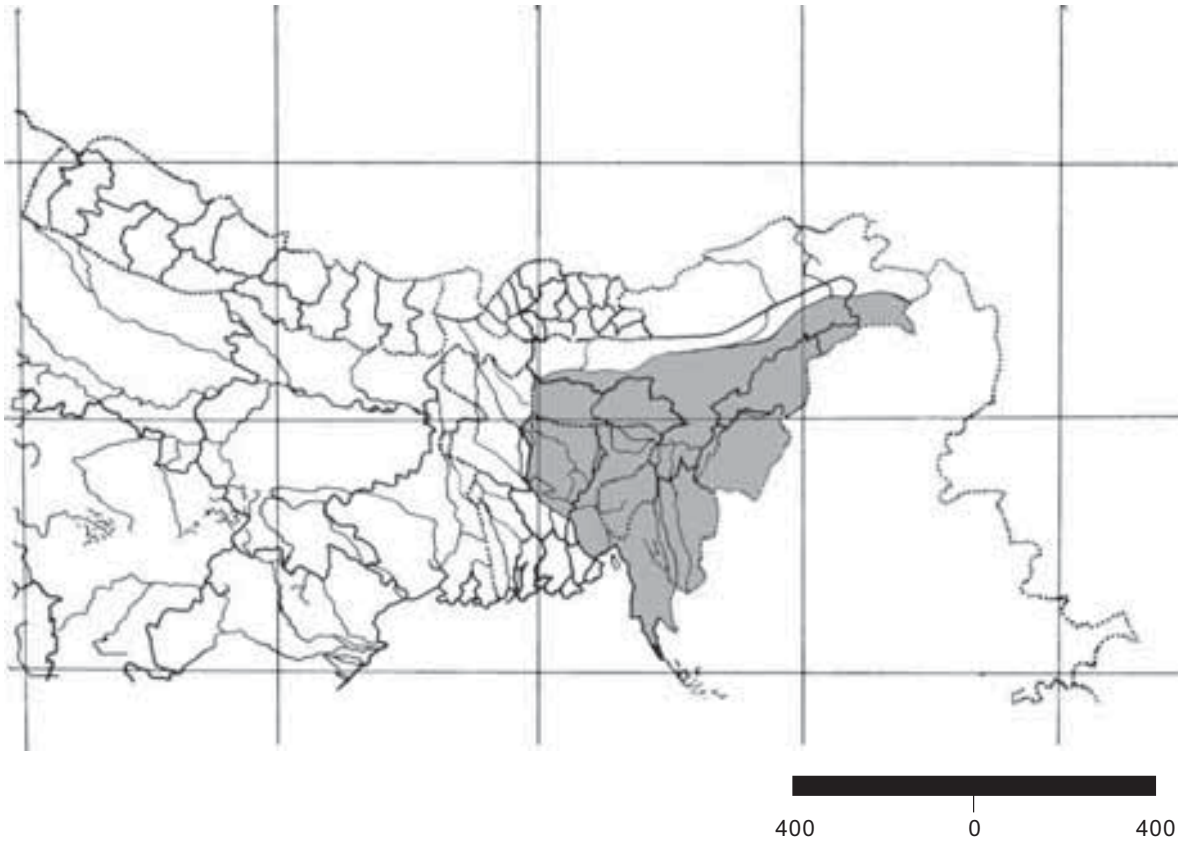
Nagaland : Intanki NP

Tripura: Gumti WLS, Sepahijala WLS, Trishna WLS

Recommendations

Research	Genetic research, life history, survey studies, ecological studies
Management	Habitat management, wild population management, public education, limiting factor management, participatory management plan, PHVA
Captive stocks	5 zoos in India (3.5.0.8) and 3 zoos in Bangladesh (3.3.0.6). A coordinated Species Management Program is recommended for South Asia.
Comments	The Hoolock population in South Asia is extremely fragmented throughout the range. An effective management plan for conservation is needed for this species. Some areas with good population should be declared as Gibbon Sanctuary. An extensive survey for gibbons in Arunachal Pradesh is needed especially in high altitudes. Population in Bangladesh is declining in all areas except in West Bhanugach Forest Reserve, which supports 10 groups of gibbons. The population has increased in this area during the last 10 years and this is the only habitat in the country supporting the largest gibbon population (M.M. Feeroz, BIS)
Sources	Ahsan, 1984, 1994; Alfred and Sati, 1990; Bechstein, 1795; Blanford, 1888-1891; Brandon-Jones <i>et al.</i> , 2002; Choudhary, 1987, 1991; CZA, 2000-2001; Das <i>et al.</i> , 2002a; Das <i>et al.</i> , 2002b; Feeroz, 1991; Feeroz, 1999a; Feeroz and Islam, 1992, 2000; Feeroz <i>et al.</i> , 1995; Groves, 2001; Gupta, 1994; Harlan, 1834; Hilton-Taylor, 2000; IUSPP Annual reports 1994-99; Jenkins, 1987; Mukherjee <i>et al.</i> , 1993; Ogilby, 1837; SAZARC, 2001; Tilson, 1979. Biological Information Sheets (2002): J. Das, M.M. Feeroz, J.P. Sati C.A.M.P. questionnaires on protected areas (2002): S.S. Chandiramani, G. Santha, A.K. Sen, W.G. Momin
Compilers	J. Biswas, J. Bose, D. Chetry, J. Das, M.M. Feeroz, R. Medhi, V. Ramakantha
Reviewers	D. Brandon-Jones, D. Chetry, J. Das, A. Eudey, S. Mitra

Distribution range of *Bunopithecus hoolock hoolock* in Bangladesh and India



Distribution of *Bunopithecus hoolock* in Bangladesh and India from literature and recent field studies

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
BANGLADESH Chittagong Chunathi WLS	21°58'	92°04'	11	E	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	12	8	Ahsan, 1994; Feeroz, 1991, 1999a; Feeroz & Islam, 1992; Feeroz, <i>et al.</i> , 1995 Ahsan, 1994; Feeroz, 1999a
Hazarikhil	-	-	6	E	Habitat destruction (P/Pr/F), encroachment (P/Pr/F), hunting (Pr)	Decline	Decline	3	2	Feeroz <i>et al.</i> , 1995; M. Farid Ahsan pers. comm.
Kaptai	22°21'	92°17'	5	E	Habitat destruction (P/Pr/F), encroachment (F)	Decline	Decline	5	4	Feeroz <i>et al.</i> , 1995; M. Farid Ahsan pers. comm.
Pablakhali	23°16'	92°05'	5	E	Habitat destruction (P/Pr/F), encroachment (F)	Decline	Decline	2-4	-	Feeroz <i>et al.</i> , 1995; M. Farid Ahsan pers. comm.
Padua	22°03'	92°07'	5	SE	Habitat destruction (P/Pr/F), encroachment (Pr/F)	Decline	Decline	3	2	Feeroz <i>et al.</i> , 1995; M.M. Feeroz pers. comm.
Satghar	~27°00'	~92°00'	6	E	Habitat destruction (P/Pr/F), encroachment (Pr/F)	Decline	Decline	6	4	Feeroz & Islam, 1992; Ahsan, 1994
<i>Cox's Bazar</i> Bhomarighona	-	-	12	E	Habitat destruction (P/Pr/F), encroachment (Pr/F), selective logging (Pr)	Decline	Decline	7	4	Ahsan, 1994; Feeroz, <i>et al.</i> , 1995
Himchari	-	-	6	E	Habitat destruction (P/Pr/F), encroachment (Pr/F)	Decline	Decline	3	2	Feeroz <i>et al.</i> , 1995; Feeroz, 1999a; M. Farid Ahsan pers. comm.
Nila	-	-	5	E	Habitat destruction (P/Pr/F), encroachment (F)	Decline	Decline	4	2	Feeroz <i>et al.</i> , 1995
Teknaf	-	-	-	E	Habitat destruction (P/Pr/F), encroachment (Pr/F), fragmentation (Pr)	-	-	4	-	Das <i>et al.</i> , 2002a
Ukhia	21°15'	92°07'	6	E	Habitat destruction (P/Pr/F), encroachment (Pr/F)	Decline	Decline	6	4	Feeroz, 1999a
Sylhet <i>Hobigang</i> Shatchari	-	-	8	SE, BLME	Habitat destruction (P/Pr/F), encroachment (F)	-	Decline	9	6	Feeroz, 1999a
<i>Moulvi Bazar</i> Adampur	23°18'	89°52'	10	SE	Habitat destruction (P/Pr/F), encroachment (Pr), timber plantation (Pr)	-	Decline	7	5	Feeroz, 1999a; M. Farid Ahsan pers. comm.
Horinchana	-	-	11	SE, TMD	Habitat destruction (P/Pr/F), encroachment (Pr)	-	Decline	6	4	Feeroz, 1999a
Lawachara WLS	24°32'	91°47'	-	-	-	-	-	-	-	Largest population in Bangladesh. M.M. Feeroz, BIS

Distribution of *Bunopithecus hoolock hoolock* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Pathalia RF	24°11'	24°31'	10	SE, TMD	Habitat destruction (P/Pr/F), encroachment (Pr)	-	Decline	7	4	Feeroz, 1999a, M.M. Feeroz, pers. comm. M. Farid Ahsan, pers. comm. Feeroz, 1999a
Rajkandi	-	-	8	SE	Habitat destruction (P/Pr/F) encroachment (P/Pr), timber plantation (Pr)	-	Decline	5	4	Ahsan, 1984, 1994; Feeroz, 1991, 1999a; Feeroz <i>et al.</i> , 1995; Feeroz & Islam 1992, 2000
West Bhanugach FR	24°21'	91°48'	20	SE	Habitat destruction (P/Pr/F), Encroachment(Pr), gas field exploration (Pr), tourism (F)	-	Decline	33	19	
INDIA Arunachal Pradesh <i>Changlang</i> Namdapha NP	~27°39'	~96°30'	20	E	Hunting (P/Pr/F), habitat destruction (Pr), encroachment (F)	Decline	Decline	17	14	IUSPP Annual reports, 1994-99 Choudhury, 1991 Found in adjacent areas. S.S. Chandiramani, 2002 IUSPP Annual reports, 1994-99
Miao RF	~27°39'	~96°15'	1	SE	Encroachment (P/Pr/F), hunting (P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	2	2	
<i>Debang Valley</i> Roing	28°10'	95°50'	-	-	-	-	-	-	-	IUSPP Annual reports, 1994-99 Tilsong, 1979
Mehao WLS	~27°39'	~96°15'	1	TWE	Habitat destruction (P/Pr/F), hunting (F)	Decline	Decline	48	-	IUSPP Annual reports, 1994-99, Rare in adjacent areas. A.K. Sen, 2002
<i>Lohit</i> Kamlang WLS	27°44'	96°39'	1	E	Hunting (P/Pr/F), habitat destruction (P/Pr/F), encroachment (Pr)	-	Decline	1	1	IUSPP Annual reports, 1994-99 Choudhury, 1991
Assam Sadya Zubza <i>Cachar</i> Barail RF	27°50' 25°41'	95°03' 94°03'	- -	- -	- -	- -	- -	- -	- -	Jenkins, 1987 Jenkins, 1987 Das <i>et al.</i> , 2002a

Distribution of *Bunopithecus hoolock hoolock* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Innerline RF	-	-	-	TWE	Habitat destruction (P/Pr/F), hunting (F), encroachment (P/Pr/F)	-	-	5	-	Das <i>et al.</i> , 2002a
Hatikhal	25°39'	95°30'	-	-	-	-	-	-	-	485m. Jenkins, 1987
<i>Dibruigarh</i> Joypur RF	27°14'	95°34'	10.869	TWE	Habitat destruction (P/Pr/F) hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	12	10	IUSPP Annual reports, 1984-99
<i>Goalpara</i> Moghaghar RF	-	-	0.373	TMD	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1994-99
<i>Golaghat</i> Kaziranga NP	~26°37'	~93°18'	5	TSE	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	8	6	IUSPP Annual reports, 1994-99
Nambor West Block RF	-	-	1	TSE	Habitat destruction (P/Pr/F), hunting (Pr), encroachment (P/Pr/F)	Decline	Decline	3	3	IUSPP Annual reports, 1994-99
Panbhari RF	-	-	1.2	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	3	3	IUSPP Annual reports, 1994-99
<i>Hailakandi</i> Innerline RF	-	-	1	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1994-99; Das <i>et al.</i> 2002a
Katakhal RF	-	-	3	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	3	2	IUSPP Annual reports, 1994-99; Choudhury, 1991, Das <i>et al.</i> 2002a
<i>Jorhat</i> Gibbon WLS	-	-	10	TWE	Habitat destruction (P/Pr/F), hunting (P/F), encroachment (P/Pr/F)	Decline	Decline	20	17	IUSPP Annual reports, 1994-99; G. Santha, 2002
<i>Kamrup</i> Apricola RF	26°19'	91°15'	-	TMD	-	-	-	-	-	Choudhury, 1987
Badahilia RF	-	-	-	TSE	-	-	-	-	-	Choudhury, 1987
Chandubi USF	-	-	12	TMD	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	30	25	IUSPP Annual reports, 1994-99
Gorbhanga RF	-	-	1.146	TMD	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	2	2	IUSPP Annual reports, 1994-99
Jorsal RF	-	-	1.256	TMD	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	3	2	IUSPP Annual reports, 1994-99
Kulsi Plantation RF	~25°50'	~91°20'	1.855	TMD	Habitat destruction (P/Pr/F)	Decline	Decline	5	4	IUSPP Annual reports, 1994-99 Jenkins, 1987 - Collected on 4 Sep 1920 at 121m.
Kuwasingh RF	-	-	9.98	TMD	Habitat destruction (P/Pr/F)	Decline	Decline	10	8	IUSPP Annual reports, 1994-99

Distribution of *Bunopithecus hoolock hoolock* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Nellie RF	-	-	-	TMD	encroachment (P/Pr/F)	-	-	-	-	Choudhury, 1987
Pantan RF	-	-	11,285	TMD	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	2	2	IUSPP Annual reports, 1994-99
Ranni RF	-	-	4,369	TMD	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	12	10	IUSPP Annual reports, 1994-99; Choudhury, 1997
Sama RF	-	-	-	TMD	-	-	-	-	-	Choudhury, 1987
<i>Karbi Anglong</i> Amreng RF	25°43'	92°60'	6	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1994-99
Amsolong PRF	26°00'	93°30'	1	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1994-99
Balasore PRF	06°30'	80°20'	1	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	2	2	IUSPP Annual reports, 1994-99
Bokajan PRF	26°00'	93°43'	1	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1994-99
Borjuri PRF	-	-	21	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	3	2	IUSPP Annual reports, 1994-99
Borlander DCRF	-	-	2	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	5	3	IUSPP Annual reports, 1994-99
Daldali RF	-	-	12	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1994-99
Dhansiri RF	-	-	7	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	10	8	IUSPP Annual reports, 1994-99
Disama RF	-	-	2	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1994-99
Dalamora PRF	-	-	1	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1994-99
Englongiri DCRF	-	-	4	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	2	2	IUSPP Annual reports, 1994-99
Garampani WLS	26°93'	93°52'	1	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Hajjan PRF	-	-	1	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1994-99
Haithapahar DCRF	-	-	5	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1994-99
Jungthung RF	-	-	3	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	6	3	IUSPP Annual reports, 1994-99
Kalapahar PRF	-	-	1	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	3	2	IUSPP Annual reports, 1994-99
Kailoni RF	-	-	5	TSE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	3	3	IUSPP Annual reports, 1994-99

Distribution of *Bunopithecus hoolock hoolock* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Kaziranga PRF	~26°37'	~93°18'	3	TSE	hunting (P/Pr/F), encroachment (P/Pr/F), Habitat destruction (P/Pr/F),	Decline Decline	2	2	IUSPP Annual reports, 1984-99
Khonbamon RF	-	-	1	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	1	1	IUSPP Annual reports, 1984-99
Langlakso PRF	-	-	20	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	2	2	IUSPP Annual reports, 1984-99
Longnit DCRF	-	-	12	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	7	5	IUSPP Annual reports, 1984-99
Mahamaya DCRF	-	-	5	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	1	1	IUSPP Annual reports, 1984-99
Mikir Hills RF	~26°25'	~93°20'	23	TSE	Habitat destruction (P/Pr/F),	Decline Decline	5	3	IUSPP Annual reports, 1984-99
Miyungdisa DCRF	-	-	5	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	3	3	IUSPP Annual reports, 1984-99
Nambor North Block RF	-	-	5	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	4	3	IUSPP Annual reports, 1984-99
Nambor West Block RF	-	-	3	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	2	2	IUSPP Annual reports, 1984-99
Patradisa DCRF	-	-	7	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	3	2	IUSPP Annual reports, 1984-99
Tikok PRF	-	-	1	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	1	1	IUSPP Annual reports, 1984-99
Umjakani PRF	-	-	1	TSE	Habitat destruction (P/Pr/F),	Decline Decline	1	1	IUSPP Annual reports, 1984-99
Western Mikir Hills PRF	-	-	4	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	8	5	IUSPP Annual reports, 1984-99
<i>Karimganj</i> Innerline RF	-	-	2	TWE	Habitat destruction (P/Pr/F),	Decline Decline	4	-	IUSPP Annual reports, 1994-99; Das et al., 2002a
Longai RF	-	-	3	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	3	2	IUSPP Annual reports, 1994-99; Das et al., 2002a
Patharia RF	24°11'	24°31'	2	TSE	Habitat destruction (P/Pr/F),	Decline Decline	3	2	IUSPP Annual reports, 1994-99; Das et al., 2002a
Singla RF	~27°02'	~88°19'	5	TSE	hunting (P/Pr/F), encroachment (P/Pr/F),	Decline Decline	5	4	IUSPP Annual reports, 1994-99; Das et al., 2002a
<i>Lakhimpur</i> Bara Hapjan	27°32'	95°30'	-	-	-	-	-	-	100m. Jenkins, 1987
<i>North Cachar</i> Barail PRF	22°08'	93°09'	5	TWE	Habitat destruction (P/Pr/F),	Decline Decline	3	2	IUSPP Annual reports, 1994-99;

Distribution of *Bunopithecus hoolock hoolock* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Barail RF	22°08	93°09	4	TWE	hunting (P/Pr/F), encroachment (P/Pr/F) Habitat destruction (P/Pr/F)	Decline	3	2	Das <i>et al.</i> , 2002a IUSPP Annual reports, 1994-99
Barail RF (Silchar)	22°08	93°09	3	TWE	hunting (P/Pr/F), encroachment (P/Pr/F) Habitat destruction (P/Pr/F)	Decline	5	3	IUSPP Annual reports, 1994-99 Choudhury, 1991; Das <i>et al.</i> , 2002a
Innerline PRF	-	-	14	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	22	15	IUSPP Annual reports, 1994-99 Choudhury, 1991; Das <i>et al.</i> , 2002a
Khurimim RF	-	-	10	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	10	7	IUSPP Annual reports, 1994-99
Langting Mupa RF	25°30	90°07	20	TSE	hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	15	12	IUSPP Annual reports, 1994-99
North Cachar Hills RF	25°30	93°00	5	TWE	hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	6	4	IUSPP Annual reports, 1994-99; Das <i>et al.</i> , 2002a
Panimur PRF	-	-	1	STBLH	Habitat destruction (P/Pr/F), hunting (P/F), encroachment (P/Pr/F)	Decline	1	1	IUSPP Annual reports, 1994-99
<i>Tinsukhia</i> Bherjan WLS	~27°30	~95°22	1	TWE	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	1	1	IUSPP Annual reports, 1994-99
Borajan WLS	27°05	95°04	5	TSE	Habitat destruction (P/Pr/F), hunting (P/F), encroachment (P/Pr/F)	Decline	10	9	IUSPP Annual reports, 1994-99
Burhi Dehing RF	27°13	94°42	2.2	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	1	1	IUSPP Annual reports, 1994-99
Dibang Valley RF	~28°00	~95°38	4	TWE	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	3	2	IUSPP Annual reports, 1994-99
Dibru-Saikhowa NP	27°40	95°24	2	TWE	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	4	3	IUSPP Annual reports, 1994-99
Hahkhati RF	27°44	95°40	0.67	TWE	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	3	3	IUSPP Annual reports, 1994-99; Choudhury, 1991
Kakojan RF	27°29	95°39	2.345	TWE	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	2	2	IUSPP Annual reports, 1994-99
Kumsang RF	27°44	95°44	2.252	TWE	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	1	1	IUSPP Annual reports, 1994-99; Choudhury, 1991
Kundilakalia RF	-	-	7.284	TWE	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	2	2	IUSPP Annual reports, 1994-99
Margharita	27°17	95°41	-	-	-	-	-	-	Jenkins, 1987, collected on 29 Oct 1919
Mesaki RF	~27°42	~95°40	1.366	TWE	Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	4	3	IUSPP Annual reports, 1994-99
Upper Dehing	27°25	95°42	1	TWE	Habitat destruction (P/Pr/F)	Decline	2	2	IUSPP Annual reports, 1994-99

Distribution of *Bunopithecus hoolock hoolock* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
East block RF Upper Dehing West block RF	27°24'	95°33'	1	TWE	encroachment (P/Pr/F) Habitat destruction (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1984-99
Manipur <i>Ukrul Senapathi</i>	- 25°07'	- 94°22'	-	-	-	-	-	-	-	Gupta, 1994; V. Ramakantha, 1991 Gupta, 1994; V. Ramakantha, 1991
Meghalaya Garo Hills Khasi Hills, Jaintia Hills	- -	- -	-	-	-	-	-	-	-	Alfred & Sati, 1990 IUSPP Annual reports, 1994-99; Tilson, 1979
<i>East Garo hills</i> Nokrek NP	-	-	16	TMD	Habitat destruction (P/Pr/F), hunting (P/Pr/F), horticulture (P/Pr/F)	Decline	Decline	25	18	IUSPP Annual reports, 1994-99; Choudhury, 1991. Also found adjacent to the protected area. W.G. Momin, 2002
Songsek Tasek RF	25°38'	90°35'	20	TMD	Habitat destruction (P/Pr/F), hunting (P/Pr/F), horticulture (P/Pr/F)	Decline	Decline	20	15	IUSPP Annual reports, 1994-99 ; Choudhury, 1991
<i>Ri Bhoi</i> Nongkhylem WLS	-	-	2	TMD	Encroachment(P/Pr/F), habitat destruction (P/Pr/F)	Decline	Decline	3	2	IUSPP Annual reports, 1994-99
<i>South Garo</i> Bagmara RF	-	-	1	TMD	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	2	2	IUSPP Annual reports, 1994-99; Choudhury, 1991
Balpakram NP	-	-	30	TMD	Habitat destruction (P/Pr/F), hunting (P/Pr/F), horticulture (P/Pr/F)	Decline	Decline	16	12	IUSPP Annual reports, 1994-99; Choudhury, 1991
Rewak RF	-	-	7	TMD	Habitat destruction (P/Pr/F), hunting (P/Pr/F), horticulture (P/Pr/F)	Decline	Decline	2	2	IUSPP Annual reports, 1994-99; Choudhury, 1991
Siju WLS	25°32'	90°14'	5	TMD	Habitat destruction (P/Pr/F), hunting (P/Pr/F), horticulture (P/Pr/F)	Decline	Decline	3	2	IUSPP Annual reports, 1994-99; Choudhury, 1991
Mizoram Mizo Hills	-	-	-	-	-	-	-	-	-	Tilson, 1979
<i>Champai</i> Murien NP	23°37'	93°18'	5	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	8	7	IUSPP Annual reports, 1994-99; Choudhury, 1991
<i>Chhintuipui</i>										

Distribution of *Bunopithecus hoolock hoolock* in Bangladesh and India from literature and recent field studies ... continued

Distribution in South Asia	Lat.	Long.	Area (km ²)	Habitat	Threats Past, Present, Future	Pop. trend Past %/yr	Pop. trend Future %/yr	Pop. No.	Mat. Ind.	Notes / Sources
Ngengpui RF	-	-	3	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	1	1	IUSPP Annual reports, 1994-99; Choudhury, 1991
Nengpui WLS	-	-	10	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F)	Decline	Decline	3	2	IUSPP Annual reports, 1994-99; Choudhury, 1991
Phawangpui WLS	-	-	-	-	-	-	-	-	-	Raman <i>et al.</i> , 1995
<i>Mamit</i>	-	-	-	-	-	-	-	-	-	-
Dampa WLS	-	-	2	TWE	Habitat destruction (P/Pr/F), hunting (P/Pr/F), encroachment (P/Pr/F)	Decline	Decline	3	2	IUSPP Annual reports, 1994-99; Choudhury, 1991
<i>Sercchip</i>	-	-	-	-	-	-	-	-	-	-
Khawnglung WLS	-	-	-	-	-	-	-	-	-	-
Nagaland	-	-	-	-	-	-	-	-	-	-
Khonoma	25°39'	94°02'	-	TWE	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
Mokokchung	26°19'	94°31'	-	-	-	-	-	-	-	Jenkins, 1987, collected on 6 Sep 1919; 15 Sep 1919; 26 Mar 1920
Yuapik	-	-	-	TWE	-	Decline	Decline	-	-	IUSPP Annual reports, 1994-99
<i>Dimapur</i>	-	-	-	-	-	-	-	-	-	-
Itanki NP	-	-	-	-	-	-	-	-	-	State Forest Report, 1988
Tripura	-	-	~138	-	-	-	-	-	-	-
North Tripura	-	-	-	-	-	-	-	19	14	AOO given is for all three districts (North, South & West) Gupta, 1994; Mukherjee <i>et al.</i> , 1993
Atharamora Hill Range	23°49'	91°45'	-	-	-	-	-	-	-	Bhattacharya & Charkrabarty, 1990
South Tripura	-	-	-	-	-	-	-	38	19	Mukherjee <i>et al.</i> , 1993; Gupta, 1994
Gumti WLS	-	-	-	-	-	-	-	-	-	J. Bose, IUSPP
Trishna WLS	-	-	-	-	-	-	-	-	-	J. Bose, IUSPP
West Tripura	-	-	-	-	-	-	-	12	4	Gupta, 1994; Mukherjee <i>et al.</i> , 1993
Sepahjiala WLS	-	-	-	-	-	-	-	-	-	IUSPP Annual reports, 1994-99

BLME - Broad-leaf Mixed Evergreen forests, E- Evergreen forest, SE - Semi-evergreen forest, STBLH - Sub-tropical Broadleaved Hill forest, TMD - Tropical Moist Deciduous forests, TSE - Tropical Semi-evergreen forest, TWE - Tropical Wet Evergreen forests

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5. References



Bonnet Macaque
(*Macaca radiata*)

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Status of South Asian Primates

6. Action Plans



Stump-tailed Macaque (Male)
(*Macaca arctoides*)

Action Plans

Loridae

Loris lydekkerianus lydekkerianus Cabrera, 1908 and *L. l. malabaricus* Wroughton, 1917

Summary

The Slender Loris inhabits southern India and Sri Lanka. The two subspecies found in southern India include *Loris lydekkerianus lydekkerianus* Cabrera, 1908. and *L. l. malabaricus* Wroughton, 1917.

Distribution and habitat

L.l. lydekkerianus inhabits dry deciduous and scrub jungles of Eastern Ghats and southeastern India. *L.l. malabaricus* inhabits moist deciduous, teak plantations, semi-evergreen forests of the Western Ghats. There are no population figures available from most of its habitat. The subspecies *malabaricus* occurs in KMTR and Anamalai hills where it is found in the relatively dry ranges of the Western Ghats up to an altitude of 1000m. Fairly dense populations of the *lydekkerianus* subspecies inhabits the dry scrub jungles of Dindigul district in Tamil Nadu. Three distinct populations with moderately high densities occur in the Kaundinya, Tirumala and Seshachalam hills of Andhra Pradesh.

Threats

The recent field studies have brought out the following threats to Loris.

- a) Accidental deaths: Whenever on ground, the Loris is clumsy and slow. While crossing roads it is often run over or lethally hit by passing vehicles. Many deaths have been recorded due to electrocution by open electric wires.
- b) Loss of canopy contiguity: Since the Loris cannot jump from one tree to another, it requires a hundred percent canopy continuity to move through the vegetation. Since most of its habitat is also used by humans for cattle grazing and fuel wood, the resulting canopy continuity loss often forces animals to descend to where they become vulnerable to accidents and small predators.
- c) Loss of habitat: It has been observed in many places that the scrub jungles are clear-felled for plantation of fast-growing species. This results in decimation of the entire local population of Loris.
- d) Poaching: Poaching occurs in several places for the preparation of Loris eye soup. They are also sold openly in Madurai bird market.
- e) Forest fires: Forest fires in dry areas may totally exterminate local Loris populations.

Status

Although it is data deficient from most of its ranges of occurrence, the field data gathered over the past few years suggests that both the subspecies are Near Threatened.

Priority areas for conservation

Geographical areas: Several potential areas mentioned for both the subspecies earlier should be considered as "Conservation priority areas". No habitat disturbance should be permitted in these areas.

Topics: The forest areas in the Dindigul district, which harbour very high densities of loris, should be legally declared as a reserve for Slender Loris.

Priority areas for management

Geographical areas: Since there never has been any special emphasis on Loris conservation, the identified areas should be considered as priority areas.

Forest department responsibilities: Since most of the habitat where Loris occurs is relatively dry, most of these forests continue to be worked, sometimes even clear-felled. The department should take care that large canopy gaps are not created and natural scrub must be retained as far as possible. This type of practice is more important for the

lydekkerianus subspecies in the Eastern Ghats since the habitat of the *malabaricus* subspecies are already in many protected areas in the Western Ghats. In the habitats of both of the subspecies, forest fires should be prevented since loris cannot escape from such fires.

Private owners: High densities of Slender Loris are also found in private areas adjoining reserve forests. Loris often use fences, *Acacia*, *Azadirachta* and *Tamarindus* trees for insect foraging. The farmers often inadvertently remove such niches. Since there is no man-animal conflict as far as loris is concerned, the farmers can be made aware of the habits of Slender Loris. Good populations therefore can be maintained in private lands as buffer populations around reserve forests.

Priority areas for research

1. The foremost priority for research is to determine the real geographical distribution and the northern limits of the occurrence of both sub species.
2. In the areas of its occurrence, intensive surveys must be taken up immediately to determine density and abundance.
3. Ecological and behavioral studies should be initiated in a few representative habitats of both sub species to understand the resource base, food habits, life history, reproductive biology etc.
4. The researchers of the University of Mysore have already obtained some baseline data. Several questions such as dispersal of subadults have been raised which need to be addressed. Since lorises are nocturnal and usually solitary, permission for radio-collaring of animals whenever necessary must be given to produce quality research.

***In situ/ex situ* conservation approaches**

Forest department: Whereas no specific conservation approach other than fire prevention is required in the protected areas, the forest department must ensure canopy contiguity in scrub jungles, and understorey canopy continuity in mixed deciduous forests. Cutting of climbers has to be stopped.

State government: The State Governments in the area of occurrence of loris should legalize the identified reserve forests as loris reserves. Ecodevelopment schemes should be initiated in areas adjoining loris reserves. This is achievable without large budgets.

Central government: The Ministry of Environment and Forests should fund loris conservation and research projects as a thrust area for the next 15 years.

Education and awareness

Since Loris does not have any man animal conflict for resources with humans, education programs should be undertaken to make people aware of loris conservation. Education must also be imparted to dispel the unfounded belief that eating Loris eyes is good for eyesight as that is the major reason for poaching.

Role of research institutes and NGOs

The research group at the University of Mysore has already conducted extensive surveys in several loris localities. Research has also been conducted to obtain baseline data on ecology and behavior. This group should be identified as the nodal agency for further research and for coordinating research activities by other researchers.

Community involvement

The community around the forests where loris occurs should be involved in eco-development programs.

Loris tardigradus grandis

Summary

This subspecies is distributed in the lower hills of eastern dry zone. Population trends are little known. Habitat conservation are recommended.

Distribution and habitat

Midland hills of eastern dry zone. Natural forest, moist and dry monsoon evergreen forest.

Threats and Status

Habitat loss and hunting, burning of forest by people. Endangered

Priority areas

Knuckles Natural Reserve.

Government responsibility

Implement laws for the conservation of the taxon and its habitat.

Research areas

1. Survey
2. Population monitoring

***In situ / ex situ* conservation approaches**

1. Consumption of animals in forest areas should be stopped.
2. Strict enforcement for laws for encroachers.
3. Government has to make efforts to stop killing of animals

Loris tardigradus nordicus

Summary

This subspecies is distributed in the eastern dry zone. Population trends are little known. Habitat conservation is recommended.

Distribution and Habitat

Eastern dry zone. Tropical dry evergreen forest and moist forest

Threats and Status

Habitat loss and hunting. Endangered.

Priority areas

1. Polonnaruwa environs
2. Research needed

Government responsibility

Implement conservation laws

Private owners

Need education

Research priority

1. need broad population surveys
2. Population biology and genetics

***In situ* / *ex situ* conservation approaches**

1. Consumption of animals in forest areas should be stopped.
2. Strict enforcement for laws for encroachers.
3. Government has to take efforts to stop killing of animals

Education and awareness

Needed

NGOs

Be selective

Community

Part of broad education

Loris tardigradus nycticeboides**Summary**

This montane subspecies with its limited habitats is the most threatened of the *Loris* subspecies, mostly due to habitat loss. In the past 200 years, habitat loss was more than 80%, with 50% occurring in the last 40 years.

Distribution

Central hill zone above 1800m.

Habitat

Tropical montane rainforest/moist forest

Threats

Habitat loss due to agriculture is the main threat currently, and is predicted for the future.

Status

Endangered

Priority areas

Geographical areas: Any remaining natural forest patches are suitable for this subspecies. Natural forests surrounding Horton Plains NP, near Pattipula, Ambewela, Diagama, possibly upper reaches of Adam's Peak. Pattipola and Ambewela have natural forest that are currently not protected. Upper reaches of Diagama estate has unprotected natural forest.

Topics: Remaining natural crown lands require immediate protection.

Government responsibility:

1. Legal implementation
2. Vegetable plantations to be banned from converting natural forest, rather to use already degraded land.

Private owners: Need to be educated of the CR status of this endemic form. Should be encouraged to preserve suitable privately owned farms and patches.

Priority - Research

1. Population survey
2. Life History
3. Population Genetics
4. Population Genetics
5. Long-term socio-demographic and ecological research

Conservation approaches

Agriculture department: discourage forest destruction

Encourage rejuvenation of degraded non-forest lands = plentiful

Village administrators with the help of environmental officers can actively involve in conservation efforts.

Education and awareness

Education and awareness needed

Role of research and NGOs

Research necessary. NGO assistance must be selectively involved.

Community involvement

Required at all levels

Loris tardigradus tardigradus**Summary**

This species of Loris is found in lowland rain forests and not much is known about its population biology. It is widely distributed. Habitat management for conservation is recommended.

Distribution

Lowland wet zone (South West) in tropical rain, swampy coastal and evergreen forests, wet zone lowland forests

Threats

Habitat loss (due to urbanization) and hunting.

Status

Endangered.

Priority areas for conservation and management

As much of the remaining forest of this region is small and fragmented it is necessary to conserve areas of contiguous forest that would be capable of sustaining viable populations in the long term. For practical reasons these areas should coincide with areas considered as important for conservation of indigenous biodiversity and should encompass the forests contiguous with Sinharaja, the World Heritage Site and National Heritage Wilderness Area.

Management considerations

Management plans have been developed for several wet zone forests within the range of this subspecies, and several are due to be implemented. Special consideration for primate conservation could be integrated into forest management especially as this species is a valuable indicator species. Particular attention should be given to requirements for conservation of this subspecies' zonation and forest management practices in managed forests.

Priority areas for research

1. No long-term studies have been carried out on this subspecies as yet, and none at all on rainforest populations of the species as a whole. Hence studies are required to ascertain the feeding and ranging habits of this species and its social organisation in under lowland wet zone forests of the region.
2. Natural forests of this area are severely fragmented and surrounded by high density of human populations so that habitat change is a continuous occurrence for many populations. This offers an excellent opportunity to study the impacts of habitat change on populations in terms of feeding and ranging behaviour and survival of populations. Further, comparative studies of this nature with forest populations should provide a good indication of adaptability of the sub-species to habitat change and how.
3. Surveys are needed to determine the distribution and population density of these animals in the present and proposed Protected Area network in this region.

Cercopithecidae

***Macaca assamensis* Nepal population**

Summary

The assamese population of Nepal is unique with reference to their features and colouration. They were assessed as Endangered based on limited range. It is included in the National Parks and Wildlife Conservation Act, 1973, Nepal. Thus it is kept as a separate population and proposed a new subspecies within *M. assamensis* in the classification. The total population of these monkeys is 540 individuals that are restricted to 8 sub populations and 25 locations (group) in Nepal. There has been a nominal decline of less than 10% in 10 years.

Distribution

It is distributed from Sankhuwashabha district in the east to Dadeldhura in the far west of Nepal between 380-2336m altitudinal range with very limited distribution. Out of total 24 groups, 20 groups have been recorded only from two Protected Areas (13 groups are reported from Buffer zones of Makalu-Barun National Park and 7 groups from Langtang National Park) with remaining 4 scattered in 4 different locations in Nepal. The western-most distribution Dadeldhura and Achem district has only one record in each. They are even found in lower altitude (380m) if the same mountain slope reaches higher altitude (temperate and higher). Altogether they are distributed in the east and west of mid-hills of Nepal.

Habitat

This monkey species mostly moves around the fringe of the forest and frequently comes along the riverine and open forest. It is found resting at night in rocky outcrops. They frequently move around cultivation areas far from villages, open areas between forest patches. Beside leafy matter they also eat tuber and insects and raid crops and vegetables. They range from sub tropical to temperate region in broadleaved mixed forest, hill sal forest, riverine forest, grassy slopes, shrubby vegetation, rocky outcrops and sometimes pass alpine forest (2200+). The forest species they inhabit includes *Schima-castanopsis* *Elaeocarpus* dominated forests with scattered *Macaranga* species and some leguminous climbers.

Threats

A majority of the population (426 out of 540) are in Protected Areas. In the buffer zones of the Makalu-Barun NP had the main threat of the past as shifting agriculture has reduced after declaration of the area as National Parks. In both PAs controlled use of timber, fuel wood, fodder and grazing are allowed for local people. These practices result in deterioration of habitat quality.

The other 4 scattered groups are in forest areas that face the threats of fuelwood, timber, and fodder collection, severe grazing and chasing by humans. This has led to a high rate of decrease in the habitat as well as decrease in habitat quality for this species.

Status

The species is Endangered based on limited geographic range <2500 km² in extent and <1000 km² in area of occupancy with fragmented habitat that is declining in extent and quality. The species is also included in the National Parks and Wildlife Conservation Act, 1973 of Nepal.

Priority areas for conservation

Geographic areas: Population found in areas other than boundary of Protected Area needs to be identified and provide protection eg., Ramdi, Dadeldhura, Bhumlingtar and Kimni population.

Priority areas for management

Geographic areas: For groups other than those in Protected Areas.

Meta population management: The population in Ramdi, Bhumlingtar, Kimni and Dadeldhura are to be conserved with special consideration.

Responsibilities of Forest Department: Ministry of Forest and Soil Conservation should manage and protect habitat of this species and regulate overuse of forest in such areas.

Private owners: The users of community forest, private forest or grazers should be made aware of the status of species and involve them for management.

Research

1. Survey: there is the possibility of finding this species in many other areas which require extensive survey.
2. Genetics and taxonomy: This population seems different from Assamese monkey in respect to their head and body length, tail length and tail/head body length ratio. It differs in body colour, with darker fur and purple snout. This needs study in genetics and taxonomy to confirm it in subspecies level.
3. Life history parameters: as the ecological and life history parameters have not yet been done, it has to be started to understand the species
4. Crop-raiding study: This species is known to raid crops and vegetables around the forest fringe. It requires detailed study of their habitat to reduce conflict with local people.

Government's role

Government should give priority in research to reduce primate-human conflict by initiating and allowing researchers to work in Protected Areas and outside areas.

NGOs / INGOs

They need to support and facilitate research through grants and collaborative programmes.

Community involvement

Many populations within and outside Protected Areas are close to human habitation. They need to find out alternate cropping patterns that will reduce damage of crops and reduce park and people conflict. They may also help to identify the fruit plants of this species in the surrounding forest that enabled concerned authority to plant suitable plant species during afforestation programme.

Funding

As national support for funding is meager, international support has to be sought. In collaboration with Natural History Society of Nepal, DNPWC will be able to conduct research and implement action plan.

Macaca assamensis pelops

Summary

Macaca assamensis pelops (Hodgson, 1840) is presently available in India, possibly Bangladesh and Bhutan, and endemic to this region.

Distribution

It is restricted as a subspecies in distribution and presently occurs in different localities of West Bengal in India, and possibly Bangladesh and Bhutan. Most of the groups in the state of West Bengal are found in the hill forest of northern districts like Darjeeling and Jalpaiguri.

Habitat and habit

It occupies the middle and upper canopy of broadleaved evergreen forest between elevations of 180-2270m. It is arboreal, diurnal and omnivorous in habit.

Threats

Anthropogenic activities of different nature, habitat loss, accidental loss and natural calamities.

Status

It is Vulnerable at subspecies level. It is in Appendix II of CITES and in the IWLPA Schedule II.

Priority areas for conservation

Geographic: Northern Bengal, mainly the hill forests between 150-3000m should be preserved as the natural habitat of this population.

Topics: Utmost care should be taken to save the habitat and present population existing there. Study on ecology, behaviour, population dynamics, interspecific interactions and especially man-animal interaction is urgently needed. Taxonomic research is also recommended, as there are chances of inbreeding with Rhesus macaque.

Priority areas for management

Geographical areas: Wild populations outside the Protected Areas as well as in PAs should be considered for management. Public awareness should be increased and involvement of local inhabitants is necessary for further conservation.

Metropolitan areas: Even free-ranging metropolitan specimens are to be salvaged as these monkeys have an extremely restricted distribution.

Responsibilities of Government / Forest Departments: To ensure protection of the wild population and commensal groups, forest department personnel should enhance their activities and increase awareness in people living in and around the protected areas, near human settlements and around temples for better management.

Private owners: There has been an instance where local people captured individuals outside the PAs and kept them as pets or translocated them elsewhere. This should be stopped immediately.

Priority areas of research

1. Intensive surveys all over the range of its distribution in West Bengal and Sikkim has to be carried out in addition to earlier census and monitoring.
2. Field studies must be undertaken on the population dynamics of this species including a majority of the groups in West Bengal and Sikkim.
3. There is almost no information on the reproductive biology except the study undertaken by Sangita Mitra during 1996-1997, where 2 groups were studied intensively and data recorded. This is also an area to be investigated in order to assess the reproductive potential of the subspecies.

***In situ and ex situ* conservation approaches**

Forest Department: Forest department officials and other staff should start taking effective and long-term measures to check the decline in population size. They should prepare a scientific management plan to mitigate present impact of anthropogenic activities on the population.

State Government's role: At present the state government and forest department are not aware of all the non-human primates present in the states of West Bengal and Sikkim. This subspecies has so far been ignored because of its apparent similarity with rhesus macaque, and people must be informed of this fact. Till date there have been several census surveys by Central Government ZSI, but further research on this subspecies is necessary to deal with the population in the present context.

Central Governments role: Review of the present status in IWL(P)A to resolve man – animal conflict.

Education and awareness

Awareness programmes has to be undertaken among local inhabitants who are habituated to abusing monkeys in several ways (stone throwing, poisoning etc.,)

Role of research institutes/ NGOs

Several central and state institutions may take up extensive monitoring programmes inside all the Protected Areas in the range of its distribution and outside also where most of the commensal groups are being poisoned.

Community involvement

It is extremely important to involve all the locals staying adjacent to the different groups of Assamese macaque, because majority of the macaque population is occupying areas near human settlements in hills as well as in other areas.

***Macaca arctoides* I. Geoffroy Saint-Hilaire, 1830**

Summary

The Stump-tailed Macaque, sole representative of *arctoides* group, is found south of the Brahmaputra river system in Northeast India. It has a population of <250 individuals (directly sighted) from Arunachal Pradesh, Assam, Meghalaya, Mizoram and Tripura since 1994. It is found in different habitats near to forest villages as well as in the remote places in widely fragmented areas. The primary threats are habitat destruction and hunting. According to surveys of the Indo-US Primate project, NE centre, the species has been categorised as Critically Endangered. There are no management action plan for the species until now.

Distribution

The Stump-tailed Macaque is found south of Brahmaputra River system in Northeast India. The survey confirmed the distribution in Assam, Meghalaya, Mizoram and Tripura. It was recorded previously from Bangladesh but no sighting has been recorded since 1990.

Habitat

The species is found in tropical semi-evergreen forest, tropical wet evergreen forest and tropical moist deciduous forest of Northeast India.

Threats

Stump-tailed Macaques are hunted for food, medicine and for pets, however, the primary threat is the habitat destruction.

Status

According to IUCN criteria this species is Critically Endangered based on C2a (i)

Priority areas for conservation

Geographical areas:

1. The Gibbon Wildlife Sanctuary, Assam, the only protected area with 7 non-human primate species, should be upgraded to a National Park for the conservation of a large subpopulation of Stump-tailed macaque in particular and other primates in general.
2. The North Cachar Hill Reserve Forest and Barail complex, Assam should also be upgraded to wildlife sanctuary for the better conservation of the species. More and more fragmented areas should be brought under protected area network.

Topics: Care should be taken to protect all remaining habitats. Measure should be taken to minimise other anthropogenic pressures in good population areas.

Geographical area: Considering the population status it is necessary to consider all the areas where the species are available as priority areas.

Metapopulation management: There is no requirement for metapopulation management

Forest department responsibilities: The forest department should stop the monoculture plantation. Forest Department should take strict measures to stop grazing pressure from fringe villages. There has to be considerable vigilance to prevent hunting and any encroachment on forest lands.

Priority areas for research

1. Intensive survey is to be done with proper documentation in Northeast India and in Bangladesh from where no sighting has been recorded after 1990.
2. A long-term demographic study needs to be done for selected population.
3. A field study on the ecology and behaviour of the species in different habitats has to be carried out.
4. Community based conservation should be initiated.

***In situ/ ex situ* conservation approach**

Forest Department: Food trees must be planted based on the natural habitat in the Stump-tailed Macaque habitats.

State Government: The state govt. should bring more and more habitat of Stump-tailed Macaque under protected area network

Central Government: Central Government should initiate processing for upgradation of good habitat as the species is Critically Endangered and also should be declared as a thrust area for conservation and research.

Education and Awareness

An education programmes for grassroots level people should be done in collaboration with NGOs.

Role of research institutes and NGOs

Animal ecology and wildlife biology lab, Department of Zoology Guwahati University, Assam, Primate research Centre (northeast) and "Aaranyak" (NGO) are providing necessary support in carrying out long-term studies of the species. They should therefore be involved in implementing the action plan for this species.

Community involvement

Community participation with socio-economic development programme in the fringe areas of the species habitat should be built up.

Macaca fascicularis umbrosa

Summary

The Crab-eating Macaque is found on three islands of the Nicobar group of islands. It has a population of about 4800, which is assumed to be stable at the moment. It is found in all the habitat types present on these islands, including all the different forests, coral reefs and coconut plantations. The only perceived threat is that it is hunted to prevent crop raiding. Since only one brief survey has been done, its status is listed as 'Near Threatened'.

There are no major management issues. Plans to start fruit orchards in the islands need to be abandoned. An ecodevelopment programme to reduce pressure on the forest is recommended. A more detailed survey, research on ecology and behaviour, and long term demographic monitoring are suggested.

Distribution

The Nicobar or Crab-eating Macaque, *Macaca fascicularis umbrosa*, is found on three islands of the Nicobar group of islands: Great Nicobar (1045 km²), Little Nicobar (159 km²) and Katchal (174 km²). These are separated by large sea distances and therefore have to be treated as separate populations. There are an estimated 4800 individuals, of which about half are mature.

Habitat

This species is found in littoral forest on the coast, especially forest where the predominant species are *Pandanus*, a major food item. They are also found in evergreen and giant evergreen forest where they are less abundant. They crop raid in coconut plantations and are also found near settlements. On cloudy days, and in the early morning and late evening, they go out onto the coral reefs to forage on marine life.

Threats

Animals are hunted when they come for crop raiding. The indigenous Shompen tribals also hunt them for food. Construction of roads on Katchal island and Great Nicobar island. The majority of the islands are protected areas, so there is no scope for further settlement.

Status

According to IUCN criteria this species is not threatened. However, since this determination is made based on one survey, using the assumption that densities near the roads and the coast are recommended same as inland (which may not be true), a status of 'Near Threatened' has been given.

Priority areas for conservation

Geographical areas: The Great Nicobar Biosphere Reserve needs to be expanded to include the whole island of Great Nicobar. All sites except the existing settlement areas on the South-East Coast should become part of the core zone. These would include tribal villages, which would not be disturbed.

Topics: Care has to be taken to ensure that all further immigration into these islands is stopped. Wildlife personnel should be posted on Katchal to monitor human activity there.

Priority areas for management

Geographical areas: All three islands should be considered priority areas.

Metapopulation management: There is no requirement for metapopulation management.

Forest department responsibilities: The Forest Department has a plan to introduce fruit orchards to reduce the pressure on the coconut plantations. This will result in part of the forest being converted to plantations, which is undesirable. It will also result in an increase in the macaque population and which will not aid in reduction of pressure on the coconuts. Therefore this should not be done. A mix of grease and resin, unpleasant to touch, is used in the Nilgiri Hills to control crop raiding on areca nuts, and this should be experimented with and then made available.

There has to be considerable vigilance to prevent any encroachment on forest land, especially on Katchal.

Private owners: Land owners, especially those with coconut plantations, should be made aware of the uniqueness of the species. They need to be encouraged to innovate methods of preventing crop raiding. Encroachments, especially on Katchal, need to be cleared.

Priority areas for research

1. Intensive surveys need to be carried out to validate the brief survey that has already been done
2. A field study of the basic biology of the species, covering feeding ecology and ranging patterns, as well as social behaviour, needs to be done urgently.
3. A long term demographic study needs to be initiated.

***In situ/ex situ* conservation approaches**

Forest department: The plan to have fruit orchards needs to be abandoned. Boats need to be obtained to patrol the coasts efficiently to prevent poaching.

State government: The role of Andaman & Nicobar Administration is to make funds available for more effective patrolling, and to initiate ecodevelopment schemes to win public trust, as well as reduce the dependency on the forest for fuelwood.

Central government: The role for the Central Government is to ensure that smuggling of wildlife items is controlled effectively from the islands.

Education and awareness

Education programmes for schoolchildren have already been conducted by NGO's in collaboration with the Forest Dept. These need to be intensified.

Role of research institutes and NGOs

ANET (Andaman and Nicobar Islands Environmental Team) and SACON have had a long involvement in these islands. ANET is developing the logistical support necessary to conduct surveys and initiate long term monitoring programmes. It should therefore undertake the responsibility of monitoring and implementing the species action plan for this species.

Community involvement

This will be required for any ecodevelopment programme, and should be built into the programme.

***Macaca leonina* Blyth, 1863**

The Pig-tailed macaque is found in the south of Brahmaputra river system. It has a population of 484 individuals directly sighted, Assam, Meghalaya, Mizoram and Tripura since 1994 and Bangla Desh. It is found in different habitats near to forest villages and as well as in remote places in widely fragmented areas. The primary threats are habitat destruction and hunting. According to the survey of the Indo-US Primate project, NE centre, India and Department of Zoology, Jahangirnagar University, Dhaka, Bangladesh, the species has been assessed as Endangered. There is no management action plan for the species up to now.

Distribution

The Pig-tailed Macaque is found south of the Brahmaputra River system in Northeast India and Bangladesh. The survey confirmed the distribution in Assam, Meghalaya, Mizoram and Tripura and Bangladesh.

Habitat

The species is found in tropical semi-evergreen, tropical wet evergreen, tropical wet evergreen, tropical moist deciduous forest of Northeast India and Bangladesh.

Threat

Pig-tailed Macaques are hunted for food, medicine and for pets, however, the primary threat is the habitat destruction.

Status

According to IUCN criteria this species is Endangered.

Priority areas for conservation

Geographical areas:

1. The Gibbon Wildlife Sanctuary, Assam, the only protected area with 7 non-human primate species should be upgraded to a National Park for the conservation of a large subpopulation of these species in particular and other primates in general. The North Cachar Hill Reserve Forest and Barail complex, Assam should also be upgraded to wildlife sanctuary for the better conservation of the species. More and more fragmented areas should be brought under protected area network.
2. In Bangladesh, the West Bhanugach Forest Reserve in the north-east and Bhomari ghona in South-east should be get prioritised for conservation, since these areas support more than 75% Big-tailed Macaque of the country.

Topics: Care should be taken to protect all remaining habitats. Measure should be taken to minimise other anthropogenic pressures in good population area.

Geographical area: Considering the population status it is necessary to consider all the areas where the species are available as priority areas.

Metapopulation management: There is no requirement for metapopulation management

Forest department responsibilities: The forest department should stop the monoculture plantation. Forest Department should take strict measures to stop grazing pressure from fringe villages. There has to be considerable vigilance to prevent hunting and any encroachment on forest lands.

Priority areas for research

1. Intensive survey is to be done with proper documentation in northeast India and in Bangladesh is urgently required.
2. A long-term demographic study needs to be done in selected populations.
3. Field studies on the ecology and behaviour in different habitats has to be carried out.
3. Community based conservation should be initiated.

***In situ/ ex situ* conservation approach**

Forest department: Food trees must be planted based on the natural habitat in Pig-tailed Macaque habitats.

State Government: The state government should bring more and more habitat of Pig-tailed Macaque under protected area network

Central Government: Central Government should initiate protection and upgradation of good habitat as the species is Critically Endangered. The species also should be declared as thrust area for conservation and research.

Education and Awareness

Education programmes for grassroots level people should be done in collaboration with NGOs.

Role of research institutes and NGOs

Animal ecology and wildlife biology lab, department of Zoology Gauhati University, Assam, Primate research Centre (northeast) and “Aaranyak”(NGO) are providing necessary support in carrying out long-term studies of the species. Wildlife Research Group of the Department of Zoology, Jahangirnagar University, can play a vital role in the preparation of action plan for this species. They have undertaken long-term systematic behavioural ecological studies in collaboration with the University of Cambridge, UK. They should therefore be involved in implementing the action plan for this species.

Community involvement

Community participation with Socio-economic development programme in the fringe areas of the species habitat should be built up.

Macaca radiata diluta**Summary**

The Bonnet Macaque is found widely distributed south of the line from Pondicherry crossing Cumbam Pass and Alleppey in Kerala to Kanyakumari district. The main management issue is the increasing *Macaca radiata diluta* in the agricultural/semi-urban areas while in forest areas the numbers are more or less stable. There is need for more detailed survey on the ecology and behaviour and long-term demographic monitoring in forest areas as well as cultivated semi-urban areas.

Distribution

This subspecies of bonnet macaque is distributed south of a line from Pondicherry crossing Cumbam Pass and Alleppey in Kerala to Kanyakumari district in the extreme south of India.

Habitat

Macaca radiata diluta is found in all forest types from scrub jungles to evergreen forests, plantations, agricultural lands and semi/urban areas.

Threats

Habitat degradation in forested areas is a threat along with hunting of crop raiding animals. However, the species is not troubled in protected areas.

Status

According to IUCN criteria the species is of Least Concern.

Priority areas for conservation

Geographical areas: All available forested tracts in its geographical distribution including the protected areas identified need to be identified as their priority areas for conservation.

Priority areas for research

1. Detailed surveys of the species in its entire range of occupancy need to be done.
2. Ecology and behaviour of the species in forested areas need to be done separately.

***In situ / ex situ* conservation approaches**

State government: Population control methods can be thought of in urban areas.

Role of research institutes and NGOs

1. University of Mysore, Mysore, Karnataka; SACON, Coimbatore, Tamil Nadu and Kerala Forest Research Institute, Peechi, Kerala may be made coordinating agencies for future research activities on bonnet macaques.
2. Conducting surveys and initiate long-term monitoring of bonnet macaques.

Community involvement

Community involvement should be ensured for developing the management strategies for the species.

Macaca radiata radiata

Summary

This subspecies of bonnet macaque is found widely distributed in the Peninsular India from the south of Godavari to high ranges in Cumbum pass. It is considered to be a common species in both forest and adjacent forest areas. It has attained a minor pest status in the agricultural and semi urban environments.

The main management issue is the increasing *Macaca radiata radiata* in the agricultural/semi urban areas while in forest areas the numbers are more or less stable. There is a need for more detailed surveys on the ecology, behaviour and long-term demographic monitoring in forest areas, as well as cultivated semi urban areas is suggested.

Distribution

Macaca radiata radiata is distributed in Peninsular India, South of Godavari River extending up to high ranges in the South. It is distributed in the states of Andhra Pradesh, Goa, Karnataka, Kerala and Maharashtra. Northern limit of the distribution runs from Vijayawada region of Krishna district in the east to westward through northern portion of the districts of Prakasham, Mahbubnagar and southern Hyderabad. In south it extends up to the high ranges and south of Pulney hills throughout the east coast in Tamil Nadu north of a line extending from Pondicherry to Cumbam pass.

Habitat

Macaca radiata radiata is found in all forest types from scrub jungles to evergreen forests, plantations, agricultural lands and semi/urban areas.

Threats

Threats are habitat degradation and hunting of crop raiding animals.

Status

According to IUCN criteria the species is of Least Concern.

Priority areas for conservation

Geographical areas: All available forested tracts in its geographical distribution including the protected areas identified need to be identified as priority areas for conservation.

Priority areas for management

Forest department responsibilities: Habitat restoration activities should be initiated in the fringe areas.

Awareness should be undertaken in areas where this species is in direct conflict with human beings, especially in areas with tourism activities pressure.

Priority areas for research

Detailed survey of the species in its entire range of occupancy needs to be done.

Ecology and behaviour of the species in forested areas need to be done separately.

***In situ/ ex situ* conservation approaches**

State government: Population control methods can be considered in urban areas.
Habitat restoration strategies in its natural habitat.

Education and awareness

1. Awareness activities should be undertaken for the fringe area people and school children about the behaviour of the species.
2. Special awareness packages should be developed for use in tourism spots and urban areas.

Role of research institutes and NGOs

1. University of Mysore, Mysore, Karnataka; SACON, Coimbatore, Tamil Nadu and Kerala Forest Research Institute, Peechi, Kerala may be made coordinating agencies for future research activities on bonnet macaques.
2. Conducting surveys and initiating long-term monitoring of *Macaca radiata radiata*.

Community involvement

Community involvement should be ensured for developing the management strategies for the species.

Macaca silenus

Summary

The Lion-tailed Macaque is an endangered arboreal primate found in the evergreen forests of the Western Ghats between Agastyamalai and the Sharavathy river. Most animals are found in the Anaimalais, which are severely fragmented. The most important conservation priority is to establish corridors linking up forest fragments. Since the Lion-tailed Macaque is a 'flagship' species for the evergreen forests of the Western Ghats, the setting up of a "Project LTM" is recommended.

Distribution

The range of the Lion-tailed Macaque (*Macaca silenus*) is in the evergreen forests of the Western Ghats from Mookambika WLS in Karnataka down to Kalakkad-Mundanthurai WLS in Tamil Nadu.

Habitat

This species is found in wet and dry evergreen forests of the southern Western Ghats.

Threats

Threats to this species include habitat alteration for agriculture, plantations, mining, roads, and dams, habitat fragmentation, trapping as pets and hunting.

Status

According to the IUCN criteria this species is Endangered. The total population is estimated as 3550 individuals, spread over 41 subpopulations at 49 locations.

Priority areas for conservation

Geographical areas: The largest population is in the Anaimalai hills (900-1100), but this is very heavily fragmented. The largest contiguous population is in the Agastyamalai region (400-480). These two locations have to become the focus of major conservation efforts. Significant populations also exist in the Kudremukh region (550-650) and in the Nilgiris (400-475). Agastyamalai and the Nilgiri populations exist in protected areas. The Anaimalais populations occur partly in private forests that are subject to conversion to other land uses, as are the populations in the Kudremukh region.

Topics: The creation of corridors is the top conservation priority.

Priority areas for management

Geographical areas: The most important conservation priority for this species is attempting to link up the fragmented habitats in the Anaimalais. Areas where the species is found in the Kudremukh region should be consolidated and brought into the protected areas network wherever possible. Makuta RF between Brahmagiri WLS and Talakaveri WLS should also be brought into the PA network. The protected area network for the Agastyamalai region consists of Kalakad-Mundanthurai Tiger Reserve in Tamil Nadu, and Neyyar WS, Peppara WS and Shendurney WS in Kerala. These areas are contiguous and should be brought under unified management. There may be legal hurdles to doing this, but informal arrangements may be possible to institute very soon, and avenues for doing this must be explored; a minimum requirement is joint patrolling along the state boundary. Similar arrangements need to be made for the protected areas network in the Anaimalais, which also lie on both side of the state boundary.

Metapopulation management: The creation of corridors between habitats is a priority. Swapping of adult males between forest fragments in the Anaimalais may be considered as an experiment, where the creation of corridors is not feasible.

Forest department responsibilities: Ecodevelopment programmes in the Kalakad-Mundanthurai Tiger Reserve in Tamil Nadu have resulted in a sea change in the attitudes of the villagers living adjacent to the park towards the Forest Department. This has resulted in a major reduction in poaching and fuelwood collection from within the sanctuary. This model needs to be documented and replicated in other areas having populations of Lion-tailed Macaques.

In the short term, PA managers on both sides of the state boundary between Tamil Nadu and Kerala should liaise frequently with their counterparts on the other side. A forum might be created for this purpose. In the long-term, integrated management is necessary.

Private areas: There are many privately held estates which contain populations of LTM. These are being converted to other uses. The Forest Dept. should have a say in the management of these estates to ensure that no further degradation occurs. Estate owners should be encouraged to plant fruit bearing trees as shade trees for their crops, usually tea or coffee. Where necessary these should be acquired to integrate into the PA network and funds should be made available for this purpose.

Priority areas for research

1. Genetic research is required to establish the levels of variation within and between the different sub-populations. This can be done in a non-intrusive fashion by collecting faecal material.
2. Studies are required to determine the factors that limit the distribution of Lion-tailed Macaques, given that it is unable to adapt to a variety of habitats like the other macaques.
3. Demographic studies are required to determine life history parameters in different regions, and these need to be initiated urgently.
4. The understanding of reproductive physiology of the species in small forest fragments is important to the long-term maintenance of these populations, and research towards this end needs to be taken up.
5. Research is required to delineate corridors between different Lion-tailed macaque habitats.
6. Research is required on which species of trees can be planted to create corridors between fragments of Lion-tailed macaque habitats. These would necessarily be rainforest species whose silviculture is poorly understood.

***In situ/ ex situ* conservation approaches**

Forest department: Since most locations having LTM are very remote and poachers are armed, giving sophisticated firearms to forest protection staff, as well as training in their use, is recommended. The Forest Department must initiate ecodevelopment activities around LTM areas.

State government: The state governments of Karnataka, Tamil Nadu and Kerala should to obtain funding for the above activities.

Central government: The Central Government should establish a secretariat called 'Project LTM' to coordinate ecodevelopment activity, collaboration between the state forest departments and the establishment of corridors. One of the main justifications for this is that the LTM can be considered a flagship species for the management of rainforest.

Education and awareness

Education programmes are required to be carried out around LTM habitats to create awareness about the uniqueness of the species.

Role of research institutes and NGOs

The maximum amount of fieldwork that has been done on the LTM has been from Mysore University and SACON, Coimbatore. These two institutes should jointly initiate and monitor the implementation of this action plan.

Community involvement

Community involvement will be necessary in the ecodevelopment plan, and local NGOs having a good record should be identified for this purpose.

Macaca sinica aurifrons

Summary

This subspecies of the *Macaca sinica* is found only in the west zone Sri Lanka. Its current threat is habitat loss due to accelerated development and deforestation. This is the most populated (human-settled) area of the country. Major management issues are conservation of the remaining forest areas.

Distribution

This wet zone species occupies an area wholly in the southwestern side of the island. *Macaca sinica aurifrons* population distribution is not equal within this region though more or less of wet zone tropical forest or more or less uniformly distributed forest exist.

Threats

The species is killed due to crop raiding. Increase in urbanization within its range is resulting in a higher risk due to human animal conflict. e.g. shooting, maiming, poisoning, electrocution, road kills etc.

Status

Current assessment places it as Endangered.

Priority areas for conservation

Geographical area: A large percentage of *Macaca sinica aurifrons* populations are found outside current PA. These areas should be considered for individual protection or inclusion within the neighboring existing PA.

Topics: Encroachment into both PAs as well as more importantly in the case of this subspecies encroachment and/or conversion of outside forest areas into channa lands/development schemes etc. (having dense *Macaca sinica aurifrons* populations) should be prevented.

Priority areas for management

Geographical area: Forest areas are with high density of *Macaca sinica aurifrons*: Many sanctuaries with forest reserves do not have the same protection levels as NPs. These contain many populations of *Macaca sinica aurifrons* should be protected.

Meta population management: There is no requirement.

Forest department responsibilities: The Rangers of this region should be given greater power and training in order to implement the existing Protection law. Enforcement of these laws should be strictly adhered to, currently this is not the case.

Private owners: Farmers and private planters who have *Macaca sinica aurifrons* within their lands and/or bordering should be educated about the importance of this species existence. Innovative methods of crop raiding prevention should be looked into and implemented as well.

Priority areas for research

Intensive surveys needs to be carried out in all islands.

***In situ / ex situ* conservation approaches**

1. Consumption of animals in forest areas should be stopped and garbage should be eliminated.
2. Strict enforcement of laws for encroachers.
3. Government has to take efforts to introduce other methods of preventing crop-raiding other than killing of animals.

Macaca sinica opisthomelas

Summary

This subspecies, described by Hill 1942, has mistakenly been ignored by earlier IUCN Red Book assessments. We have observed this distinct morphological type at several locations in a very restricted area of less than 90 km² in montane rainforests above 1800m. Its population and critical habitat has reduced by more than 80% in the last 200 years due to conversion of natural forest in to coffee and tea plantations. There has been additional habitat loss albeit at a lower rate in the last 30 years. The subspecies is Critically Endangered.

Contrary to Brandon-Jones *et al.* (2002), this is NOT an intermediate type between the other two subspecies, instead, it is at the extreme of a gradient in subspecies (population) morphs and represents a critical contribution to the biodiversity. It is no longer present in its type locality in Horton Plains.

“Management” requires immediate legal protection, extension of Horton Plains, and protection of other remaining natural forests critical for this subspecies. Research for survey, population genetics, ecology and life history are recommended.

Distribution

Confined to less than 90 km², montane rain forest in 2 main, but fragmented, subpopulations.

Habitat

Tropical montane rain forest

Threats

Habitat loss due to agriculture and fuel wood collection, encroachment. Killing as pests

Status

Not previously recognized by IUCN owed to oversight of published data. Currently assessed as Critically Endangered.

Priority area for Conservation

Geographical areas: Any remaining natural forest patche suitable for this subspecies. Natural forests surrounding Horton Plains NP, near Pattipula, Ambewela, Diagama, possibly upper reaches of Adam’s peak (requires survey to

ascertain suitability for *M.s.opisthomelas*). Pattipola and Ambewela have natural forest that are currently not protected. Upper reaches of Digama estate has unprotected natural forest.

Topics: Remaining natural crown lands require immediate protection.

Government responsibility:

1. Legal implementation
2. Converting natural forest in to Plantation should be tamed, rather use already degraded land.

Private owners: Need to be educated about the CR status of this endemic form. Should be encouraged to preserve suitable privately owned farms and patches.

Priority - Research

1. Population survey
2. Life history
3. Population genetics
5. Long-term socio-demographic and ecological research

Conservation approaches

Agriculture department: discourage forest destruction

Encourage rejuvenation of degraded non-forest lands = plentiful

Village administrators with the help of environmental officers, based at divisional secretariats can actively involve in conservation efforts.

Education and awareness

Education and awareness needed

Role of research and NGOs

Research necessary. NGO assistance must be selectively involved.

Community involvement

Required at all levels

Macaca sinica sinica

Summary

This subspecies of the *Macaca sinica* is found only in the dry zone of Sri Lanka. Populations of this species is declining due to habitat loss. According to the 2000 IUCN Red List, this species was categorized as Vulnerable. Our current assessment places it in the Endangered category.

Current management issues are changing land use patterns resulting in human-animal conflict. This needs to be addressed.

Distribution

Macaca sinica sinica is found in the Northeast and southeast dry zone of the island occurring in an area of 32600 km². Occupied habitat type is uniform throughout. But number of animals is not uniformly distributed.

Threats

The species are hunted due to crop raiding. Increase in urbanization within its range is resulting in a higher risk due to human animal conflict e.g. shooting, maiming, poisoning, electrocution, road kills etc.

Status

IUCN 2000 Red List categorized as Vulnerable. Current assessment places it as Endangered.

Priority areas for conservation

Geographical areas: A large percentage of *Macaca sinica sinica* populations are found outside current PAs. These areas should be considered for individual protection or inclusion within the neighboring existing PA.

Topics: Encroachment into both PA s as well as more importantly in the case of this subspecies encroachment and/or conversion of outside forest areas into channa lands/development schemes etc. (having dense *Macaca sinica sinica* populations) should be prevented.

Priority areas for management

Geographical area: Forest areas are with high density of *Macaca sinica sinica*: Many Sanctuaries with forest reserves do not have same protection levels as NPs. These should be protected as they contain many populations of *Macaca sinica sinica* .

Meta population management: There is no requirement.

Forest department responsibilities: The Rangers of this region should be given greater power and training in order to implement the existing Protection law. Enforcement of these laws should be strictly adhered to, currently this is not occurring.

Private owners: Farmers and private planters who have *Macaca sinica sinica* within their lands and/or bordering should be educated about the importance of this species existence. Innovative methods of crop raiding prevention should be looked into and implemented as well.

Priority areas for research

Intensive surveys needs to be carried out in all islands.

***In situ / ex situ* conservation approaches**

1. Consumption of animals in forest areas should be stopped and garbage eliminated.
2. Strict enforcement for laws for encroachers.
3. Government has to make efforts to introduce other methods of crop-raiding prevention rather than killing animals

Semnopithecus entellus hector**Summary**

Survey of other areas in Terai and foothills is urgently required for this Endangered langur. Corridor to the two areas of Sakphara needs to be surveyed. Research on corridor population, growth factor, genetic factor and taxonomy is required. Survey of all other possible habitats in the Terai and foothills of Nepal has to be done immediately.

Distribution

It is found in Chulachuli, Sarphara, Danabari in East Nepal and Ramnagar Chitwan in Central Nepal. These two populations are far away from each other and cannot be linked by a corridor.

Habitat

Both are in subtropical areas between 300m to 500m with denuded topography of mixed sal forest including hill sal elements.

Threats

Fuel wood and fodder collection are the main threats in the area. Currently stone quarries and road development are also a problem to the monkey habitat.

Status

In relation to very small population (355), which is declining, a very small area of occupancy (10 km²) and habitat loss due to conversion for non-forestry use, this species has been considered to be Endangered.

Priority areas for conservation

Geographic areas: Because of small population, all five locations need protection. The two populations around Jare of Sakphara are nearby and their physical barrier needs to be explored to link them with a corridor. Primate conservation action plan needs to be prepared.

Priority areas for management

Meta population management: Corridor linking two sites of Sakphara populations is on priority. Department of National Parks and Wildlife Conservation (DNPWC) should be responsible to conduct and coordinate the census and monitor all groups with collaboration with Natural History Society of Nepal (NAHSON) and other NGOs.

Priority areas for research

1. Research should be done on establishing a corridor between two sites of Sakphara including on plant species that should be planted in the corridor.
2. Research is required to determine the limiting factors that hinder the population growth of the species.
3. Monitoring and census of all the groups should be started immediately.
4. Extensive survey should be carried out to determine the other population in other areas.
5. With reference to recent taxonomic revision (2002), DNA analysis should be carried out with the population.

Community development

1. Community development programme should be initiated to reduce the natural resource demand of local people.
2. The feasibility of starting ecotourism (local guides, crafts) with the condition that all revenue would be bestowed to local villagers.

Role of research institutes and NGOs

Natural History Society of Nepal, International Primatology Society and other INGOs should be responsible for monitoring and implementation of this action plan with Department of National Parks and Wildlife Conservation, Nepal.

Education awareness

A curriculum has to be developed to educate and create awareness among locals as well as concerned agencies to safeguard this Endangered species.

Funding agencies

National and international agencies will be contacted for funds to implement the above plan.

Semnopithecus entellus hypoleucos**Summary**

The assessment of this taxon was done at the subspecific level, taking into consideration the recent taxonomic revisions. Conservation actions required are prevention of habitat loss and degradation (especially outside protected areas), research to confirm taxonomic status, and surveys to delineate distribution, identification of

distinct populations, estimation of population abundance, and identification of area-specific conservation measures.

Distribution

The Working Group considered this subspecies to include the population occurring in the western side of the Western Ghats, north of Palakkad Gap up to River Sharavati. This population consists of subpopulations in Silent Valley National Park, Wayanad WLS, Aralam WLS, few small populations which probably occur in sacred groves in northern Kerala, and a large and contiguous population in the tropical rainforest in the districts of Kodagu, Dakshin Kannada and Udupi. Thus, the major area of its distribution is in Karnataka.

Habitat

The major habitat of this species is the rainforest in its distribution limits, and sacred groves.

Threats

Loss of habitat (e.g. sacred groves) outside protected areas and poaching are some of the major threats.

Status

This is classified as Endangered due to restricted distribution.

Conservation measures

Research

1. Confirmation of the subspecies status through field verification and genetic studies.
2. Identification of critical habitats and distributional limits
3. Estimation of population abundance and structure
4. Identification of area specific conservation actions

Semnopithecus entellus schistaceus

Summary

Even with the broad range it has been recorded from >50 locations with >50,000 individuals and these areas have been used by local people for timber, fodder, fuel wood and grazing. The current status is Near Threatened due to limited geographic range, fewer individuals along with above mentioned threats and requires special attention to reduce these pressures through research, awareness, people participation and protection measures.

Distribution

Found in Bhutan, India, Nepal, Pakistan at an elevation range between 1000-3200m.

Habitat

Ranges from lower belt of temperate forest to upper temperate forest and sub alpine areas especially in Langtang National Park. It is found in subtropical to temperate, broadleaved forest, pine forest, riparian, montane forest, riverine forest, rocky outcrops, scrub jungle. Present information provides area of >20,000 km² of approximate area of occupancy.

Threats

Timber, fuel wood and fodder collection and grazing in the protected areas and habitat loss by timber, firewood and charcoal production in outside areas.

Status

Near Threatened based on limited geographic range, fragmented population and decrease in habitat quality.

Priority areas for conservation

Geographic distribution: Due to the dependency of langurs mostly in forested areas for fruits, leaves and resting,

current habitat degradation is partly responsible for decline in the population. Regulation of anthropogenic pressure in both Protected area and outside habitats are crucial. It is recommended to prepare a species conservation plan.

Priority areas for management

Though they are located far apart in different areas including Protected Areas, they have not yet received appropriate attention. Within the present knowledge on subspecies by Brandon-Jones *et al.*, 2002 (draft) this subspecies became endangered. This requires special attention for the improvement of habitat.

Responsibilities of Government: To initiate and facilitate awareness for conservation and protection of this species.

Private owners: As there is conflict with the local people for fodder use, conserving and planting fodder species in forest fringes needs to be done through people's participation.

Research

Survey: all ranges from east to west between 1000-3000m.

Taxonomic and genetic study: Recent classification has brought 2 species and 9 subspecies of common langurs in South Asia which warrants proper confirmation up to subspecies level.

Monitoring: Periodic census and monitor is essential.

Ecology and behavior: Study on this subspecies has not yet been done hence it is essential to initiate a long-term study on ecology and behavior to understand its life history patterns.

Government's role

To allow, initiate and support research.

NGOs / INGOs role

Initiate and support research through technical and financial support.

Education and awareness

The status of the species needs to be informed to local and all other concerned people.

Community involvement

Essential to understand consequences to reduce conflict.

***Semnopithecus priam thersites* – India population**

Summary

The assessment of this taxon was done at the population level, taking into consideration recent taxonomic revisions. Conservation actions required are prevention of habitat loss and degradation (especially outside protected areas), research to confirm taxonomic status, and surveys to delineate distribution, identification of distinct populations, estimation of population abundance, and to identification of area-specific conservation measures.

Distribution

In India, this subspecies is probably confined to the southern most part of the Western Ghats with two distinct populations in Kalakad-Mundanthurai Tiger Reserve and one in adjoining private lands. Recent observations reveal that Kanyakumari and Tirunelveli populations no longer exist. It also occurs also in Sri Lanka

Habitat

Its typical natural habitat is the dry deciduous forest, garden and cultivation areas in the eastern rain shadow foothills of the Western Ghats in Kalakkad-Mundanthurai Tiger Reserve.

Threats

Potential threats are habitat loss, powerlines, roads, human settlement and accidental mortality.

Status

This is classified as Endangered due to restricted and fragmented distribution.

Conservation measures

Two out of three distinct populations occur in KMTR. Prevention of fuel wood removal and grazing, and public awareness campaigns.

Research

1. Confirmation of the subspecies status through field verification and genetic studies.
2. Identification of critical habitats and distributional limits
3. Estimation of population abundance and structure
4. Identification of area specific conservation actions

***Semnopithecus priam thersites* – Sri Lanka population**

Semnopithecus entellus thersites is the only Grey Langur species found within the country and spread throughout the dry zone area. They are susceptible to habitat loss and current populations are in decline hence categorised as Endangered. This species is also hunted for food. Current land use patterns resulting in rapid conversion of natural forest into agricultural lands needs to be addressed.

Distribution

This species of langur is primarily found in the Northern, Central and Southern dry zone areas of the country covering an area of 43,600 km². Population distribution within this area is not contiguous.

Threats

Increase in urbanization within the range resulting in high risk due to animal-human conflict e.g. hunting for food, poisoning, electrocution, road kills etc.

Status

Current assessment recognizes its Endangered position

Priority areas for conservation

Geographical area: A large percentage of *Semnopithecus entellus thersites* populations are found outside current PA. These areas should be considered for individual protection or inclusion within the neighboring existing PA.

Topics: Encroachment into both PAs as well as more importantly in the case of this subspecies encroachment and/or conversion of outside forest areas into channa lands/development schemes etc. (having dense *Semnopithecus entellus thersites* populations) should be prevented.

Priority areas for management

Geographical area: Forest areas are with high density of *Semnopithecus entellus thersites*: Many sanctuaries with forest reserves do not have same protection levels as NPs. These containing many populations of *Semnopithecus entellus thersites* should be protected.

Meta population management: There is no requirement.

Wildlife Department Responsibilities:

1. Strict enforcement of anti poaching laws and patrolling of protected and buffer zone areas.
2. Outside areas should also be monitored for hunting and encroachment.

Private owners: Farmers and private planters who have *Semnopithecus entellus thersites* within their lands and/or bordering should be educated about the importance of this species existence. Innovative methods of crop raiding prevention should be looked into and implemented as well.

Priority areas for research

Intensive surveys needs to be carried out in all islands.

***In situ / ex situ* conservation approaches**

1. Consumption of animals in forest areas should be stopped and garbage eliminated.
2. Strict enforcement for laws for encroachers.
3. Government has to take efforts to introduce other methods to prevent crop-raiding other than killing of animals

***Trachypithecus geei* (Ali and Santapau, 1956)**

Summary

Golden Langur is restricted to a very small area of northwestern Assam in India and South Central Bhutan. It has a population of about 4500, which is apparently stable in Bhutan but continuously declining in India. In India, various anthropogenic factors has resulted to habitat shrinkage, breaking the continuity of the forest and at the same time have restricted a substantial number of the population in to fragmented forest pockets. Based on current population trends and restricted distribution the species is listed as Endangered. To ensure legal protection more and more habitat area should be brought under protected area network.

Distribution

Golden langur is found only in India and Bhutan. In India their distribution is restricted between the River Manas in the east, Sankosh in the west and Brahmaputra in the south. In Bhutan they are restricted in to the Chamkhar/ Mangde/Manas river complex up to 3000m ranges.

Habitat

Tropical evergreen, moist deciduous and sal-dominated forest, deciduous broadleaf, semi-evergreen, evergreen broad-leaved forests and fields.

Threats

Habitat loss (encroachment, illegal felling), habitat fragmentation and habitat degradation are major threats to the species in India.

Status

CITES- Appendix-I

IUCN Red Data list- Endangered

WPA (1972), India- Schedule-I.

Priority areas for conservation

In India, all the habitat area should be considered as priority areas. Attention should be paid to isolated population in small fragmented forest pocket.

Topics

Ripu, Chirrang Reserve Forest that is the only large contiguous patch of habitat for Golden Langur outside the protected area network should be upgraded to Wildlife Sanctuary. Chakrasila WLS should be upgraded to National Park.

Priority areas for management

Geographic areas: Trans-border joint action plan to protect the habitat of the species is very essential. So such practices should be encouraged. All the fragments should be protected. Measures should be taken to minimize other anthropogenic pressures in good population area.

Metapopulation management: There is no requirement for metapopulation management.

Forest department responsibilities: The forest department should stop the illegal felling of trees. There has to be considerable vigilance to prevent hunting and any encroachment of forestlands.

Priority areas for research

1. Intensive survey has to be done on population trends with proper documentation in Northeastern India.
2. A long-term demographic study needs to be done in selected population.
3. The field study on the ecology and behavior and in different habitats has to be carried out.
4. Community based conservation should be initiated.

***In situ/ex situ* conservation approach**

Forest Department: Massive plantation program should be encouraged to reforest some of the substantially good population of Golden Langur and build few corridors to link forest fragments. Food trees must be planted based on the natural habitat for Golden Langur.

Central Government: Potential population should be protected by projecting species like other programs viz. "Project tiger".

Education and Awareness

Education programmes for grassroot level people has to be done in collaboration with NGOs.

Role of research institutes and NGOs

Animal ecology and wildlife biology lab; Department of Zoology, Guwahati University, Assam; Primate research Centre (northeast) and "Aaranyak" (NGO) are providing necessary support in carrying out long-term studies of the species. They should therefore be involved in implementing the action plan for this species.

Community involvement

Community participation with socio-economic development programme in fringe areas of the species' habitat should be built up.

Semnopithecus (Trachypithecus) johnii johnii**Summary**

The Black Leaf Monkey endemic to the Western Ghats of Kerala, Tamil Nadu and Southern part of Karnataka is found in the elevation range of 300 – 2000m. It has a population of about 16,000+ individuals in five locations in many sub-populations. Due to habitat loss and hunting for traditional medicine and for meat, the population is perceived to be declining at about 10% in the past decade.

Distribution

This species is found along the Western Ghats between 8.5°N to 12.3°N range extending from Agastyamalai region

in the south to the Brahmagiris in the North. Five major locations where they are found are Agasthyamalai, Palani Hills, Anamalais, Nilgiris and Brahmagiris.

Habitat

This species is found in the tropical wet evergreen, semi-evergreen, riparian forests and teak plantations of the Western Ghats.

Threats

1. Major threats identified are habitat loss, hunting for medicine and meat. Other threats are habitat conversion, habitat fragmentation, flash flooding, land slide.
2. Areas such as the Mundanthurai plateau have lost most of their populations due to flash floods in 1992 and the resulting loss of riparian forest.

Status

This species is considered Vulnerable based on habitat loss, habitat degradation, and decrease in extent of occurrence in the northern part of its range.

Priority areas for conservation

Geographical areas: The main population is Kalakad-Mundanthurai Tiger Reserve, and special attention should be paid to this area.

Topics: Demographic studies need to be initiated in at least two sites, one in evergreen and other in deciduous sites, as they are not understood.

Priority areas for management

Forest department responsibilities: The Forest Department should keep strict vigilance in the areas and should take stringent action against poachers. Remote areas should be frequently visited by forest officials to prevent poaching of animals and illegal timber cutting; and joint patrolling along the state boundary between Tamil Nadu and Kerala should be initiated by the respective Forest Departments.

Priority areas for research

1. Intensive surveys are to be carried out in the distribution areas and also outside protected areas.
2. Field studies on ecology, life history, and behavior are to be undertaken.
3. Long term monitoring of identified groups has to be initiated with proper documentation.
4. Genetic resource for suspected hybridization may also be undertaken.

***In situ* conservation approaches**

Policy makers

1. Conversion of Nilgiri Langur habitat in any form especially conversion of coffee plantation into tea plantation is to be stopped.
2. Replacement of native trees in coffee plantation with fast growing exotic tree species has to be discouraged.

Education and awareness

Forest Department and Non Governmental Organizations (NGOs) can take initiatives to create awareness among the fringe area people about the rarity, endemism, and importance of this near-threatened species and the necessity of conservation.

Role of research institutes and NGOs

1. Identified research priorities can be undertaken by the research institutions to generate sufficient data in the regions for proper management of this species.

2. Research organizations can train local people on the basics of census techniques and involve them in conservation activities.
3. SACON/ Mysore University and KFRI should take the responsibility for monitoring the implementation of this Action Plan.

Community involvement

Eco-development activities have been initiated in two Protected areas (Kalakad-Mundanthurai Tiger Reserve and Periyar Tiger Reserve). These can be used as models for similar initiatives in other PA's where biotic pressures are high. Local communities can be involved in management activities like habitat restoration, anti-poaching activities and in population monitoring. They should also be involved in eco-tourism initiatives to show people Nilgiri Langurs.

***Trachypithecus obscurus phayrei* (Blyth, 1847)**

Summary

The Phayre's leaf monkey (*T. obscurus phayrei*) according to Dr. D. Brandon Jones, 2002 is the subspecies, till recently believed to be *Trachypithecus phayrei phayrei*. It occurs in Northeastern India, Bangladesh and Eastern Myanmar. Recent field studies report the population in Northeastern India and Bangladesh to be <1600. The populations are distributed in primary and secondary forest habitats including bamboo-dominated fragmented forest patches and near tea gardens. Main threats are habitat destruction, degradation and shrinkage. Localized hunting is also reported. Based on the available data (which is limited), the subspecies is Endangered. It is protected under Indian Wildlife Protection Act, 1972 (Amend., 1991), under Schedule –I and under Schedule-III of Bangladesh Wildlife Preservation (Amendment) Act 1974. More detailed surveys are needed to complete the distribution of this subspecies as complete distribution is still not known.

Distribution

The Leaf Monkey is reported from the states of Assam, Mizoram and Tripura of India and only three sites of Bangladesh.

Habitat

The species is found in primary and secondary moist evergreen and moist mixed deciduous forests. They are found to inhabit bamboo patches and plantations such as Rubber (*Hevea brasiliensis*). They are forest dwellers and are not known to raid crops.

Threats

1. Habitat loss/shrinkage due to human settlements, agricultural land expansion, establishment and expansion of tea gardens.
2. Hunting for food.

Status

1. I.U.C.N-SSC Red Data Book: Data Deficient (India)
2. CITES-II: Lower risk (India)
3. Indian Wildlife Protection Act, 1972 (Amend. 1991): Schedule-I (India)
4. IUCN-SSC RDB 2000: Critically Endangered (Bangladesh)
5. 3rd Schedule BW (P) (A) Act 1974. (India)

Priority areas for conservation

Geographical areas: The whole distribution belt in southern Assam is fragmented and habitat continuity may be restored through plantations including bamboo, connecting fragmented "island" patches. As far as Tripura is concerned, large areas having known populations are severely infested with insurgency. This problem needs to be

tackled at the Govt. level. The population in Bangladesh are only distributed in the Northeast and Southeast of Bangladesh .

Topics:

1. Habitat loss prevention
2. Community participation in conservation

Priority areas for management

Geographical areas: Throughout the distribution range – Indo Bangladesh joint venture is required.

Priority areas for research

1. Intensive surveys involving demographic studies are required. Special points to be covered are
 - a) Documentation (photographs, video records etc.)
 - b) Collection of skins and other body parts whenever available.
 - c) Habitat analysis studies including habitat fragmentation estimates.
 - d) Pinpoint locations (using GPS)
2. Continued study on ecology behaviour and life history. Comparative studies in different kinds of habitat to be stressed upon.

Role of NGOs

1. Support Forest Department Conservation activities in the way of providing emergency relief funds and boosting morale of field staff with various incentives like insurance cover, special anti-poaching kits etc.
2. Involve religious and other powerful bodies in wildlife conservation
3. Initiate mass awareness campaign in schools.
4. Act as pressure group on the government.

***Trachypitecus pileatus tenebricus* (Hinton, 1923)**

Summary

Tenebrous (capped) Leaf Monkey is found in North-eastern Assam and some parts of Arunachal Pradesh in India and north Central Bhutan. It has a population of <1000 (observed). In India various anthropogenic factors has resulted in habitat shrinkage, breaking the continuity of the forest and at the same time have restricted a substantial number of population in to fragmented forest and protected areas. Based on the current population trends and fragmentation of their habitat, the species is listed as Endangered.

To ensure legal protection more and more habitat area should be brought under Protected Area network.

Distribution

Capped (tenebrous) Leaf Monkey is found in India (Assam, Arunachal Pradesh) and Bhutan.

Habitat

Sub-tropical evergreen, broad-leaved forest, semi evergreen, moist deciduous forest. They are also found in bamboo thicket of secondary forest.

Threats

Habitat loss (encroachment, shifting cultivation), habitat fragmentation and habitat degradation, hunting, less immature individuals in the population are the major threats to the species in India.

Status

CITES- Appendix-I

IUCN Red Data list- Vulnerable
WPA (1972), India- Schedule-I.

Priority areas for conservation

In India, all the habitat area should be considered as priority areas.

Geographical areas: Large continuous habitats throughout the distribution range of Capped Leaf Monkey (orange bellied) are extremely important for long-term conservation through out the distribution range. Few important localities in India are Langlakso-Mikir Hills- Kalioni Complex and Barail North Cachar Complex. There are similar complex in Bangladesh and Myanmar also.

Priority areas for management

Geographic areas: All large continuous forest habitats with Capped leaf monkey (orange bellied) should be considered for proper management plan, i.e., to bring those areas under PA network.

Metapopulation management: not required at this point of time.

Forest Department responsibilities: Strict implementation of Wildlife Protection Acts, CITES etc. are essential. For implementation of laws, all divisions (e.g. logging, territorial, social, working plan, wildlife) of Forest Department should work together with the help of local administration.

Priority areas for research

1. Intensive surveys needed to be carried out in the potential Capped leaf monkey (orange bellied) habitats which never been surveyed and to validate the brief survey reports that has already been done in the earlier. In Indian part detail survey is required in Arunachal Pradesh.
2. Detailed study should be done on the ecology and behavior of fragmented populations.
3. A long-term synthetic demographic study should be initiated.

***In situ/ ex situ* conservation approach**

Forest Department: Massive plantation program should be encouraged to reforest some of the substantially good population of the monkey and building few corridors to tie up fragments. Food trees must be planted based on the natural habitat in the Capped leaf monkey habitats.

Central Government: The potential population should be protected by projecting the species as flagship species like other program viz. "Project tiger".

Education and Awareness

Education programmes for grassroots level people has to be done in collaboration with NGOs.

Role of research institutes and NGOs

Animal ecology and wildlife biology lab, department of Zoology Gauhati University, Assam, Primate Research Centre (northeast) and "Aaranyak" (NGO) are providing necessary support in carrying out long-term studies of the species. They should therefore be involved in implementing the action plan for this species.

Community involvement

Community participation with socio-economic development programme in the fringe areas of the species habitat should be built up.

***Trachypithecus pileatus durga* (Wroughton, 1916)**

Summary

Capped leaf monkey is found in Central and Southern Assam, Mizoram, Tripura in India and Bangladesh. It has a population of <1100. In India and Bangladesh various anthropogenic factors has resulted in habitat shrinkage,

breaking the continuity of the forest and at the same time have restricted a substantial number of population in to fragmented forest pockets. Based on current population trends and fragmentation of their habitat the species is listed as Vulnerable. To ensure legal protection more and more habitat area should be brought under protected area network.

Distribution

Capped (Orange-bellied) Leaf Monkey is found in India and Bangladesh and adjacent parts of Myanmar. In India they are found in Central and Southern Assam, Mizoram, Yamuna River in Bangladesh limits Tripura while their distribution.

Habitat

Sub-tropical evergreen, semi evergreen, moist deciduous forest. They are also found in Bamboo thicket of secondary forest.

Threats

Habitat loss (encroachment, shifting cultivation), habitat fragmentation and habitat degradation, less immature individuals in the population are the major threats to the species in India.

Status

CITES- Appendix-I

IUCN Red Data list- Endangered

WPA (1972), India- Schedule-I.

Priority areas for conservation

In India, all the habitat area should be considered as priority areas.

Geographical areas: Large continuous habitats throughout the distribution range of Capped Leaf Monkey (orange bellied) are extremely important for long-term conservation through out the distribution range. Few important localities in India are Langlakso-Mikir Hills- Kalioni Complex and Barail North Cachar Complex. There are similar complexes in Bangladesh and Myanmar also.

Priority areas for management

Geographic areas: All large continuous forest habitats with Capped Leaf Monkey (Orange -bellied) should be considered for proper management plan, i.e., to bring those areas under PA network.

Metapopulation management: not required at this point of time.

Forest Department responsibilities: Strict implementation of Wildlife Protection Acts, CITES etc. are essential. For implementation of laws, all divisions (e.g. logging, territorial, social, working plan, wildlife) of Forest Department should work together with the help of local administration.

Priority areas for research

Intensive surveys have to be carried out in potential Capped Leaf Monkey (orange bellied) habitats which have never been surveyed and to validate brief survey reports that has already been done. In Indian part detailed survey is required in Arunachal Pradesh. Detailed study should be done on the ecology and behavior of fragmented populations. A long-term synthetic demographic study should be initiated.

***In situ/ ex situ* conservation approach**

Forest Department: Massive plantation programmes should be encouraged to reforest some of the substantially good population of the monkeys and build few corridors to link fragments. Food trees must be planted based on the natural habitat of Capped Leaf Monkey.

Central Government: Potential population should be protected by projecting the species as flagship species like other programmes viz. "Project tiger".

Education and awareness

The education programmes for grassroots level people has to be done in collaboration with NGOs.

Role of research institutes and NGOs

Animal ecology and wildlife biology lab, Department of Zoology Guwahati University, Assam, Primate Research Centre (northeast) and “Aaranyak”(NGO) are providing necessary support in carrying out long-term studies of the species. They should therefore be involved in implementing the action plan for this species.

Community involvement

Community participation with socio-economic development programme in fringe areas of the species' habitat should be built up.

Trachypithecus vetulus

Summary

The Purple-faced Langur *Semnopithecus vetulus* is endemic to Sri Lanka. Currently four subspecies are recognized, *S. vetulus vetulus* distributed in the wet southern lowlands of the country, *S. vetulus nestor* in the densely populated wet western lowlands, *S. vetulus montocola* in the wet montane areas, and *S. vetulus philbricki* in the lowland dry zone. Past studies on forest populations of this species indicate that they live in small groups and are predominantly folivorous, but studies on some populations in modified habitats show that dietary adaptations are more possible for this species than previously believed.

It is almost wholly arboreal and hence dependant on habitats with adequate canopy cover. A comprehensive aerial photographic survey of the country's forest cover indicated that forest cover had dropped to 44 percent of the island's land area from a 70 percent at the turn of the century, much of which is attributed to channa (shifting cultivation). The most recent complete forest survey in 1992 based on satellite remote sensing and field checking indicate that closed – canopy natural forest; which is the prime habitat of the purple-faced langur had dropped to 24 percent of the land area of the country. Significantly, forest loss which was 42,000 ha per year from 1956 to 1983 had increased to 54,000 ha per year from 1983, mainly due to forest loss in the dry zone due to irrigated agriculture and associated human settlement under the Mahaweli Scheme. At present, closed canopy natural forests are concentrated largely in the dry zone, while the lowland rainforests, which contain the highest level of biological diversity and two of the subspecies of *S. vetulus* occupy less than 10 percent of the forest area. Although around 14 percent of the land area lies within state reserves, of serious concern is the fact that very little of these forests, as well as forests of the montane zone, are protected, increasing the vulnerability of these forests for further destruction. While recent initiatives for management and conservation of Sri Lanka's natural forests are seeking to stem the tide of rapid species loss, their management plans have so far not considered the requirements for primate conservation. Consequently although several long-term studies on this species in various parts of its range have indicated that conservation action is required, no long-term plans have been prepared as yet for the conservation of this species which is considered threatened in the 1999 List of Threatened Fauna and Flora of Sri Lanka and is listed as Endangered in IUCN's 2000 global list of threatened species.

Education and Awareness

Most forests in the wet zone in which three of the sub species of Purple-faced Langur occurs are surrounded by heavy population densities. The cooperation of local people for conservation is a vital need. Human tolerance of monkeys in the past was due to religions factors in a predominantly Buddhist society, but these attitudes are changing with rapid changes in socio-economic values. Education is important to increase tolerance among urban populations, but where monkey - human conflict is acute, this may not be sufficient to obtain the cooperation of local people for conservation action. Hence identification of methods to mitigate crop and roof damage from these monkeys as well as spread awareness of these methods, while examining novel ways to gain the cooperation of local people in primate conservation needs to be identified.

Trachypithecus vetulus monticola

Distribution

The range of this sub-species stretches across the country from the north-western coastal areas, across the north central province to the east coast, ranging from inland to meet the range of the highland subspecies in the central province. This is the only subspecies that is sympatric with *S. entellus thersites*.

Threats

The range of this subspecies has been considerably decreased during the past few decades due to deforestation in the dry zone due to agriculture, deforestation and to some extent hunting for subsistence and killing as a crop pest. In more recent years, development of the dry zone and the establishment of resultant infrastructure and roads is

also adding to the decline of its natural habitat and its quality. Consequently its range is diminishing which will cause a population decline.

Status

Endangered

Priority areas for conservation and management

Although large areas of forests remain in the range of this subspecies, there are few contiguous areas of Protected Area that can be considered as adequate habitats for viable populations. Further, two of the largest Protected Areas - the Wilpattu National Park and the Somawathie National Park that can provide refuge to this sub-species are out of bounds due to the civil strife in the country, and no knowledge of the status of populations in them are currently available. Priority areas for conservation should thus include wildlife and forest reserves that are left in its range including smaller forest patches such as the Polonnaruwa Sanctuary where there has been long-term studies on primates.

Priority areas for research

- Due to almost three decades of civil strife a large segment of natural forests in this range might have severely degraded while status of populations may have declined drastically due to hunting. Thus, surveys are needed to determine distribution and population density of this subspecies in areas where long term conservation of this sub-species is viable.
- This is the only sub-species of *S. vetulus* that subsist with all other primate species in the country. Hence comparative studies on feeding and ranging behaviour as well as response to habitat change in areas subject to severe disturbance need to be carried out.

Management considerations

It has also to be borne in mind that once civil life returns to the areas that are now under civil strife, vast changes in forest cover can be expected due to clearing for establishment of infrastructure for transport and social welfare services as well as for resettlement of displaced human populations. Hence identification of priority areas for conservation of populations and their management to ensure that the species requirements are met with, is of importance.

Distribution

The range of this sub-species stretches into the wet highlands ranging to heights of 1000-1200m.

Threats

The natural habitat of this subspecies is montane biodiversity rich rain forests. Major threats in the past comprise forest loss due to large-scale deforestation during colonial times for large-scale plantation, agriculture and human settlement and selective logging in wet zone forests in the early 1070s. However, many of these forests are species rich and continue to offer habitats for primates. Currently there is a moratorium on logging in all natural forests of

the country but encroachment by local people for expanding small holdings of crops continue to be a considerable threat to these forests.

Status

This subspecies is listed as Endangered in the 2000 IUCN List of Threatened Species.

Priority areas for conservation and management

Since much of the remaining forests of this region are small and fragmented it is necessary to conserve areas of contiguous forests that would be capable of sustaining viable populations of this subspecies in the long term. For practical reasons these areas should coincide with areas considered as important for the conservation of indigenous biodiversity, and should include contiguous forests of the montane region, including Horton Plains National Park.

Priority areas for research

1. Natural forests of this area are severely fragmented and surrounded by high density of human populations so that habitat change is a continuous occurrence. Therefore there has to be a study of the impacts of habitat change on populations in terms of feeding and ranging behaviour and survival of populations as well as comparative studies of this nature with forest populations.
2. Surveys are needed to determine the distribution and population density of these animals in the present and proposed Protected Area network in this region.

Semnopithecus vetulus nestor

Summary

The Purple-faced Langur *Semnopithecus vetulus* is endemic to Sri Lanka. Currently four subspecies are recognized, *S. vetulus vetulus* distributed in the wet southern lowlands of the country, *S. vetulus nestor* in the densely populated wet western lowlands, *S. vetulus montocola* in the wet montane areas, and *S. vetulus philbricki* in the lowland dry zone. Past studies on forest populations of this species indicate that they live in small groups and are predominantly folivorous, but studies on some populations in modified habitats show that dietary adaptations are more possible for this species than previously believed.

It is almost wholly arboreal and hence dependant on habitats with adequate canopy cover. A comprehensive aerial photographic survey of the country's forest cover indicated that forest cover had dropped to 44 percent of the island's land area from a 70 percent at the turn of the century, much of which is attributed to channa (shifting cultivation). The most recent complete forest survey in 1992 based on satellite remote sensing and field checking indicate that closed – canopy natural forest; which is the prime habitat of the purple-faced langur had dropped to 24 percent of the land area of the country. Significantly, forest loss which was 42,000 ha per year from 1956 to 1983 had increased to 54,000 ha per year from 1983, mainly due to forest loss in the dry zone due to irrigated agriculture and associated human settlement under the Mahaweli Scheme. At present, closed canopy natural forests are concentrated largely in the dry zone, while the lowland rainforests, which contain the highest level of biological diversity and two of the subspecies of *S. vetulus* occupy less than 10 percent of the forest area. Although around 14 percent of the land area lies within state reserves, of serious concern is the fact that very little of these forests, as well as forests of the montane zone, are protected, increasing the vulnerability of these forests for further destruction. While recent initiatives for management and conservation of Sri Lanka's natural forests are seeking to stem the tide of rapid species loss, their management plans have so far not considered the requirements for primate conservation. Consequently although several long-term studies on this species in various parts of its range have indicated that conservation action is required, no long-term plans have been prepared as yet for the conservation of this species which is considered threatened in the 1999 List of Threatened Fauna and Flora of Sri Lanka and is listed as Endangered in IUCN's 2000 global list of threatened species.

Education and Awareness

Most forests in the wet zone in which three of the sub species of Purple-faced Langur occurs are surrounded by

heavy population densities. The cooperation of local people for conservation is a vital need. Human tolerance of monkeys in the past was due to religious factors in a predominantly Buddhist society, but these attitudes are changing with rapid changes in socio-economic values. Education is important to increase tolerance among urban populations, but where monkey - human conflict is acute, this may not be sufficient to obtain the cooperation of local people for conservation action. Hence identification of methods to mitigate crop and roof damage from these monkeys as well as spread awareness of these methods, while examining novel ways to gain the cooperation of local people in primate conservation needs to be identified.

Distribution

The range of this sub-species stretches from the coastal areas of the wet lowlands into the wet highlands ranging up to the elevation of about 1000m where it meets the range of the highland subspecies. Intermediate forms are believed to exist in this part of its range as well as where it meets the range of the southern subspecies.

Threats

There are probably less than 1000 km² of natural forest within the range of this subspecies, so that most of the populations live in human modified areas such as home gardens and plantations. However, these habitats have also changed rapidly during the past decade, and are increasingly fragmented due to high population densities, pressure on land and changing socio-economic conditions. Consequently, monkeys living in these areas are severely constrained due to loss of food trees, ranging pathways and increased hostility by local people with whom they co-exist.

Status

Endangered

Priority areas for conservation and management

As much of the remaining forest of this region are extremely small while offering the only refugia for natural forest populations, management of these areas for conservation of this sub-species is of vital importance. Further, as populations living in modified areas show considerable changes in diet, feeding predominantly on fruit, conservation of these populations also assume importance. Hence acceptable measures to meet the twin objectives of primate conservation and the aspirations of local people need to be collectively identified, developed and adopted.

Priority areas for research

1. Surveys are necessary to identify forests suitable for long-term survival of populations of this sub-species
2. As studies indicate that populations living in modified environments can exist on a high fruit diet that is rich in human edible species, comparative studies on feeding and ranging habits of forest populations are important to gauge the adaptability of this sub-species.
3. As conservation of population outside forested areas depend entirely on human attitudes, pilot testing of projects that meet the twin aspirations of eco-tourism and primate conservation need to be initiated.

Semnopithecus vetulus philbricki

Summary

The Purple-faced Langur *Semnopithecus vetulus* is endemic to Sri Lanka. Currently four subspecies are recognized, *S. vetulus vetulus* distributed in the wet southern lowlands of the country, *S. vetulus nestor* in the densely populated wet western lowlands, *S. vetulus montocola* in the wet montane areas, and *S. vetulus philbricki* in the lowland dry zone. Past studies on forest populations of this species indicate that they live in small groups and are predominantly folivorous, but studies on some populations in modified habitats show that dietary adaptations are more possible for this species than previously believed.

It is almost wholly arboreal and hence dependant on habitats with adequate canopy cover. A comprehensive aerial photographic survey of the country's forest cover indicated that forest cover had dropped to 44 percent of the island's land area from a 70 percent at the turn of the century, much of which is attributed to channa (shifting cultivation). The most recent complete forest survey in 1992 based on satellite remote sensing and field checking indicate that closed – canopy natural forest; which is the prime habitat of the purple-faced langur had dropped to 24 percent of the land area of the country. Significantly, forest loss which was 42,000 ha per year from 1956 to 1983 had increased to 54,000 ha per year from 1983, mainly due to forest loss in the dry zone due to irrigated agriculture and associated human settlement under the Mahaweli Scheme. At present, closed canopy natural forests are concentrated largely in the dry zone, while the lowland rainforests, which contain the highest level of biological diversity and two of the subspecies of *S. vetulus* occupy less than 10 percent of the forest area. Although around 14 percent of the land area lies within state reserves, of serious concern is the fact that very little of these forests, as well as forests of the montane zone, are protected, increasing the vulnerability of these forests for further destruction. While recent initiatives for management and conservation of Sri Lanka's natural forests are seeking to stem the tide of rapid species loss, their management plans have so far not considered the requirements for primate conservation. Consequently although several long-term studies on this species in various parts of its range have indicated that conservation action is required, no long-term plans have been prepared as yet for the conservation of this species which is considered threatened in the 1999 List of Threatened Fauna and Flora of Sri Lanka and is listed as Endangered in IUCN's 2000 global list of threatened species.

Education and Awareness

Most forests in the wet zone in which three of the sub species of Purple-faced Langur occurs are surrounded by heavy population densities. The cooperation of local people for conservation is a vital need. Human tolerance of monkeys in the past was due to religious factors in a predominantly Buddhist society, but these attitudes are changing with rapid changes in socio-economic values. Education is important to increase tolerance among urban populations, but where monkey - human conflict is acute, this may not be sufficient to obtain the cooperation of local people for conservation action. Hence identification of methods to mitigate crop and roof damage from these monkeys as well as spread awareness of these methods, while examining novel ways to gain the cooperation of local people in primate conservation needs to be identified.

Distribution

The range of this sub-species stretches across the country from the north western coastal areas, across the North Central Province to the east coast, ranging inland to meet the range of the highland subspecies in the Central Province. This is the only subspecies that is sympatric with *S. entellus thersites*.

Threats

The range of this subspecies has been considerably decreased during the past few decades due to deforestation in the dry zone due to irrigated agriculture, and to some extent hunting for subsistence and killing as a crop pest. In more recent years development of the dry zone and the establishment of resultant infrastructure and roads are also adding to the decline of its natural habitat and its quality. Consequently its range is diminishing which will cause a further decline in its population.

Status

Endangered

Priority areas for conservation and management

Although large areas of forests remain in the range of this subspecies, there are few contiguous areas of Protected Area that can be considered as adequate habitats for viable populations. Further, two of the largest protected areas - the Wilpattu National Park and the Somawathiya National Park that can provide refuge to this sub-species are out of bounds due to the civil strife in the country, and no knowledge of the status of populations in them are currently available. Priority areas for conservation should thus include the wildlife and forest reserves that are left in its range including smaller forest patches such as the Polonnaruwa Sanctuary where there has been long-term studies on primates.

Priority areas for research

Due to almost three decades of civil strife a large segment of natural forests in this range might have severely degraded while status of populations may have declined drastically due to hunting. Thus, surveys are needed to determine distribution and population density of this subspecies in areas where long term conservation of this subspecies is viable.

This is the only sub-species of *S. vetulus* that subsist with all other primate species in the country. Hence comparative studies on feeding and ranging behaviour as well as response to habitat change in areas subject to severe disturbance need to be carried out.

Management considerations

It has also to be borne in mind that once civil life returns to the areas that are now under civil strife, vast changes in forest cover can be expected due to clearing for establishment of infrastructure for transport and social welfare services as well as for resettlement of displaced human populations. Hence identification of priority areas for conservation of populations and their management to ensure that the species requirements are met with, is of importance.

Semnopithecus vetulus vetulus

Summary

The Purple-faced Langur *Semnopithecus vetulus* is endemic to Sri Lanka. Currently four subspecies are recognized, *S. vetulus vetulus* distributed in the wet southern lowlands of the country, *S. vetulus nestor* in the densely populated wet western lowlands, *S. vetulus montocola* in the wet montane areas, and *S. vetulus philbricki* in the lowland dry zone. Past studies on forest populations of this species indicate that they live in small groups and are predominantly folivorous, but studies on some populations in modified habitats show that dietary adaptations are more possible for this species than previously believed.

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Education and Awareness

Most forests in the wet zone in which three of the sub species of Purple-faced Langur occurs are surrounded by heavy population densities. The cooperation of local people for conservation is a vital need. Human tolerance of monkeys in the past was due to religions factors in a predominantly Buddhist society, but these attitudes are changing with rapid changes in socio-economic values. Education is important to increase tolerance among urban

populations, but where monkey - human conflict is acute, this may not be sufficient to obtain the cooperation of local people for conservation action. Hence identification of methods to mitigate crop and roof damage from these monkeys as well as spread awareness of these methods, while examining novel ways to gain the cooperation of local people in primate conservation needs to be identified.

Distribution

The range of this sub-species stretches into the wet lowlands in the southern area of Sri Lanka, ranging from the coastal areas to the foothills of the central hills where it meets the range of the highland subspecies.

Threats

The natural habitat of this subspecies is the biodiversity rich lowland rain forests, although for several hundred years some populations have also adapted to living in plantations and home gardens. Major threats in the past comprise extensive forest loss due to encroachment for agriculture and human settlement and selective logging in wet zone forests in the early 1970s. However, several of these forest patches continue to be species rich, including this subspecies, and are earmarked for conservation of biodiversity and for inclusion in the Protected Area network. Currently there is a moratorium on logging in all natural forests of the country but encroachment by local people for expanding crop small holdings continue to be a considerable threat to these forest. Further, all forests of this region are surrounded by heavily populated villages and plantations, and conservation of populations in many of the smaller forest patches, as well as outside them, will depend on the participation of local people on forest and species conservation.

Status

Endangered

Priority areas for conservation and management

As much of the remaining forest of this region are small and fragmented it is necessary to conserve areas of contiguous forest that would be capable of sustaining viable populations in the long term. For practical reasons these areas should coincide with areas considered as important for conservation of indigenous biodiversity and should encompass the forests contiguous with Sinharaja, the World Heritage Site and National Heritage Wilderness Area.

Management considerations

Management plans have been developed for several wet zone forests within the range of this subspecies, and several are due to be implemented. Special consideration for primate conservation could be integrated into forest management especially as this species is a valuable indicator species. Particular attention should be given to requirements for conservation of this subspecies zonation and forest management practices in managed forests.

Priority areas for research

1. No long-term studies have been carried out on this subspecies as yet, and none on rainforest populations of this subspecies as a whole. Hence studies are required to ascertain the feeding and ranging habits of this species and its social organisation in lowland wet zone forests of the region.
2. Natural forests of this area are severely fragmented and surrounded by high density of human populations so that habitat change is a continuous occurrence for many populations. This offers excellent opportunity to study the impacts of habitat change on populations in terms of feeding and ranging behaviour and survival of populations. Further, comparative studies of this nature with forest populations should provide a good indication of adaptability of the sub-species to habitat change.
3. Surveys are needed to determine the distribution and population density of these animals in the present and proposed Protected Area network in this region.

Hylobatidae

Bunopithecus hoolock hoolock

Summary

Hoolock Gibbon is the only species of Apes in India, Bangladesh and Myanmar and is restricted to few good forested habitats in this region. This species is most vulnerable among all the species found in this region to habitat alteration as it is strictly canopy dweller, monogamous, has long parental care, and small group size. So, a proper Action Plan for this species and intensive long-term research is essential to understand the function of calls and formation patterns.

Distribution

Bunopithecus hoolock hoolock is found in northeastern and southeastern regions of Bangladesh, northeastern States (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura) of India and western Myanmar.

Habitat

This species is found in a wide variety of forest habitats from tropical semi-evergreen forest, tropical moist deciduous forest and subtropical broad-leaved hill forest, mixed-evergreen forest. They are mostly found in areas with high density of fruiting trees.

Threats

Habitat destruction, habitat alteration, fragmentation, hunting and trade are recognized as major threats for the survival of this species. Moreover, threats have been multiplied in this species due to their monogamous nature, small group size, long parental care, less reproductive turnouts and strictly arboreal nature.

Status

This species is evaluated globally as Endangered according to the IUCN criteria. However as Critically Endangered in Bangladesh (RDBs, IUCN Bangladesh, 2000).

Priority areas for conservation

Geographical areas: Large continuous habitats throughout the distribution range of Hoolock Gibbon are extremely important for long-term conservation through out the distribution range. Few important localities in India are Langlakso-Mikir Hills- Kalioni Complex and Barail North Cachar Complex. There are similar complex in Bangladesh and Myanmar also.

Priority areas for management

Geographic areas: All large continuous forest habitats with Hoolock Gibbon should be considered for proper management plan, i.e., to bring those areas under PA network.

Metapopulation management: Not required at this point of time.

Forest Department responsibilities: Strict implementation of Wildlife Protection Acts, CITES etc. are essential. For implementation of laws all divisions (e.g. logging, territorial, social, wWorking plan, wildlife) of Forest Department should work together with the help of local administration.

Priority areas for research

1. Intensive surveys have to be carried out in potential Gibbon habitats which have never been surveyed and to validate brief survey reports that have already been done earlier. In India, a detailed survey is required in Arunachal Pradesh.
2. Detailed study should be done on the ecology and behavior of fragmented populations.
3. A long-term synthetic demographic study should be initiated.
4. Hoolock Action Management Plan should be developed.

***In situ / ex situ* conservation approach**

Forest department: Food trees must be planted based on the natural habitat in Hoolock Gibbon habitats.

State Government: Hoolock Gibbon should be focused as “Flagship Species” for the conservation of the forest habitats.

Central Government: Create National Parks for Hoolock Gibbons, which will support all the species as they are canopy species.

Education and Awareness: On the importance of this species in forest regeneration in School and college level.

Role of research institutes and NGO’s: Coordinated research Institutes, Universities, Forest Department and NGO’s play an important role to support the species. All of them can contribute to prepare and implement of the Action Plan.

Community involvement: Local people living in the Gibbon habitats should be involved to develop a participatory management plan. They should also be involved in eco-tourism activities.



Slender Loris
(*Loris tardigradus*)

Status of South Asian Primates

7. Appendices



Hoolock or White-browed Gibbon (Female)
(*Bunopithecus hoolock*)

Appendix 1: List of Primates in South Asian Zoos other than India

No.	Species Name	M	F	U	Total
I	Gibbon, Hoolock (<i>Bunopithecus hoolock</i>)				
	<i>Bangladesh (2002)</i>				
	Chittagong Zoo	0	1	0	1
	Comilla Zoo	2	0	0	2
	Dhaka Zoo	1	2	0	3
		3	3	0	6
II	Langur, Common (<i>Presbytis entellus</i>)				
	<i>Bangladesh (2002)</i>				
	Chittagong Zoo, Bangladesh	1	2	0	3
	Dhaka Zoo, Bangladesh	2	2	0	4
	<i>Nepal (2002)</i>				
	Central Zoo, Nepal	3	1	0	4
	<i>Pakistan (2002)</i>				
	Lahore Zoo, Pakistan	3	2	0	5
	<i>Sri Lanka (2002)</i>				
	Colombo Zoo, Sri Lanka	1	4	0	5
			10	11	0
III	Langur, Capped (<i>Trachypithecus pileatus</i>)				
	<i>Bangladesh (2002)</i>				
	Chittagong Zoo	0	1	0	1
	Dhaka Zoo	2	4	0	6
	Rajshahi Zoo	?	?	?	1
	Rangpur Zoo	1	1	0	2
		>3	>6	0	>10
IV	Macaque, Assamese (<i>Macaca assamensis</i>)				
	<i>Bangladesh (2002)</i>				
	Chittagong Zoo	1	0	0	1
	<i>Nepal (2002)</i>				
Central Zoo	1	1	0	2	
		2	1	0	3
V	Macaque, Lion-Tailed (<i>Macaca silenus</i>)				
	<i>Nepal (2002)</i>				
	Central Zoo	2	0	0	2
		2	0	0	2
VI	Macaque, Pig-tailed (<i>Macaca nemestrina</i>)				
	<i>Bangladesh (2002)</i>				
	Chittagong Zoo	1	0	0	1
	Dhaka Zoo	2	3	0	5

No.	Species Name	M	F	U	Total
	<i>Sri Lanka (2002)</i>				
	Colombo Zoo	0	1	0	1
		3	4	0	7
VII	Macaque, Rhesus (<i>Macaca mulatta</i>)				
	<i>Bangladesh (2002)</i>				
	Chittagong Zoo	4	5	0	9
	Comilla Zoo	0	0	8	8
	Dhaka Zoo	12	30	0	42
	Rajshahi Zoo	?	?	?	28
	Rangpur Zoo	5	3	0	8
	<i>Pakistan (2002)</i>				
	Bahawalpur Zoo	4	5	0	9
	Dewan Zoo (2001)	1	1	0	2
	Jungle Kingdom (2001)	0	1	2	3
	Karachi Zoo	8	17	0	25
	Lahore Zoo	3	2	0	5
	Landhi Korangi Zoo	7	6	0	13
	Marghzar Zoo (2000)	4	5	2	11
	<i>Sri Lanka (2002)</i>				
	Colombo Zoo	0	2	0	2
		>48	>77	>12	165
XIII	Loris, Slow (<i>Nycticebus bengalensis</i>)				
	<i>Bangladesh (2002)</i>				
	Chittagong Zoo	1	2	0	3
	Dhaka Zoo	1	1	0	2
		2	3	0	5
		4	6	0	10
	TOTAL	75	108	12	224

Appendix 2: List of Primates in Indian Zoos
Central Zoo Authority (CZA) database, 2001-2002

S.No	Species Name	M	F	U	Total
I	Gibbon, Hoolock (<i>Bunopithecus hoolock</i>)				
1	National Zoological Park, Delhi	0	1	0	1
2	Lucknow Prani Udyan, Lucknow, Uttar Pradesh	1	1	0	2
3	Assam State Zoo cum Botanical Garden, Guwahati, Assam	1	0	0	1
4	Aizawl Zoo, Mizoram	1	2	0	3
5	Sepahijala Zoological Park, Tripura	0	1	0	1
		3	5	0	8
II	Langur, Common (<i>Semnopithecus entellus</i>)				
1	National Zoological Park, Delhi	9	2	0	11
2	Rohtak Zoo, Haryana	3	1	0	4
3	Mahendra Choudhury Zoological Park, Chhatbir	1	1	0	2
4	Gandhi Zoological Park, Gwalior	0	1	0	1
5	Kamla Nehru Prani Sanghralay Zoo, Indore	1	2	0	3
6	Kanpur Zoological Park, Uttar Pradesh	1	1	0	2
7	Kamla Nehru Zoological Garden, Ahmedabad	3	1	4	8
8	Sakkarbaug Zoo, Junagarh, Gujarat	1	0	0	1
9	Sayaji Baug Zoo, Vadodara, Gujarat	2	2	0	4
10	Veer mata Jijabai Bhosale Udyan & Zoo Mumbai	2	0	0	2
11	Indira Gandhi Zoological Park, Visakhapatnam, A.P.	2	3	1	6
12	Sri Chamarajendra Zoological Garden, Mysore	0	1	0	1
13	Thiruvananthapuram Zoo, Kerala	3	2	0	5
14	Arignar Anna Zoological Park, Vandalur	2	2	0	4
15	Children's Corner, Guindy	2	1	0	3
16	Sanjay Gandhi Biological Park, Patna, Bihar	13	4	0	17
17	Maitri Baagh Zoo – Bhilai, Chattisgarh	0	2	0	2
18	Alipore Zoological Garden, Kolkata	1	0	0	1
19	Padmaja Naidu Himalayan Zoological Park, Darjeeling	2	2	0	4
20	Nandankanan Biological Park, Bhubaneswar	1	2	0	3
21	Bhagwan Birsa Biological Park, Ranchi	2	0	0	2
22	Jawaharlal Nehru Biological Park, Bokaro	3	2	0	5
23	Tata Steel Zoological Park, Jamshedpur	4	3	1	8
24	Assam State Zoo Cum Botanical Garden, Guwahati, Assam	1	0	0	1
		59	35	6	100
III	Langur, Capped (<i>Trachypithecus pileatus</i>)				
1	Mahendra Choudhury Zoological Park, Chhatbir	1	0	0	1
2	Kanpur Zoological Park, Uttar Pradesh	0	1	0	1
3	Kamla Nehru Zoological Garden, Ahmedabad	0	1	0	1
4	Sayaji Baug Zoo, Vadodara, Gujarat	1	0	0	1
5	Nehru Zoological Park, Hyderabad	1	1	0	2
6	National Park, Bannerghatta Zoological Garden, Bannerghatta, Karnataka	0	1	0	1
7	Arignar Anna Zoological Park, Vandalur	1	0	0	1
8	Sanjay Gandhi Biological Park, Patna, Bihar	1	0	0	1
9	Jawaharlal Nehru Biological Park, Bokaro	0	1	0	1
10	Assam State Zoo cum Botanical Garden, Guwahati, Assam	0	1	0	1

S.No	Species Name	M	F	U	Total
11	Manipur Zoological Garden, Imphal, Manipur	1	0	0	1
12	Sepahijala Zoological Park, Sepahijala, Tripura	1	0	0	1
		8	5	0	13
IV	Macaque, Assamese (<i>Macaca assamensis</i>)				
1	National Zoological Park, Delhi	0	3	0	3
2	Mahendra Choudhury Zoological Park, Chhatbir	14	18	7	39
3	Jaipur Zoo, Rajasthan	3	0	0	3
4	National Park, Bannerghatta Zoological Garden, Karnataka	1	0	0	1
5	Sanjay Gandhi Biological Park, Patna, Bihar	5	2	0	7
6	Alipore Zoological Garden, Kolkata	4	2	3	9
7	Nandankanan Biological Park, Bhubaneshwar	1	0	0	1
8	Itanagar Zoological Park, Arunachal Pradesh	1	0	0	1
9	Assam State Zoo cum Botanical Garden, Guwahati, Assam	1	0	0	1
10	Manipur Zoological Garden, Imphal	2	2	0	4
11	Aizawl Zoo, Aizawl, Mizoram	14	6	0	20
12	Sepahijala Zoological Park, Sepahijala, Tripura	6	4	0	10
		52	37	10	99
V	Macaque, Lion-Tailed (<i>Macaca silenus</i>)				
1	National Zoological Park, Delhi	1	1	0	2
2	Mahendra Choudhury Zoological Park, Chhatbir	2	0	0	2
3	Kanpur Zoological Park, Uttar Pradesh	0	1	0	1
4	Peshwe Park Zoological Garden (Sambhaji Park) Pune, MH	1	0	0	1
5	Jaipur Zoo, Rajasthan	2	1	0	3
6	Nehru Zoological Park, Hyderabad	1	0	0	1
7	Bellary Children's Park-cum-Zoo, Karnataka	0	1	0	1
8	National Park, Bannerghatta Zoological Garden, Karnataka	1	1	0	2
9	Sri Chamarajendra Zoological Garden, Mysore	1	3	0	4
10	Thiruvananthapuram Zoo, Kerala	4	4	0	8
11	State Museum & Zoo, Thrissur	3	0	0	3
12	Arignar Anna Zoological Park, Vandalur	6	4	0	10
13	Children's Corner, Guindy	1	1	0	2
14	Sanjay Gandhi Biological Park, Patna, Bihar	2	1	0	3
15	Maitri Baagh Zoo – Bhilai, Chatisgrah	2	1	0	3
16	Alipore Zoological Garden, Kolkata	0	1	0	1
17	Nandankanan Biological Park, Bhubaneshwar	1	1	0	2
18	Assam State Zoo cum Botanical Garden, Guwahati, Assam	0	1	0	1
		28	22	0	50
VI	Macaque, Pig-tailed (<i>Macaca leonina</i>)				
1	Mahendra Choudhury Zoological Park, Chhatbir	2	0	0	2
2	Lucknow Prani Udyan, Lucknow, Uttar Pradesh	0	1	0	1
3	V.O.C. Park Mini Zoo, Coimbatore	0	1	0	1
4	Sanjay Gandhi Biological Park, Patna, Bihar	1	0	0	1
5	Alipore Zoological Garden, Kolkata	1	0	0	1
6	Assam State Zoo cum Botanical Garden, Guwahati, Assam	4	2	0	6
7	Sepahijala Zoological Park, Sepahijala, Tripura	3	5	0	8
		11	9	0	20

S.No	Species Name	M	F	U	Total
VII	Macaque, Rhesus (<i>Macaca mulatta</i>)				
1	National Zoological Park, Delhi	17	16	29	62
2	Mahendra Choudhury Zoological Park, Chhatbir	1	1	19	21
3	Gandhi Zoological Park, Gwalior, MP	10	10	2	22
4	Kamla Nehru Prani Sanghralalay Zoo, Indore	7	10	0	17
5	Kanpur Zoological Park, Uttar Pradesh	3	2	0	5
6	Lucknow Prani Udyan, Lucknow, Uttar Pradesh	1	0	0	1
7	PT. Govind Ballabh Park High Altitude Zoo, Nainital	2	4	0	6
8	Kamla Nehru Zoological Garden, Ahmedabad	9	10	10	29
9	Nature Park, Surat, Gujarat	1	2	0	3
10	Sakkarbaug Zoo – Junagarh, Gujarat	2	1	0	3
11	Sayaji Baug Zoo – Vadodara, Gujarat	3	5	0	8
12	Auragabad Municipal Zoo, Maharashtra	1	3	0	4
13	Peshwe Park Zoological Garden (Sambhaji Park) Pune, MH	0	12	0	12
14	Veer mata Jijabai Bhosale Udyan & Zoo Mumbai	3	3	0	6
15	Bikaner Zoo – Rajasthan	6	4	0	10
16	Jaipur Zoo – Rajasthan	1	0	0	1
17	Jodhpur Zoo – Rajasthan	6	5	0	11
18	Udiapur Zoo – Rajasthan	2	3	0	5
19	Indira Gandhi Zoological Park, Visakhapatnam	7	3	0	10
20	Nehru Zoological Park, Hyderabad	0	2	0	2
21	Sri Venkateswara Zoological Park, Tirupati	5	1	0	6
22	Bellary Children's Park-cum-Zoo, Karnataka	1	2	0	3
23	National Park, Bannerghatta Zoological Garden, Karnataka	1	4	0	5
24	Sri Chamarajendra Zoological Garden, Mysore	2	3	0	5
25	Tiger & Lion Safari, Thyarekoppa Shimoga, Karnataka	1	1	0	2
26	Thiruvananthapuram Zoo, Kerala	0	1	0	1
27	State Museum & Zoo, Thrissur	0	1	0	1
28	Arignar Anna Zoological Park, Vandalur	13	10	2	25
29	Children's Corner, Guindy	2	2	0	4
30	V.O.C. Park Mini Zoo, Coimbatore	2	3	0	5
31	Sanjay Gandhi Biological Park, Patna, Bihar	15	18	0	33
32	Maitri Baagh Zoo – Bhilai, Chatisgrah	2	3	0	5
33	Alipore Zoological Garden, Kolkata	6	3	0	9
34	Calcutta Snake Park Zoological Garden, Badu, West Bengal	1	1	0	2
35	Nandankanan Biological Park, Bhubaneshwar	2	0	0	2
36	Bhagwan Birsa Biological Park, Ranchi	6	5	8	19
37	Jawaharlal Nehru Biological Park, Bokaro	9	3	0	12
38	Tata Steel Zoological Park, Jamshedpur	2	4	0	6
39	Manipur Zoological Garden, Imphal	11	13	0	24
40	Aizawl Zoo – Aizawl, Mizoram	13	7	0	20
41	Lady Hydari Park, Animal Land Shillong	4	5	0	9
42	Sepahijala Zoological Park, Tripura	4	6	0	10
		184	192	70	446
VIII	Macaque Bonnet (<i>Macaca radiata</i>)				
1	National Zoological Park, Delhi	2	4	0	6
2	Rohtak Zoo, Haryana	7	6	0	15
3	Mahendra Choudhury Zoological Park, Chhatbir	5	3	2	10
4	Gandhi Zoological Park, Gwalior, MP	2	2	0	4

S.No	Species Name	M	F	U	Total
5	Kamla Nehru Prani Sanghralalay Zoo, Indore	3	0	0	3
6	Van Vihar National Park, Bhopal, MP	0	0	125	125
7	Kanpur Zoological Park, Uttar Pradesh	6	1	0	7
8	Lucknow Prani Udyan, Lucknow, Uttar Pradesh	6	8	0	14
9	PT. Govind Ballabh Park High Altitude Zoo, Nainital	2	0	0	2
10	Kamla Nehru Zoological Garden, Ahmedabad	5	2	2	9
11	Nature Park, Surat, Gujarat	2	3	0	5
12	Sakkarbaug Zoo – Junagarh, Gujarat	8	3	0	11
13	Sayaji Baug Zoo – Vadodara, Gujarat	1	2	0	3
14	Aurangabad Municipal Zoo, Maharashtra	1	4	0	5
15	Peshwe Park Zoological Garden (Sambhaji Park) Pune, MH	2	3	1	6
16	Veer mata Jijabai Bhosale Udyan & Zoo Mumbai	2	1	2	5
17	Bikaner Zoo – Rajasthan	4	0	0	4
18	Jaipur Zoo – Rajasthan	3	2	0	5
19	Indira Gandhi Zoological Park, Visakhapatnam	6	6	1	13
20	Nehru Zoological Park, Hyderabad	1	1	0	2
21	Sri Venkateswara Zoological Park, Tirupati	7	3	0	10
22	Sri Chamarajendra Zoological Garden, Mysore	1	0	0	1
23	Thiruvananthapuram Zoo, Kerala	4	3	0	7
24	State Museum & Zoo, Thrissur	23	16	3	42
25	Arignar Anna Zoological Park, Vandalur	15	6	1	22
26	Children's Corner, Guindy	110	106	0	216
27	V.O.C. Park Mini Zoo, Coimbatore	3	6	0	9
28	Sanjay Gandhi Biological Park, Patna, Bihar	1	0	0	1
29	Maitri Baagh Zoo – Bhilai, Chatisgrah	2	0	0	2
30	Alipore Zoological Garden, Kolkata	0	0	23	23
31	Nandankanan Biological Park, Bhubaneswar	3	2	1	6
32	Jawaharlal Nehru Biological Park, Bokaro	4	3	0	7
33	Tata Steel Zoological Park, Jamshedpur	2	1	0	3
34	Itanagar Zoological Park, Arunachal Pradesh	8	5	5	18
35	Assam State Zoo Cum Botanical Garden, Guwahati, Assam	1	0	0	1
36	Manipur Zoological Garden, Imphal	2	2	0	4
		254	204	168	626
XI	Macaque, Stump-tailed (<i>Macaque arctoides</i>)				
1	Lucknow Prani Udyan, Lucknow, Uttar Pradesh	2	2	0	4
2	Aurangabad Municipal Zoo, Maharashtra	1	0	0	1
3	Indira Gandhi Zoological Park, Visakhapatnam	1	1	0	2
4	Sri Venkateswara Zoological Park, Tirupati	2	2	0	4
5	Sri Chamarajendra Zoological Garden, Mysore	0	1	0	1
6	Sanjay Gandhi Biological Park, Patna, Bihar	3	5	0	8
7	Jawaharlal Nehru Biological Park, Bokaro	1	1	0	2
8	Assam State Zoo Cum Botanical Garden, Guwahati, Assam	5	1	0	6
9	Manipur Zoological Garden, Imphal	5	6	0	11
10	Lady Hydari Park, Animal Land Shillong	0	2	0	2
		20	21	0	41
X	Langur, Nilgiri (<i>Semnopithecus johii johni</i>)				
1	Kanpur Zoological Park, Uttar Pradesh	0	1	0	1

S.No	Species Name	M	F	U	Total
2	Indira Gandhi Zoological Park, Visakhapatnam	1	1	0	2
3	Sri Chamarajendra Zoological Garden, Mysore	2	3	0	5
4	Thiruvananthapuram Zoo, Kerala	1	0	0	1
5	Arignar Anna Zoological Park, Vandalur	3	7	2	12
6	Children's Corner, Guindy	1	1	0	2
7	V.O.C. Park Mini Zoo, Coimbatore	2	1	0	3
8	Nandankanan Biological Park, Bhubaneshwar	1	0	0	1
		11	14	2	27
XI	Langur, Golden (<i>Trachypithecus geei</i>)				
1	Kanpur Zoological Park, Uttar Pradesh	0	1	0	1
2	National Park, Bannerghatta Zoological Garden, Karnataka	0	1	0	1
3	Jawaharlal Nehru Biological Park, Bokaro	1	0	0	1
4	Assam State Zoo Cum Botanical Garden, Guwahati, Assam	1	2	0	3
5	Sepahijala Zoological Park, Tripura	0	1	0	1
		2	5	0	7
XII	Loris, Slow (<i>Nycticebus bengalensis</i>)				
1	Lucknow Prani Udyan, Lucknow, Uttar Pradesh	1	0	0	1
2	Kamla Nehru Zoological Garden, Ahmedabad	0	1	0	1
3	Jaipur Zoo – Rajasthan	1	0	0	1
4	Sanjay Gandhi Biological Park, Patna, Bihar	1	1	0	2
5	Itanagar Zoological Park, Arunachal Pradesh	0	2	0	2
6	Assam State Zoo Cum Botanical Garden, Guwahati, Assam	1	1	0	2
7	Manipur Zoological Garden, Imphal	1	1	0	2
8	Lady Hydari Park, Animal Land Shillong	1	0	0	1
		6	6	0	12
XIV	Loris, Slender (<i>Loris lydekkerianus</i>)				
1	Sri Chamarajendra Zoological Garden, Mysore	0	0	1	1
2	Arignar Anna Zoological Park, Vandalur	1	0	0	1
3	Children's Corner, Guindy	3	0	0	3
		4	0	1	5
XV	Macaque, Crab-eating (<i>Macaca fascicularis</i>)				
1.	Haddo Mini Zoo, Port Blair (9.7.0.16)	9	7	0	16
	TOTAL	651	562	257	1470

Appendix 3: Participants Photographs



Rauf Ali



Bonnet Macaque



Dilip Chetry



Assamese Macaque



Joydeep Bose



Ardith Eudey



H.R. Bhat



Mukesh K. Chalise



Jayanta Das



Jihosuo Biswas



K.N. Changappa



Jinie Dela



Gigi K. Joseph



Wolfgang Dittus



Minesh Kumar Ghimire



Jhamak B. Karki



Suvas Chandra Ghimire



Hemanth Kumar



Nilantha K. Kodithuwakku



M. M. Feeroz



Hoolock Gibbon



Ajith Kumar



Suresh Ganapathiappan



Mrs. Hoolock Gibbon



Sunil Gunatilake



Harry Andrews



Rekha Medhi



R. Krishnamani



Douglas Brandon-Jones



Manoj K. Misra



Awadesh Kumar



Long-tailed Macaque



P.O. Nameer



K.R. Liyanage



N.S. Manoharan



K.S. Neelakantan



Sangita Mitra



Purple-faced Monkey



G. Ramaswamy



Pig-tailed Macaque



Sunita Ram



Rhesus Macaque



M.S. Pradhan



K.K. Ramachandran



V. Ramakantha



**Mrs. Purple-faced
Monkey**



Santhosh KumarSahoo



Anantha Krishna Sharma



Mewa Singh



Stump-tailed Macaque



S. Wijeyamohan



Slender Loris



Ruchira Somaweera



Nilgiri Langur



P. Srivastava



Anjali Watson



G.S. Solanki



A.N. Weerasinghe

Organisers



Assamese Macaque



Lion-tailed Macaque



Sally Walker



Arnab Roy



Latha G. Ravikumar



Sanjay Molur



A.R. Binu Priya



K. Padma Priya



J. Sheela



B.A. Daniel



B. Ravichandran



Sonali Lahiri

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