Biodiversity Conservation Prioritisation Project (BCPP) India

Endangered Species Project

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

REPORT

By Zoo Outreach Organisation / CBSG, India

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Authored by Participants

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Mammals of India

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Report of BCPP CAMP on Indian Mammals

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Biodiversity Conservation Prioritisation Project (BCPP) India
Conservation Assessment and Management Plan (C.A.M.P.) Workshops for Mammals of India

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Amphibians of India
Reptiles of India
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Mammals of India
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Biodiversity Conservation Prioritisation Project (BCPP) India
Conservation Assessment and Management Plan (C.A.M.P.) Workshops for Mammals of India

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Mammals of India

Executive Summary

Biodiversity Conservation Prioritisation Project, India -- Endangered Species Project
Conservation Assessment and Management Plan (C.A.M.P.) Workshops

Mammals of India

Hosted by the Centre for Ecological Sciences, I.I.Sc., Bangalore
25 – 29 August, 1997

EXECUTIVE SUMMARY

Introduction

The Biodiversity Conservation Prioritisation Project, India undertook a prioritisation exercise for species, sites and strategies for conservation. The Endangered Species Subgroup selected the Conservation Assessment and Management Plan Workshop Process and the IUCN Red List Criteria (Revised, 1994) for assessing conservation status of species.

A Conservation Assessment and Management Plan (C.A.M.P.) Workshop was conducted for 372 taxa of Mammals of India to assess their status in the wild. The Workshop took place from 25 – 29 August 1997 in Bangalore hosted by the Centre for Ecological Sciences, Indian Institute of Science, Bangalore. Other local collaborators were the Jawaharlal Nehru Centre for Advanced Scientfic Research and the Forest Department of Karnataka. Forty-five participants from 30 institutions with expertise ranging from field biology to forest management attended the workshop.

Three-fourths of all Indian mammals were assessed at the workshop. The workshop participants refered extensively to the checklist of Indian mammals prepared by P.O. Nameer. The list contained 404 species. The checklist was scrutinised at the workshop and only those species or subspecies that were known to have occurred or occuring in India were evaluated. There were some additions and deletions to the checklist based on the participants' views and the final tentative number of mammal taxa in India is about 430.

In total 372 taxa (including species and subspecies) were evaluated at the workshop. The selection of species for assessment was not a problem in the case of mammals because the plan of action involved firstly assessment of all endemic taxa followed by the assessment of non-endemic taxa, depending on availability of time. The workshop was a success in that the participants assessed more than 75% of the mammalian taxa occuring in India in the stipulated 5 days.

The expertise available at the workshop included reputed field biologists with years of field experience both in the past and currently. Information for every taxa was entered on "Taxon Data Sheets" in which details of the taxon distribution, population numbers, habitat structure, threats affecting the taxa, population decline and the quality of data provided for the taxa are entered. This information was used to assess the status of every taxon and assign a category of threat according to the IUCN Red List categories. Taxon specific recommendations were also made after categorisation for use in conservation action planning.

CAMP methodology

The Conservation Assessment and Management Plan process is a methodology for rapid assessment of taxa in the wild. This methodology is a rational and objective method of assigning threat categories and deriving recommendations for conservation action plans through participatory group inputs from many stakeholders. A CAMP process is a platform for a congregation of 10 to 40 experts from related fields such as field biologists, ecologists, habitat experts, wildlife managers, forest officials, captive managers, university researchers, academicians, non-governmental organisations, policy makers and other relevant stakeholders. The CAMP Workshop is organised and conducted by objective facilitators who do not have a professional or personal stake in the outcome of the assessments.

The assessment is also followed by research and conservation recommendations for every taxon. CAMPs provide a rational and comprehensive means of assessing priorities for intensive management within the context of the broader conservation needs of threatened taxa.

The Conservation Breeding Specialist Group developed the CAMP process methodology first for identifying priorities in captive management planning for the global zoo community, which needed to know the *in situ* conservation status of species in their care. The methodology, however, has proved so effective for assessing status in the wild that it has been recognised by IUCN SSC Specialist Groups, governmental and non-governmental agencies, conservation action planners and policy makers all over the world. The CAMP

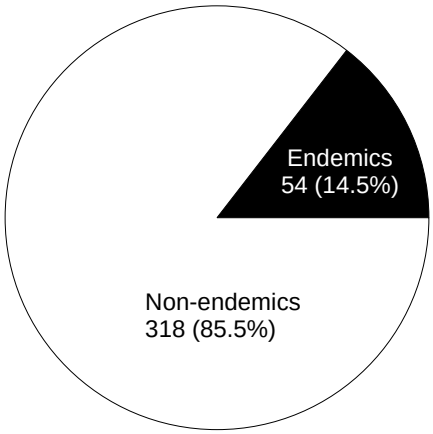
methodology is emerging as an effective means of conducting biodiversity inventory, identification and monitoring, thus satisfying Agenda item 7 in the Conservation on Biological Diversity.

The CAMP process is a flexible process that allows much need-based variations to be incorporated in its conduct. Before the workshop, preliminary Taxon Data Sheets called "Biological Information Sheet" was sent in advance to all known mammal researchers in India and all other people listed in the invitee list. Along with the Biological Information Sheet was also mailed the CAMP Manual to help the respondants in understanding the concept and objective of the workshop and the IUCN categories. The Biological Information Sheet is a modified Taxon Data Sheet that is more self-explanatory and does not require the help of an interpretive manual while answering. This exercise helped in gathering information from different areas about different taxa before hand and the sheets were also utilised extensively at the workshop by participants for information that was not available within the context of the workshop. The sheets therefore provided the means of representation for participants who could not attend the workshop for some reason.

Report

Indian mammals, which are about 430 taxa in number have a fair representation of endemics. Nearly fifteen percent (15%) of the assessed mammals are endemic to India. The total endemic taxa may not be significantly more than this because all of the known endemics were assessed at the workshop. Western Ghats is the richest region in India with respect to endemic mammals. Fourteen taxa are endemic to this biogeographic region with a few more taxa sharing their distribution with adjacent areas. Northern India is home to 7 endemic mammals, while northeastern India, which has a very high diversity does not have many endemics within the Indian context because of the jagged political boundary of the country. Though restricted in their distribution in this region, locations of many mammals are found outside India thereby making them Indian political non-endemics. Andaman and Nicobar islands are home to 9 rare mammal species, mostly bats, rats and shrews. A graph depicting mammalian distribution is given in the main report.

Mammals of India

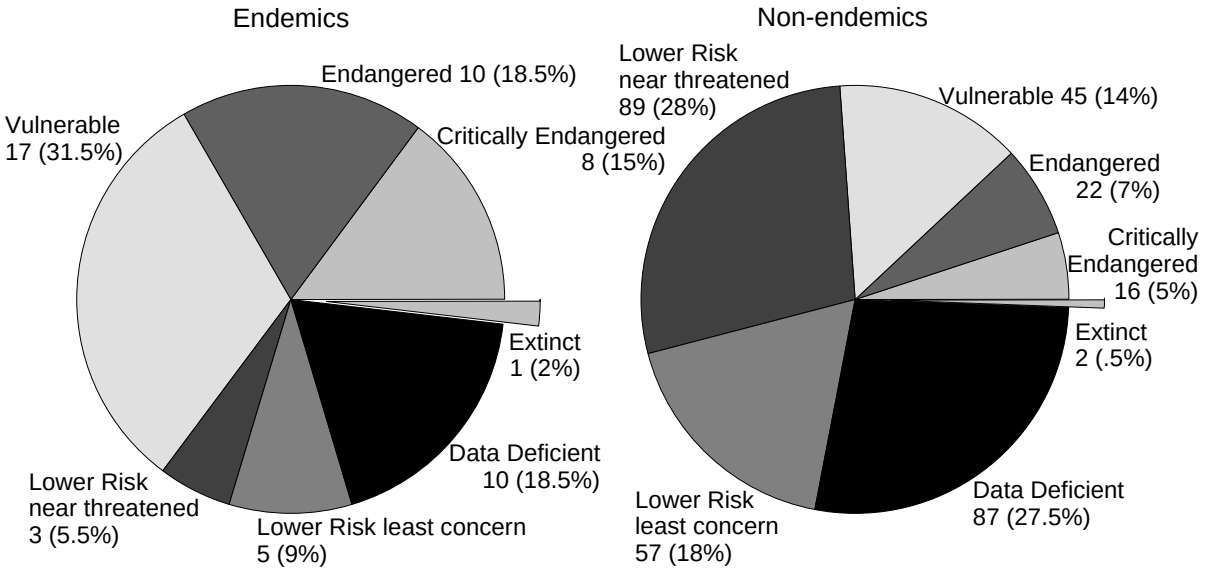


Number of mammals assessed = 372

Thirty-five endemic taxa and 83 non-endemic mammals are threatened according to the assessment at the workshop, based on the 1994 IUCN Red list categories. A high percentage of endemic taxa are threatened due to restricted distribution along with other man-induced threats to their wellbeing. Larger mammals are fairly well studied but the smaller mammals are poorly studied since information regarding distribution, population dynamics and threats are incomplete and most of the information available is from only a few well studied locations. Threats perceived to Indian mammals are habitat destruction, fragmentation, agricultural practices, pollution, pesticides and other kinds of human interference. Trade is also a contributing factor in threatening 65 mammalian taxa in India.

Categorisation of taxa was done according to the 1994 IUCN Red Liast categories. For a taxon to be threatened, any one of the five criteria within the categories has to be satisfied. These criteria or factors that are used in a categorisation of threat are 1. Population reduction; 2. Restricted distribution; 3. Population estimates; 4. Restricted population and 5 Probability of extinction. The degree of threat depending on each or any of these five criteria determines the threat category.

Status of Indian mammals



Number of endemics assessed = 54

Number of non-endemics assessed = 318

One of the major outcomes of this workshop was the post-assessment research and management recommendations for every mammal taxon. Participants identified lacunae areas that need prioritisation and this is indicated in the recommendation section. Survey and monitoring are the most frequently recommended research and management tools for understanding distribution and trends of reptile populations. The workshop was also an ideal forum to discuss controversial issues such as taxonomy and nomenclature of Indian mammals. There is still considerable confusion in the lower mammalian taxonomy, which was discussed at the workshop in the worksing groups. Special issue working groups were convened to formally discuss some of the issues participants felt the need for discussion in such a forum. Four special issue working groups formed were 1. Marine mammals, 2. Indian Wildlife Protection Act, 3. Data Deficient species and 4. IUCN categories and its application to mammals with suggestions for improvement and recommendations in each of the topics. However, it was appreciated that most of the biologists were able to discuss those issues within their working groups while assessing the status. It was also felt that a need for a network to identify and bring together reptile researchers in and around India required urgent action. Complete report of the working groups and commitments by the participants in mammal conservation are appended to the main report.

Table 1. List of mammals assessed at the workshop

Species	Family	IUCN	Criteria
ENDEMIC			
Anathana ellioti (Waterhouse)	Tupaiidae	LRnt	--
Atherurus macrourus assamensis (Linnaeus)	Hystricidae	EN	(B1, 2bcd)
Biswamoyopterus biswasi (Saha)	Sciuridae	CR	(B1, 2c)
Bubalus arnee Kerr	Bovidae	EN	B1, 2c
Cervus duvaucelli branderi	Cervidae	CR	C2b
Cervus elaphus hanglu Linnaeus	Cervidae	CR	(B1, 2cd; C2b)
Cervus eldi eldi M'Clelland	Cervidae	CR	(B1, 2c; C2b)
Cremnomys cutchicus Wroughton	Muridae	LRlc	--
Cremnomys elvira (Ellerman)	Muridae	VU	(D2)
Crocidura andamanensis Miller	Soricidae	DD	--
Crocidura hispida Thomas	Soricidae	EN	(B1, 2c)
Crocidura jenkinsi (Chakraborthy)	Soricidae	DD	--
Crocidura nicobarica Miller	Soricidae	DD	--
Cuon alpinus dekhanensis (Pallas)	Canidae	LRnt	--
Cuon alpinus laniger	Canidae	CR	(C2b)
Eptesicus nilssoni (Keyserling and Blasius)	Vespertilionidae	DD	--
Eptesicus tatei (Ellerman & Morrison Scott)	Vespertilionidae	DD	--
Funambulus tristriatus (Waterhouse)	Sciuridae	LRnt	--
Harpiocephalus harpia Hodgson	Vespertilionidae	DD	--
Hemitragus hylocrius (Ogilby)	Bovidae	EN	(B1, 2acd; C2a)
Herpestes fuscus fuscus Waterhouse	Herpestidae	VU	(B1, 2abc)
Herpestes palustris (Ghosh)	Herpestidae	EN	(B1, 2abcd)
Hipposideros schistaceus K. Anderson	Hipposideridae	DD	--
Latidens salimalii Thonglongya	Pteropodidae	EN	(B1, 2a; C2a)
Macaca radiata (E. Geoffroy)	Cercopithecidae	LRlc	--
Macaca silenus (Linnaeus)	Cercopithecidae	EN	(B1, 2c; C2a)
Martes gwatkinsi (Horsfield)	Mustelidae	VU	B1, 2bc
Millardia kondana Mishra and Dhanda	Muridae	VU	(D2)
Murina grisea Peters	Vespertilionidae	VU	(D2)
Mus famulus (Bonhote)	Muridae	EN	(B1, 2c)
Mus phillipsi (Wroughton)	Muridae	LRlc	--
Mus platythrix Bennett	Muridae	LRlc	--
Otomops wroughtoni (Thomas)	Molossidae	CR	(B1, 2c)
Ovis vignei vignei	Bovidae	EN	(C2a)
Panthera leo persica (Linnaeus)	Felidae	CR	(C2b)
Paradoxurus jerdoni Blanford	Viverridae	VU	(B1, 2bc)
Paraechinus micropus nudirentris (Horsfield)	Erinaceidae	VU	(D2)
Petinomys fuscocapillus fuscocapillus (Jerdon)	Sciuridae	VU	(B1, 2bc)
Plantacanthomys lasiurus Blyth	Muridae	LRlc	--
Pteropus faunulus Miller	Pteropodidae	VU	(B1, 2cd)
Rattus palmarum (Zelebor)	Muridae	DD	--
Rattus ranjiniae Agarwal & Ghosal	Muridae	VU	(D2)
Rattus stoicus (Miller)	Muridae	VU	(D2)
Ratufa indica centralis (Erxleben)	Sciuridae	VU	(A1c)
Ratufa indica dealbata (Erxleben)	Sciuridae	EX	--
Ratufa indica indica (Erxleben)	Sciuridae	VU	(A1ac; C1)
Ratufa indica maxima (Erxleben)	Sciuridae	VU	(B1, 2c; C1)
Rhinolophus cognatus Anderson	Rhinolopidae	DD	--
Rhinolophus mitratus Blyth	Rhinolopidae	VU	(D2)
Suncus dayi (Dobson)	Soricidae	VU	(B1, 2b)
Trachypithecus johnii (Fischer)	Cercopithecidae	VU	(B1, B2; C1a)
Tupaia nicobarica (Zelebor)	Tupaiidae	EN	(B1, 2c)
Viverra civettina Blyth	Viverridae	CR	(A1bc)
NON-ENDEMICS			
Acinonyx jubatus venaticus (Pocock, Ellerman and Morrison-Scott)	Felidae	EX	--
Ailurus fulgens fulgens Cuvier	Ailuridae	VU	(B1, 2abc)

Species	Family	IUCN	Criteria
Alticola montosa (True)	Muridae	DD	--
Alticola roylei (Gray)	Muridae	DD	--
Alticola stoliczkanus (Blanford)	Muridae	DD	--
Anourosorex squamipes Milne-Edwards	Soricidae	VU	(B1, 2c)
Antilope cervicapra (Linnaeus)	Bovidae	LRlc	--
Apodemus draco (Berrett-Hamilton)	Muridae	VU	(D2)
Apodemus sylvaticus (Linnaeus)	Muridae	DD	--
Arctictis binturong albifrons (Raffles)	Viverridae	DD	--
Arctogalidia trivirgata millsi (Gray)	Viverridae	VU	(B1, 2c; D2)
Arctonyx collaris F.G. Cuvier	Mustelidae	DD	--
Axis axis (Erhleben)	Cervidae	LRlc	--
Axis porcinus (Zimmermann)	Cervidae	LRnt	
Balaenoptera acutorostrata Lace ‘pe ‘de	Balaenoptridae	LRnt	--
Balaenoptera borealis Lesson	Balaenoptridae	LRnt	--
Balaenoptera edeni Anderson	Balaenoptridae	LRnt	--
Balaenoptera musculus (Linnaeus)	Balaenoptridae	CR	(A1bd)
Balaenoptera physalus (Linnaeus)	Balaenoptridae	LRnt	--
Bandicota bengalensis (Gray & Hardwicke)	Muridae	LRlc	--
Bandicota indica (Bechstein)	Muridae	LRnt	--
Barbastella leucomelas (Cretzschmar)	Vespertilionidae	DD	--
Belomys pearsonii (Gray)	Sciuridae	LRnt	--
*Berylmys bowersi (*Anderson*)*	Muridae	EN	(B1, 2c)
Berylmys mackenziei (Thomas)	Muridae	LRlc	--
Berylmys manipulus (Thomas)	Muridae	DD	--
Bos gaurus Smith	Bovidae	VU	(C2a)
Bos grunniens (Przewalski)	Bovidae	CR	(C2a)
Boselaphus tragocamelus (Pallas)	Bovidae	LRlc	--
Callosciurus erythraeus (Pallas)	Sciuridae	LRnt	--
Callosciurus pygerythus (Geoffroy St. Hilaire)	Sciuridae	LRnt	--
Canis aureus Linnaeus	Canidae	LRlc	--
Canis lupus palipus Sykes	Canidae	LRnt	--
Cannomys badius (Hodgson)	Muridae	LRlc	--
Capra falconeri falconeri (Wagner)	Bovidae	CR	(C2b)
Capra falconeri kashmeriensis (Wagner)	Bovidae	CR	(C2b)
Capra ibex Linnaeus	Bovidae	VU	(B1, 2c)
Caracal caracal (Schreber)	Felidae	LRnt	--
Cervus duvaucelli duvaucelii G. Cuvier	Cervidae	EN	(C2a)
Cervus unicolor Kerr	Cervidae	LRlc	--
Chaerephon plicata (Buchanan)	Molossidae	DD	--
Chimarrogale himalayica (Gray)	Soricidae	LRnt	--
Chiropodomys gliroides (Blyth)	Muridae	VU	(D2)
Coelops frithi Blyth	Hipposideridae	DD	--
Cremnomys blanfordi (Thomas)	Muridae	LRnt	--
Cricetulus alticola (Thomas)	Muridae	VU	(B1, 2c)
Cricetulus migratorius (Pallas)	Muridae	EN	(B1, 2c)
Crocidura attenuata Milne- Edwards	Soricidae	LRlc	--
Crocidura fuliginosa (Blyth)	Soricidae	DD	--
Crocidura horsfieldi (Thomas)	Soricidae	DD	--
Crocidura leucodaon (Hermann)	Soricidae	DD	--
Crocidura pergrisea Miller	Soricidae	EN	(B1, 2c)
Crocidura pullata Miller	Soricidae	DD	--
Cuon alpinus adjustes (Pallas)	Canidae	CR	(C2b)
Cuon alpinus primaevus	Canidae	VU	(D1)
Cynopterus brachyotis (Muller)	Pteropodidae	LRlc	--
Cynopterus sphinx Vahl	Pteropodidae	LRlc	--
Daenomys millardi (Thomas)	Muridae	VU	(D2)
Delphinus delphis Linnaeus	Delphinidae	LRnt	--
Dicerorhinus sumatrensis (G. Fischer)	Rhinocerotidae	CR	(D)
Diomys crumpi Thomas	Muridae	EN	(B1, 2c)
Dremomys lokriah Hodgson	Sciuridae	LRnt	--
Dugong dugon (Muller)	Dugongidae	CR	(A1acd; D)
Elephas maximus Linnaeus	Elephantidae	VU	(A1acd)

Species	Family	IUCN	Criteria
Eonycteris spelaea (Dobson)	Pteropodidae	VU	(D2)
Eothenomys melanogastor (Milne- Edwards)	Muridae	DD	--
Eptesicus pachyotis Dobson	Vespertilionidae	DD	--
Eptesicus serotinus (Scherber)	Vespertilionidae	DD	--
Equus kiang Moorcroft	Equidae	VU	(B1, 2c; D2)
Eubalaena glacialis (Muller)	Balaenidae	EN	(C1, C2b)
Eupetaurus cinereus Thomas	Sciuridae	LRnt	--
Felis chaus Schreber	Felidae	LRnt	--
Felis silvestris ornata Schreber	Felidae	LRnt	--
Feroculus feroculus (Kelaart)	Soricidae	VU	(B1, 2c; D2)
Funambulus layardi (Blyth)	Sciuridae	DD	--
Funambulus palmarum (Linnaeus)	Sciuridae	LRlc	--
Funambulus pennantii Wroughton	Sciuridae	LRlc	--
Funambulus sublineatus (Waterhouse)	Sciuridae	DD	--
Gazella bennettii (Sykes)	Bovidae	LRlc	--
Gerbillus gleadowi (Murray)	Muridae	LRlc	--
Gerbillus nanus Blanford	Muridae	LRnt	--
Globicephala macrorhynchus Gray	Delphinidae	LRnt	--
Gohunda ellioti Gray	Muridae	LRlc	--
Grampus griseus G. Cuvier	Delphinidae	LRnt	--
Hadromys humei (Thomas)	Muridae	DD	--
Helarctos malayanus (Raffles)	Ursidae	DD	--
Hemiechinus collaris (Gray)	Erinaceidae	LRlc	--
Hemitragus jemlahicus (H. Smith)	Bovidae	LR-nt	--
Herpestes endwardsii (Geoffroy Saint-Hilliare)	Herpestidae	LRlc	--
Herpestes javanicus (E. Geoffroy Saint-Hilliare)	Herpestidae	LRlc	--
Herpestes smithii smithii Gray	Herpestidae	LRlc	--
Herpestes urva (Hodgson)	Herpestidae	VU	(B1, 2ac)
Herpestes vitticollis Bennett	Herpestidae	LRnt	--
Hesperoptenus tickelli (Blyth)	Vespertilionidae	DD	--
Hipposideros armiger (Hodgson)	Hipposideridae	LRnt	--
Hipposideros ater (Temppleton)	Hipposideridae	LRnt	--
Hipposideros cineraceus Blyth	Hipposideridae	DD	--
Hipposideros fulvus Gray	Hipposideridae	LRnt	--
Hipposideros galeritus Cantor	Hipposideridae	DD	--
Hipposideros lankadiva Kelaart	Hipposideridae	VU	(B1, 2c)
Hipposideros larvatus Horsfield	Hipposideridae	DD	--
Hipposideros pomona K. Anderson	Hipposideridae	DD	--
Hipposideros speoris (Schnider)	Hipposideridae	LRnt	--
Hyaena hyaena (Linnaeus)	Hyaenidae	LRnt	--
Hylobates hoolock (Harlan)	Hylobatidae	EN	(C2a)
Hylopetes alboniger (Hodgson)	Sciuridae	VU	(B1, 2abc)
Hylopetes barberi (Blyth)	Sciuridae	DD	--
Hylopetes fimbriatus (Gray)	Sciuridae	LRnt	--
Hyperacrius fertilis (True)	Muridae	DD	--
Hyperacrius wynnei (Blanford)	Muridae	VU	(D2)
Hystrix brachyura Linnaeus	Hystricidae	VU	(B1, 2bd; D2)
Hystrix indica Kerr	Hystricidae	LRlc	--
Ia io Thomas	Vespertilionidae	EN	(B1, 2c)
Kerivoula papillosa (Te mminck)	Vespertilionidae	DD	--
Kerivoula hardwickii (Horsfield)	Vespertilionidae	DD	--
Kerivoula picta Pallas	Vespertilionidae	LRnt	--
Kogia breviceps (Blainville)	Phocoenidae	LRnt	--
Kogia simus (Owen)	Phocoenidae	LRnt	--
Leopoldamys edwardsi (Thomas)	Muridae	DD	-
Lepus capensis Linnaeus	Leporidae	DD	--
Lepus nigricollisF. Cuvier	Leporidae	LRlc	--
Lepus piostolus Hodgson	Leporidae	DD	--
Loris tradigradus (Linnaeus)	Loridae	LRnt	
Lynx lynx Blyth	Felidae	EN	(B1, 2bc)
Macaca arctoides I. Geoffroy	Cercopithecidae	LRnt	--
Macaca assamensis (M'Clelland)	Cercopithecidae	LRnt	--

Species	Family	IUCN	Criteria
Macaca fascicularis umbrosa (Raffles)	Cercopithecidae	CR	(C2a)
Macaca mulatta (Zimmermann)	Cercopithecidae	LRlc	--
Macaca nemestrina (Linnaeus)	Cercopithecidae	DD	--
Manis crassicaudata Gray	Manidae	LRnt	--
Manis pentadactyla Linnaeus	Manidae	LRnt	--
Marcoglossus sobrinusK. Anderson	Pteropodidae	DD	--
Marmota bobak	Sciuridae	EN	(B1, 2abc & 3ab)
Marmota caudata (Geoffroy)	Sciuridae	VU	(B1, 2abc)
Martes flavigula (Boddart)	Mustelidae	LRlc	-
Martes foina (Erxleben)	Mustelidae	DD	--
Megaderma lyra E. Geoffroy	Megadermatidae	LRlc	--
Megaderma spasma (Linnaeus)	Megadermatidae	DD	--
Megaptera novaeangliae (Borowski)	Balaenoptridae	LRnt	--
Megarops niphanae Yenbutra and Felton	Pteropodidae	DD	--
Mellivora capensis Schreber	Mustelidae	LRnt	--
Melogale moschata (Gray)	Mustelidae	EN	(B1, 2c)
Melogale personata (I. Geoffroy Saint Hilaire*)*	Mustelidae	VU	(B1, 2c)
Melursus ursinus (Shaw)	Ursidae	VU	(C2a)
Meriones hurriane Jerdon	Muridae	LRlc	--
Micromys minutus (Pallas)	Muridae	VU	(D2)
Microtus leusurus (Blyth)	Muridae	DD	-
Microtus sikimensis (Hodgson)	Muridae	LRlc	--
Millardia gleadowi (Murray)	Muridae	LRnt	--
Millardia meltada Gray	Muridae	LRlc	--
Miniopterus pusillus Dobson	Vespertilionidae	DD	--
Miniopterus schreibersii (Kuhl)	Vespertilionidae	LRlc	--
Moschola meminna (Erhleben)	Tragulidae	LRnt	--
Moschus chrysogaster (Hodgson)	Moschidae	CR	(A1d)
Muntiacus muntjak (Zimmermann)	Cervidae	LRlc	--
Murina aurata Milne-Edwards	Vespertilionidae	DD	--
Murina cyclotis Dobson	Vespertilionidae	DD	--
Murina huttoni (Peters)	Vespertilionidae	DD	--
Murina leucogaster Milne-Edwards	Vespertilionidae	DD	--
Murina tubinaris (Scully)	Vespertilionidae	VU	(B1, 2c; D2)
Mus booduga (Gray)	Muridae	LRlc	--
Mus cervicolor Hodgson	Muridae	LRlc	--
Mus cookii (Ryley)	Muridae	LRnt	--
Mus musculus (Linnaeus)	Muridae	LRlc	--
Mus pahari Thomas	Muridae	DD	--
Mus saxicola (Elliot)	Muridae	LRlc	--
Mustela altaica (Pallas)	Mustelidae	DD	--
Mustela erminea ferghanae Linnaeus	Mustelidae	DD	--
Mustela kathiah Hodgson	Mustelidae	DD	--
Mustela putorius larvatus Linnaeus	Mustelidae	DD	--
Mustela sibirica (Pallas)	Mustelidae	LRnt	--
Mustela strigidorsa Gray	Mustelidae	DD	--
Myotis annectans (Dobson)	Vespertilionidae	DD	--
Myotis blythi (Tomes)	Vespertilionidae	DD	--
Myotis daubentoni (Kuhl)	Vespertilionidae	DD	--
Myotis formosus (Hodgson)	Vespertilionidae	LRnt	--
Myotis hasseltii (Temminck)	Vespertilionidae	DD	--
Myotis horsfieldii (Temminck)	Vespertilionidae	LRnt	--
Myotis longipes (Dobson)	Vespertilionidae	EN	(B1, 2c)
Myotis montivagus (Dobson)	Vespertilionidae	DD	--
Myotis muricola (Gray)	Vespertilionidae	DD	--
Myotis mystacinus Kuhl	Vespertilionidae	DD	--
Myotis sicarius Thomas	Vespertilionidae	VU	(D2)
Myotis siligorensis (Horsfield)	Vespertilionidae	DD	--
Naemorhedus sumatraensis (Bechstein)	Caprinae	VU	(D1)
Nectogale elegans Milne- Edwards	Soricidae	VU	(D2)
Neofelis nebulosa (Griffith)	Felidae	LRnt	--
Neophocaena phocaenoides (G. Cuvier)	Phocoenidae	LRnt	--

Species	Family	IUCN	Criteria
Nesokia indica (Gray and Hardwicke)	Muridae	LRlc	--
Niviventer brahma (Thomas)	Muridae	EN	(B1, 2c)
*Niviventer eha (*Wroughton*)*	Muridae	VU	(B1, 2c; D2)
Niviventer fulvercens (Gray)	Muridae	LRlc	--
Niviventer langbianis (Robinson and Kloss)	Muridae	DD	--
Niviventer niviventer (Hodgson)	Muridae	DD	--
Niviventer tenaster (Thomas)	Muridae	DD	--
Nyctalus leisleri (Kuhl)	Vespertilionidae	DD	--
Nyctalus montanus (Barrett-Hamilton)	Vespertilionidae	DD	--
Nyctalus noctula (Schreber)	Vespertilionidae	DD	--
Nycticebus coucang (Boddaert)	Loridae	LRnt	--
Ochotona curzoniae (Hodgson)	Ochotonidae	EN	(B1, 2ab)
Ochotona forresti Thomas	Ochotonidae	LRnt	--
Ochotona ladacensis (Gunther)	Ochotonidae	DD	--
Ochotona macrotis (Gunther)	Ochotonidae	DD	--
Ochotona nubrica Thomas	Nk	DD	--
Ochotona roylei (Ogilby)	Ochotonidae	LRnt	--
*Ochotona thibetana (*Milne-Edwards*)*	Ochotonidae	LRnt	--
Orcaella brevirostris (Gray)	Delphinidae	EN	(B1, 2c)
Orcinus orca (Linnaeus)	Delphinidae	LRnt	--
Otonycteris hemprichii Peters	Vespertilionidae	VU	(D2)
Ovis ammon (Linnaeus)	Bovidae	CR	(C2a)
Ovis orientalis Gmelin	Bovidae	EN	(B1, 2c)
Paguma larvata (Hamilton-Smith)	Viverridae	LRlc	--
Panthera pardus (Linnaeus)	Felidae	VU	(C2a)
Panthera tigris (Linnaeus)	Felidae	EN	(C2a)
Pantholops hodgsoni	Bovidae	CR	(C2b)
Paradoxurus hermaphroditus (Pallas)	Viverridae	LRlc	--
Paraechinus micropus (Blyth)	Erinaceidae	LRlc	--
Pardofelis marmorata (Martin)	Felidae	LRnt	--
Peponocephala electra (Gray)	Delphinidae	LRnt	--
Petaurista philippensis (Elliot)	Sciuridae	LRnt	--
Physeter catodon Linnaeus	Phocoenidae	LRnt	--
Pipistrellus affinis (Dobson)	Vespertilionidae	DD	--
Pipistrellus cadornae Thomas	Vespertilionidae	DD	--
Pipistrellus ceylonicus (Kelaart)	Vespertilionidae	LRlc	--
Pipistrellus coromandra Gray	Vespertilionidae	LRnt	--
Pipistrellus dormeri (Dobson)	Vespertilionidae	LRnt	--
Pipistrellus kuhlii (Kuhl)	Vespertilionidae	DD	--
Pipistrellus paterculus Thomas	Vespertilionidae	LRnt	
Pipistrellus pipistrellus (Schreber)	Vespertilionidae	VU	(D2)
Pipistrellus savii (Bonaparte)	Vespertilionidae	DD	--
Pipistrellus tenuis (Temminck)	Vespertilionidae	LRlc	--
Platanista gangetica (Roxburgh)	Platanistidae	CR	(A1acd; C1, C2a)
Plecotus auritus Linnaeus	Vespertilionidae	DD	--
Plecotus austriacus (J. Fisher)	Vespertilionidae	DD	--
*Prionailurus bengalensis (*Kerr*)*	Felidae	LRnt	--
Prionailurus rubiginosus rubiginosus (Geoffroy Saint-Hilaire)	Felidae	LRnt	--
Prionailurus viverrinus (Bennett)	Felidae	VU	(B1, 2abc)
Prionodon pardicolor Hodgson	Viverridae	VU	(B2, 2ac)
Procapra picticaudata picticaudata	Bovidae	CR	(D)
Pseudois nayaur (Hodgson)	Bovidae	LRlc	--
Psuedorca crassidens (Owen)	Delphinidae	LRnt	--
Pteropus giganteus giganteus Brunnich	Pteropodidae	LRnt	--
Pteropus melanotus Blyth	Pteropodidae	DD	--
Pteropus vampyrus (Linnaeus)	Pteropodidae	DD	--
Rattus nitidus (Hodgson)	Muridae	DD	--
Rattus norvegicus (Berkenhout)	Muridae	LRlc	--
Rattus rattus (Linnaeus)	Muridae	LRlc	--
Rattus sikkimensis Hinton	Muridae	DD	--
*Rattus tiomanicus (*Miller*)*	Muridae	VU	(D2)

Species	Family	IUCN	Criteria
Rattus turkestanicus (Satunin)	Muridae	DD	--
Ratufa bicolor gigantea (Sparrman)	Sciuridae	VU	(A1c)
Ratufa macroura dandolena (Pennant)	Sciuridae	EN	(B1, 2c; C1)
Rhinoceros sondaicus Desmarest	Rhinocerotidae	EX	--
Rhinocerous unicornis Linnaeus	Rhinocerotidae	EN	(B1, 2d)
Rhinolophus affinisHorsfield	Rhinolopidae	LRnt	--
Rhinolophus ferrumeuinum (Schreber)	Rhinolopidae	VU	(B1, 2c; D2)
Rhinolophus hipposideros (Bechstein)	Rhinolopidae	VU	(D2)
Rhinolophus lepidus Blyth	Rhinolopidae	LRnt	--
Rhinolophus pearsonii Horsfield	Rhinolopidae	LRnt	--
Rhinolophus pusillus Temminck	Rhinolopidae	LRnt	--
Rhinolophus rouxi Temminck	Rhinolopidae	LRnt	--
Rhinolophus subbadius Blyth	Rhinolopidae	CR	(B1, 2c)
Rhinolophus trifoliatus Temminck	Rhinolopidae	DD	--
Rhinolophus yunanensis Dobson	Rhinolopidae	DD	--
Rhinolopus luctus Temminck	Rhinolopidae	DD	--
Rhinopoma hardwickii Gray	Rhinopomatidae	LRnt	--
Rhinopoma microphyllum Brunnich	Rhinopomatidae	LRnt	--
Rhizomys pruinosus	Muridae	LRnt	--
Rousettus leschenaulti (Desmarest)	Pteropodidae	LRlc	--
Saccolaimus saccolaimus (Temminck)	Emballonuridae	DD	--
Scotoecus pallidus (Dobson)	Vespertilionidae	LRnt	--
Scotomanes ornatus (Blyth)	Vespertilionidae	DD	--
Scotophilus heathi (Horsfield)	Vespertilionidae	LRlc	--
Scotophilus kuhlii Leach	Vespertilionidae	LRnt	--
Semnopithecus entellus (Dufresne)	Cercopithecidae	LRlc	--
Sicista concolor (Buchner)	Muridae	DD	--
Sorex caudatus (Horsfield)	Soricidae	VU	(B1, 2c)
Sorex minutus Linnaeus	Soricidae	VU	(D2)
Soriculus leucops (Horsfield)	Soricidae	VU	(B1, 2c; D2)
Soriculus macrurus Blanford	Soricidae	VU	(B1, 2c; D2)
Soriculus nigrescens (Gray)	Soricidae	VU	(B1, 2c)
Sousa chinensis (Osbeck)	Delphinidae	EN	(A1acd, 2b)
Sphaerias blanfordi (Thomas)	Pteropodidae	DD	--
Stenella longirostris (Gray)	Delphinidae	LRnt	--
Suncus etruscus (Savi)	Soricidae	LRlc	--
Suncus montanus (Kelaart)	Soricidae	VU	(B1, 2b)
Suncus murinus (Linnaeus)	Soricidae	LRlc	--
*Suncus stoliczkanus (*Anderson*)*	Soricidae	LRlc	--
Sus salvanius (Hodgson)	Suidae	CR	(C2a)
Sus scrofa Linnaeus	Suidae	LRlc	--
Tadarida aegyptiaca (Geoffroy)	Molossidae	LRnt	--
Tadarida teniotis (Refinesque)	Molossidae	DD	--
Talpa leucura (Blyth)	Talpidae	VU	(B1, 2c)
Talpa micrura (Hodgson)	Talpidae	LRlc	--
Tamiops macclellandi (Horsfield)	Sciuridae	LRnt	--
Taphozous longimanus Hardwicke	Emballonuridae	LRlc	--
Taphozous melanopogan Temminck	Emballonuridae	LRnt	--
Taphozous nudiventris Cretzschmar	Emballonuridae	LRnt	--
Taphozous perforatus E. Geoffroy	Emballonuridae	LRnt	--
Taphozous theobaldi Dobson	Emballonuridae	DD	--
Tatera indica (Hardwicke)	Muridae	LRlc	--
Tetracerus quadricornis (Blainville)	Bovidae	LRnt	--
Trachypithecus geei Khajuria	Cercopithecidae	CR	(C2a)
Trachypithecus phayrei (Blyth)	Cercopithecidae	EN	(C1, 2a)
Trachypithecus piletaus (Blyth)	Cercopithecidae	LRnt	--
Tupaia belangeri (Wagner)	Tupaiidae	LRlc	--
Tupaia nicobarica (Zelebor)	Tupaiidae	EN	(B1, 2c)
Tursiops truncatus (Montagu)	Delphinidae	LRnt	--
Tylonycteri spachypus (Temminck)	Vespertilionidae	LRnt	--
Uncia uncia (Schreber)	Felidae	EN	(C2a)
Ursus arctos Linnaeus	Ursidae	LRnt	--

Species	Family	IUCN	Criteria
Ursus thibetanus (Baron)	Ursidae	LRlc	--
Vandeleuria oleracea (Bennett)	Muridae	LRlc	--
Viverra zibetha Linnaeus	Viverridae	VU	(A1c)
Viverricula indica (Desmarest)	Viverridae	LRnt	--
Vulpes bengalensis (Shaw)	Canidae	LRnt	--
Vulpes vulpes montanna Linnaeus	Canidae	LRnt	--
Vulpes vulpes pusilla (Linnaeus)	Canidae	LRnt	--
Ziphius cavirostris G. Cuvier	Ziphiidae	LRnt	--

IUCN Red List Categories and Criteria explained in brief below

* IUCN Red List *Categories :*

CR – Critically endangered -- a taxon is Critically endangered when it is facing an extremely high risk of extinction in the wild in the immediate future as defined by the criteria.

EN – Endangered -- a taxon is Endangered when it is not Critically endangered but is facing a very high risk of extinction in the wild in the near future as defined by the criteria.

VU – Vulnerable -- a taxon is Vulnerable when it is not Critically endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future as defined by the criteria.

LR – Lower risk – a taxon is Low Risk when it has been evaluated and does not qualify for any of the threatened categories, Critically endangered, Endangered, Vulnerable, or Data Deficient. (LR-nt – near threatened, LR-lc –least concern, LR-cd – conservation dependent.

DD – Data deficient – 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.

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

** IUCN Red List *Criteria*

A – Population reduction – (1) observed, infered, suspected or estimated reduction, or **(2)** projected or predicted reduction of at least 20% (VU), or 50% (EN), or 80% (CR) in 10 years or 3 generations whichever is longer based on **(a)** Direct observation; **(b)** index of abundance appropriate for the taxon; **(c)** decline in areas of occupancy, extent of occurrence and/or quality of habitat; **(d)** actual or potential levels of exploitation; **(e)** effects of introduced taxa, hybridisation, pathogens, pollutants, competitors, or parasites.

B – Restricted distribution -- Extent of occurrence estimated to be less than 20,000 sq km. (VU), or 5,000 sq km (EN) or 100 sq km (CR) and/or area of occupancy estimated to be less than 2000 sq.km. (VU), or 500 sq km (EN), or 10 sq km (CR), and qualifying for any two of the following : **(1)** severely fragmented, or known to exist in not more than 10 locations (VU), or 5 locations (EN), or single location (CR); **(2)** continuing decline, observed, inferred, projected in any **(a)** extent of occurance, **(b)** area of occupancy; **(c)** area, extent and/or quality of habitat; **(d)** number of locations or subpopulations; **(e)** number of mature individuals; **(3)** extreme fluctuation in either **(a)** extent of occurance, **(b)** area of occupancy, **(c)** number of populations or subpopulations, **(d)** number of mature individuals.

C – Population estimates – population estimated to number less than 10,000 (VU), or 2,500 (EN), or 250 (CR) mature individuals and either **(1)** estimated, continuing decline of at least 10% in 10 years or 3 generations or whichever is longer (VU), or 20% in 5 years or 2 generations, whichever is longer (EN), or 25% in 3 years or 1 generation whichever is longer (CR) OR in **(2)** continuing decline, observed, projected, inferred, number of mature individuals and population structure in the form of either **(a)** severely fragmented [no subpopulation estimated to contain more than 1000 (VU), or 250 (EN), or 50 (CR) mature individuals] ; **(b)** all individuals are in a single subpopulation.

D – Restricted populations – **(1)** Population estimated to number less than 1000 (VU), or 250 (EN), or 50 (CR) mature individuals; **(2)** Population restricted in area of occupancy of less than 100 sq km or less than 5 locations (VU).

E – Probability of extinction – quantative analysis showing the probability of extinction in the wild is at least 10% in 100 years (VU), or 20% in 20 years or 5 generations, whichever is longer (EN), or 50% in 10 years or 3 generations, whichever is longer (CR).

Summary Data Tables for Selected Species of Northern, Northeastern and Central Indian Medicinal Plants are on the following pages. Below is a Key to the symbols used in the tables :

No. of Location : F = Fragmented

Range: A = < 100 sq.km.; B = < 5,000 sq.km.; C= < 20,000 sq.km.; D= > 20,000 sq.km.;

Area: A = < 10 sq.km.; B= < 500 sq.km.; C= <2,000 sq.km.; D = >2,000 sq.km.;

Data Quality: 1= Reliable census or population monitoring; 2 = General field studies; 3 = Informal field sight-ings; 4 = Indirect information; 5 Museum/ herbarium/ collection/ records; 6 = Hearsay/ popular.belief

Threat: Al = Artificial lighting; L = Loss of habiat; Lf = Loss of habitat due to fragmentation; D = Diseases; E = Edaphic factors (changes in); H = Harvest; Hf = Harvest for food; I = Human interference; P = Predation; Ps = Pesticides; Pu = Pollution; R = Road kills; Sf = Fire as catastrophic event; Sn = Siltation; T =Trade; Tp = Trade of parts

Research Recommendations: G= Genetic management; H=Husbandry research; Hm = Habitat maangement; Lh= Life history studies; Lm = Limiting factor management; Lr = Limiting factor research; M = Monitoring; O = Other (specific to the species); P = PHVA; PP = PHVA pending further work; S= Survey search and find; T = Taxonomic and morphological genetic stdies; Tl= Translocations

Cultivation Recommendations : 1= Captive breeding for conservation either only in *in situ* or both *in situ* and *ex situ* with the population maintaining 90% genetic diversity for 100 years; 2 = same as 1 but periodic reinforcement of captive stock with genetic materials from the wild; 3 = Captive breeding only for research, education or husbandry but not for conservation; 4 = Captive breeding for sustainable utilisation; 5 = restricted breeding; P = pending

Level of difficulty: 1 = Least difficult; 2 = Moderately difficult; 3 = Very difficult; Unk = Unknown

IUCN Red List Categories and Criteria explained in brief below

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VU – Vulnerable -- a taxon is Vulnerable when it is not Critically endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future as defined by the criteria.

LR – Lower risk – a taxon is Low Risk when it has been evaluated and does not qualify for any of the threatened categories, Critically endangered, Endangered, Vulnerable, or Data Deficient. (LR-nt – near threatened, LR-lc –least concern, LR-cd – conservation dependent.

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

** IUCN Red List *Criteria*

A – Population reduction – (1) observed, infered, suspected or estimated reduction, or **(2)** projected or predicted reduction of at least 20% (VU), or 50% (EN), or 80% (CR) in 10 years or 3 generations whichever is longer based on **(a)** Direct observation; **(b)** index of abundance appropriate for the taxon; **(c)** decline in areas of occupancy, extent of occurrence and/or quality of habitat; **(d)** actual or potential levels of exploitation; **(e)** effects of introduced taxa, hybridisation, pathogens, pollutants, competitors, or parasites.

B – Restricted distribution -- Extent of occurrence estimated to be less than 20,000 sq km. (VU), or 5,000 sq km (EN) or 100 sq km (CR) and/or area of occupancy estimated to be less than 2000 sq.km. (VU), or 500 sq km (EN), or 10 sq km (CR), and qualifying for any two of the following : **(1)** severely fragmented, or known to exist in not more than 10 locations (VU), or 5 locations (EN), or single location (CR); **(2)** continuing decline, observed, inferred, projected in any **(a)** extent of occurance, **(b)** area of occupancy; **(c)** area, extent and/or quality of habitat; **(d)** number of locations or subpopulations; **(e)** number of mature individuals; **(3)** extreme fluctuation in either **(a)** extent of occurance, **(b)** area of occupancy, **(c)** number of populations or subpopulations, **(d)** number of mature individuals.

C – Population estimates – population estimated to number less than 10,000 (VU), or 2,500 (EN), or 250 (CR) mature individuals and either **(1)** estimated, continuing decline of at least 10% in 10 years or 3 generations or whichever is longer (VU), or 20% in 5 years or 2 generations, whichever is longer (EN), or 25% in 3 years or 1 generation whichever is longer (CR) OR in **(2)** continuing decline, observed, projected, inferred, number of mature individuals and population structure in the form of either **(a)** severely fragmented [no subpopulation estimated to contain more than 1000 (VU), or 250 (EN), or 50 (CR) mature individuals] ; **(b)** all individuals are in a single subpopulation.

D – Restricted populations – **(1)** Population estimated to number less than 1000 (VU), or 250 (EN), or 50 (CR) mature individuals; **(2)** Population restricted in area of occupancy of less than 100 sq km or less than 5 locations (VU).

E – Probability of extinction – quantative analysis showing the probability of extinction in the wild is at least 10% in 100 years (VU), or 20% in 20 years or 5 generations, whichever is longer (EN), or 50% in 10 years or 3 generations, whichever is longer (CR).

Summary Data Tables for Selected Species of Northern, Northeastern and Central Indian Medicinal Plants are on the following pages. Below is a Key to the symbols used in the tables:

No. of Location : F = Fragmented

Range: A = < 100 sq.km.; B = < 5,000 sq.km.; C= < 20,000 sq.km.; D= > 20,000 sq.km.;

Area: A = < 10 sq.km.; B= < 500 sq.km.; C= <2,000 sq.km.; D = >2,000 sq.km.;

Data Quality: 1= Reliable census or population monitoring; 2 = General field studies; 3 = Informal field sightings; 4 = Indirect information; 5 Museum/ herbarium/ collection/ records; 6 = Hearsay/ popular belief

Threat: Al = Artificial lighting; L = Loss of habiat; Lf = Loss of habitat due to fragmentation; D = Diseases; E = Edaphic factors (changes in); H = Harvest; Hf = Harvest for food; I = Human interference; P = Predation; Ps = Pesticides; Pu = Pollution; R = Road kills; Sf = Fire as catastrophic event; Sn = Siltation; T =Trade; Tp = Trade of parts

Research Recommendations: G = Genetic management; H = Husbandry research; Hm = Habitat maangement; Lh= Life history studies; Lm = Limiting factor management; Lr = Limiting factor research; M = Monitoring; O = Other (specific to the species); P = PHVA; PP = PHVA pending further work; S= Survey search and find; T = Taxonomic and morphological genetic studies; Tl = Translocations

Cultivation Recommendations : 1= Captive breeding for conservation either only in *in situ* or both *in situ* and *ex situ* with the population maintaining 90% genetic diversity for 100 years; 2 = same as 1 but periodic reinforcement of captive stock with genetic materials from the wild; 3= Captive breeding only for research, education or husbandry but not for conservation; 4 = Captive breeding for commerce; 5 = Restrictive breeding; P = Pending

Level of difficulty: 1 = Least difficult; 2 = Moderately difficult; 3 = Very difficult; Unk = Unknown

Mammals of India

Summary Data Table

Summary Data Table of Indian mammals assessed at the CAMP workshop

Species	Range	Area	No. of loc./F	% decl.	Year/ gen.	Pop. no	Data quality	Threat	IUCN cat.	Crit. Use	Research recom.	Cult. rec.	Lev diff
ENDEMICS													
Alticola albicauda	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	T, S	P	Unk
Anathana ellioti	D	D	15, F	Stable	Unk	Many	2, 3, 5	L, Lf	LRnt	--	S, M, T, Lh, Lr	3	Unk
Atherurus macrourus assamensis	B	B	2	Unk	Unk	Unk	2, 5	L	EN	RD	S, M, Lr	1	Unk
Biswamoyopterus biswasi	B	A	1	Unk	Unk	Unk	2	I, L	CR	RD	S, M, Lr, Lh	1	Unk
Bubalus arnee	C	B	4, F	Decl.	10 yrs	<1500	1, 2, 6	Gr, D, G, Hyb	EN	RD	G, H	1	Unk
Cervus duvaucelli branderi	A	A	1	Decl.	20 yrs	50%	1, 2	D, G, Ice, P	CR	PE	S, M, Lr, P	1	1
Cervus elaphus hanglu	A	A	1	>50%	10 yrs	160	1, 2,	Gr, D, Sf, G, I, Hf, L, Ps, Po	CR	RD	S, M, P	1	1
Cervus eldi eldi	A	A	1	Decl.	20 yrs	<100	1	Gr, Dm, F, G, I, H, L, Sn	CR	PE,RD	M, Lr, Hm, G, T, P	2	1
Cremnomys cutchicus	D	D	Many	Unk	Unk	Unk	1, 2, 5	No	LRlc	--	S, M	No	Unk
Cremnomys elvira	A	A	1	Unk	Unk	Unk	5	No	VU	NM	S, M, Lr	1	Unk
Crocidura andamanensis	Unk	Unk	1	Unk	Unk	Unk	5	No	DD	--	T, S, M	P	Unk
Crocidura hispida	B	C	1	Unk	Unk	Unk	5	Lf	EN	RD	T, S, M	1	Unk
Crocidura jenkinsi	Unk	Unk	Unk	Unk	Unk	Unk	5	UNK	DD	--	S	P	Unk
Crocidura nicobarica	Unk	Unk	Unk	Unk	Unk	Unk	5	No	DD	--	T, S, M	P	Unk
Cuon alpinus dekhanensis	D	D	Many	Decli	Unk	Unk	2, 3, 4, 6	D, Dp, I, Hyb, L, Lf, Po	LRnt	--	S, M, Lr, Hm, P	3	2
Cuon alpinus laniger	C	D	1	Unk	Unk	50 -100	2, 3, 4, 6	D, Dp, Hyb, L, Po	CR	PE	S, M, Lr, Hm, P	1	Unk
Eptesicus nilssoni	Unk	Unk	1	Unk	Unk	Unk	5	Unk	DD	--	T, S, M	P	Unk
Eptesicus tatei	B	B	1	Unk	Unk	Unk	5	Unk	DD	--	T, S, M	P	Unk
Funambulus tristriatus	D	D	Many	<20	10 yrs	Unk	2, 3, 4, 5, 1	H, Hf, L	LRnt	--	M, Lr, Lh	3	Unk
Harpiocephalus harpia	D	D	Many	Unk	Unk	Unk	2	Unk	DD	--	S, M	P	Unk
Hemitragus hylocrius	B	B	20, F	Stable	10 yrs	70%	1, 2	I, H, Hf, L,	EN	RD PE	M, Tl, S, Lm, Lr, P, Hm	1	2
Herpestes fuscus fuscus	C	D	Many,F	Unk	Unk	Unk	2, 3, 4, 5	L, Lf	VU	RD	S, T, M, Lr, Lh, PP	1	Unk
Herpestes palustris	B	B	10	Decl.	30 yrs	Unk	1, 2, 3, 5	S, E, I, L, Lf	EN	RD	T, S, M, Lr, Lh	1	Unk
Hipposideros schistaceus	B	A	2	Unk	Unk	Unk	5	Unk	DD	--	T, M, S	P	Unk
Latidens salimalii	C	B	2, F	Unk	Unk	Unk	1, 2, 5	L, Lf	EN	RD,PE	H, S, M, Lh, T	1	Unk
Macaca radiata	D	D	Many	Incre.	10 yrs.	Unk	1, 2, 3	L, P	LRlc	--	S, M, Lr	5.2	1
Macaca silenus	D	B	Many,F	Decl.	10 yrs.	<2, 500	1, 2	L, H, Hf, Hm, T	EN	RD,PE	S, M, Hm, Lm, Lr, P	1	1
Martes gwatkinsi	C	D	Many,F	Unk	Unk	Unk	2, 3, 4, 5	I, H, L, Lf	VU	RD	S, Lh, M	1	Unk
Millardia kondana	B	B	> 2	Stable	Unk	Unk	2, 5	Unk	VU	NM	S, M, Lr	1	Unk
Murina grisea	A	A	1	Unk	Unk	Unk	5	Unk	VU	NM	S, M	1	Unk
Mus famulus	B	B	4	Unk	Unk	Unk	2, 5	L, Lf, I	EN	RD	S, M, Lh	1	Unk

Species	Range	Area	No. of loc./F	% decl.	Year/ gen.	Pop. no	Data quality	Threat	IUCN cat.	Crit. Use	Research recom.	Cult. rec.	Lev diff
Mus phillipsi	D	D	Many,F	Stable	Unk	Many	2, 5	Dr, Lf, Po	LRlc	--	S	No	Unk
Mus platythrix	D	D	Many	Stable	Unk	Unk	2, 5	No	LRlc	--	S, M	No	Unk
Otomops wronghtoni	A	A	1	Unk	Unk	Few	2, 5	I, L	CR	RD	S, M	1	Unk
Ovis vignes vignes	D	D	2, F	Decl.	Unk	660-750	1, 2, 4	A, Gr, Dm, I, H, L,	EN	PE	S, M, Lr, Lm, PP	1	Unk
Panthera leo persica	B	C	1	Stable	10 yrs	221	1	Gr, D, G, I, L	CR	PE	Tl, Lr, Lm, Hm,G	1	1
Paradoxurus jerdoni	C	D	Many,F	Unk	Unk	Unk	1, 2, 3, 4, 5	Hf, L, Lf	VU	RD	S, M, Lh, PP	1	Unk
Paraechinus micropus nudirentris	D	C	2	Unk	Unk	Unk	5	L, Lf	VU	NM	S, M	1	Unk
Petinomys fuscocapillus fuscocapillus	C	D	Few, F	Unk	Unk	Unk	3, 5	L, Lf	VU	RD	S, M, Lh	1	Unk
Plantacanthomys lasiurus	B	C	> 10	Stable	Unk	Unk	2, 5	L, I	LRlc	--	S, M	No	Unk
Pteropus faunulus	C	C	4	Unk	Unk	Unk	5	L	VU	RD	S, M	1	Unk
Rattus palmarum	B	1	Unk	Unk	Unk	Unk	5	Unk	DD	--	T, S, Lh, PP	P	Unk
Rattus ranjiniae	Unk	Unk	1	Unk	Unk	Unk	5	Unk	VU	NM	S, M	1	Unk
Rattus stoicus	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	VU	NM	S, M	P	Unk
Ratufa indica centralis	D	D	Many,F	>20%	10 yrs	Unk	1,2, 3, 4,5	H, Hf, Hm, L, Lf, T, Tp,	VU	PR	M, S, Hm, Lm, Lr, Lh	1	Unk
Ratufa indica dealbata	B	B	1	100	100%	Unk	1, 2, 3, 4,5	I, H, Hf, Hm, L, Lf	EX	PR,PE PX	S	--	Unk
Ratufa indica indica	C	D	Many,F	>20%	10 yrs	> 5000	1, 2, 3, 4, 5	H, Hf, Hm, L, Lf, T, Tp	VU	PR,PE	M, Hm, Lm, Lr, Lh	1	2
Ratufa indica maxima	C	D	Many,F	>10%	10 yrs	> 5000	1, 2, 3, 4	Dm, H, Hf, L, Lf, Tp	VU	RD,PE	M, Hm, Lm, Lr, Lh	3	2
Rhinolophus cognatus	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Rhinolophus mitratus	A	A	1	Unk	Unk	Unk	5	Unk	VU	NM	T, S, M	1	Unk
Suncus dayi	C	C	> 5	Stable	Unk	Unk	2, 3, 5	L	VU	RD	S, M	1	Unk
Trachypithecus johnii	D	C	Many,F	Dec	10 yrs	<2,000	1, 2, 3	Hm, H, Hf, L, Tp, T	VU	RD,PE	S, M, Lm, Lr, Lh, PP	1	1
Tupaia nicobarica	B	B	2	Unk	Unk	Unk	5	L, Lf	EN	RD	T, S, M, Lr, Lh	1	Unk
Viverra civettina	D	C	2	80%	10 yrs	Unk	2,3,4,5,6	H, L, Lf, P	CR	PR	S, M, Lr	1, 2	2
NON-ENDEMICS													
Acinonyx jubatus venaticus	No	No	No	No	No	No	5	No	EX	--	Unk	1	2
Ailurus fulgens fulgens	D	C	Many,F	Decli	Unk	Unk	2, 3, 4	H, L, Lf, T	VU	RD	S, M, Hm, T, Lh, P	1	2
Alticola montosa	C	C	Many	Unk	Unk	Unk	5	No	DD	--	S, M	P	Unk
Alticola roylei	D	D	Many	Stable	Unk	Many	5	Unk	DD	--	S, M	No	Unk
Alticola stoliczkanus	D	C	> 5	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Anourosorex squamipes	D	C	> 5, F	Unk	Unk	Unk	2, 4	L, I, Lf	VU	RD	T, S, M	1	Unk
Antilope cervicapra	D	D	Many	Decl.	10 yrs	DD	2, 4	H, L	LRlc	--	Tl, M, Lm, Lr	5.2	1
Apodemus draco	A	A	1	Unk	Unk	Unk	5	Unk	VU	NM	S, M	1	Unk
Apodemus sylvaticus	D	D	Many	Unk	Unk	Unk	5	Unk	DD	--	S, M	No	Unk

Species	Range	Area	No. of loc./F	% decl.	Year/ gen.	Pop. no	Data quality	Threat	IUCN cat.	Crit. Use	Research recom.	Cult. rec.	Lev diff
Arctictis binturong albifrons	D	Unk	Unk	Unk	Unk	Unk	3, 4, 5	H, L, Lf, T	DD	--	S, Lh, M	1	2
Arctogalidia trivirgata	C	C	1	Unk	Unk	Unk	5	I, L	VU	RD,NM	S, T, Lh, PP	1	Unk
Arctonyx collaris	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M, Lh, PP	P	Unk
Axis axis	D	D	Many	Stable	20 yrs	Unk	1, 2	Gr, D, I, Hf, Lp	LRlc	--	S, M	5.2	1
Axis porcinus	D	D	Many	Decl.	10 yrs	Unk	1, 2	Hf, L	LRnt	--	Lh, Lr, Hm, PP	3	1
Balaenoptera acutorostrata	D	D	Many	Decl.	Unk	Unk	4	Cs, Pu, F, T	LRnt	--	S, M	P	Unk
Balaenoptera borealis	D	D	Many	Decl.	Unk	Unk	4	H, Cs, Pu, T	LRnt	--	S, M	P	Unk
Balaenoptera edeni	D	D	Many	--	Unk	Unk	4	H, Cs, Pu	LRnt	--	S, M	P	Unk
Balaenoptera musculus	D	D	Many	80%	10 yrs	Unk	3, 4, 5	H, Pu, T	CR	PR	S, M	P	Unk
Balaenoptera physalus	D	D	Many	Decl.	Unk	Unk	4	H, Cs, Pu	LRnt	--	S, M	P	Unk
Bandicota bengalensis	D	D	Many	Incre.	Unk	Unk	1, 2, 5	No	LRlc	--		No	Unk
Bandicota indica	D	D	Many	Decl.	Unk	Unk	1, 2, 5	Ic, L, Ps	LRnt	--	S, M	3	Unk
Barbastella leucomelas	D	D	Many	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Belomys pearsonii	D	D	Many,F	>20	20 yrs	Unk	2, 3, 5	D, I, H, Sl, L,Lf	LRnt	--	S, M, Lm, Lr, Lh	3	3
Berylmys bowersi	B	B	< 5	Unk	Unk	Unk	5	I	EN	RD	S, M	1	Unk
Berylmys mackenziei	C	C	> 5	Unk	Unk	Unk	5	No	LRlc	--	S, M	No	Unk
Berylmys manipulus	C	C	> 5	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Bos gaurus	D	D	Many,F	Decl.	Unk	Unk	2, 3, 6	Gr, D, Dr, I, H, Hf, L, Lp, Lf, T	VU	PE	M, Hm, Lm, Lr, PP, O	3	1
Bos grunniens	B	C	2	--	--	<250	2, 6	D, G, Hyb	CR	PE	T, S, M, G, PP	1	2
Boselaphus tragocamelus	D	D	Many,F	Incre	10 yrs	Unk	2, 3	D, Hf, L, T	LRlc	--	Tl, Hm	No	1
Callosciurus erythraeus	D	D	Many	Decl.	Unk	Unk	2, 3, 4, 5	H, Hf, L	LRnt	--	M, Hm, Lm, Lr, Lh	3	Unk
Callosciurus pygerythus	D	D	Many	Decl.	Unk	Unk	2, 3, 4, 5	H, Hf, L	LRnt	--	M, Hm	3	1
Canis aureus	D	D	Many	Stable	10 yrs.	Unk	2	H, Po, Tp	LRlc	--	Lr, S, M, O	No	1
Canis lupus palipus	D	D	Many	Decl.	10 yrs.	Unk		I, H, Hyb, L, Po, Tp, T	LRnt	---	S, Lr, P, O	P	1
Cannomys badius	D	D	Many	Stable	Many	Many	2, 5	L	LRlc	--	M	No	N
Capra falconeri falconeri	B	B	1	Decl.	10 yrs	<250	4, 6	D, H	CR	PE	S, M, Lm, Lr, Lh, PP	1	3
Capra falconeri kashmeriensis	B	B	1	Decl.	10 yrs	<250	4, 6	D, H	CR	PE	S, M, Lm, Lr, Lh, PP	1	3
Capra ibex	C	D	3	No	5 -7 yrs	UNK	1, 2,	Gr, Dm, I, H, Hf, Ice, L, W	VU	RD	S, M, Lr, T	1	Unk
Caracal caracal	D	D	Many	Unk	Unk	Unk	2, 3, 4, 6	I, L, Lf, T	LRnt	--	S, M, Lh, Hm, Lr. Lm, PP	3	2
Cervus duvaucelli duvaucelii	D	C	4, F	Decl.	10 Yrs	< 1500	1, 2	Gr, D, H, L	EN	PE	M, Hm, Lr	1	1
Cervus unicolor	D	D	Many	Stable	20 yrs	Unk	1, 2	Gr, D, I, Hf, L, T	LRlc	--	M, Hm, Lr	No,5.2	1
Chaerephon plicata	D	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Chimarrogale himalayica	D	D	> 5	Unk	Unk	Unk	5	L, Lf	LRnt	--	S, M	3	Unk
Chiropodomys gliroides	B	B	> 2	Unk	Unk	Unk	5	Unk	VU	NM	S, M, Lr	1	Unk
Coelops frithi	D	B	2	Unk	Unk	Unk	2	Unk	DD	--	S, M	P	Unk

Species	Range	Area	No. of loc./F	% decl.	Year/ gen.	Pop. no	Data quality	Threat	IUCN cat.	Crit. Use	Research recom.	Cult. rec.	Lev diff
Cremnomys blanfordi	D	C	Many	Stable	Unk	Unk	2, 5	I, L	LRnt	--	S, M	3	Unk
Cricetulus alticola	D	C	> 6	Unk	Unk	Unk	5	I	VU	RD	S, M	3	Unk
Cricetulus migratorius	B	B	> 1	Unk	Unk	Unk	5	I	EN	RD	S, M	1	Unk
Crocidura attenuata	D	D	Many	Stable	Unk	Unk	5	No	LRlc	--	M, S	No	Unk
Crocidura fuliginosa	D	Unk	2	Unk	Unk	Unk	5	No	DD	--	T, S, M	P	Unk
Crocidura horsfieldi	Unk	Unk	Unk	Unk	Unk	Unk	5	No	DD	--	T, S, M	P	Unk
Crocidura leucodaon	Unk	Unk	1	Unk	Unk	Unk	5	Unk	DD	--	S	P	Unk
Crocidura pergrisea	B	C	1	Unk	Unk	Unk	5	L, Lf	EN	RD	T, S, M	1	Unk
Crocidura pullata	B	C	1	Unk	Unk	Unk	5	Unk	DD	--	Unk	P	Unk
Cuon alpinus adjustes	C	C	1	Unk	Unk	50-100	2, 3, 4, 6	D, Dp, Hyb, L, Po	CR	PE	S, M, Lr, Hm, P	1	2
Cuon alpinus primaevus	D	D	Many	Unk	Unk	500-600	2, 3, 4, 6	D, Dp, Hyb, L, Po	VU	NM	S, M, Lr, Hm, P	2	Unk
Cynopterus brachyotis	D	D	Many	Unk	Unk	Unk	2, 5	No	LRlc	--	No	No	Unk
Cynopterus sphinx	D	D	Many	Unk	Unk	Unk	2, 5	No	LRlc	--	No	No	Unk
Daenomys millardi	C	B	> 2	Unk	Unk	Unk	5	Unk	VU	NM	S, M	1	Unk
Delphinus delphis	D	D	Many	Decl.	10 yrs	Unk	?	F, Pu	LRnt	--	M, Lm, Lr	P	Unk
Dicerorhinus sumatrensis	C	B	2	Unk	Unk	Unk	3, 4, 5, 6	--	CR	NM	S, M, P	2	3
Diomys crumpi	B	B	> 1	Unk	Unk	Unk	5	I	EN	RD	S, M	1	Unk
Dremomys lokriah	D	D	Decl.	Unk	Unk	Unk	2, 3, 4, 5	H, L	LRnt	--	S, M, Hm, Lm, Lh	3	2
Dugong dugon	D	C	Many	80%	10 yrs	< 5	2	Fd, F, I, Sh, L, Ov, T	CR	PR RD	M, H, Lr	1	1
Elephas maximus	D	D	>20, F	<50%	3 gen.	12,000	1, 2, 3	D, Sd, G, I, H, L, Lp, Lf, Pl, R, Tp, T	VU	PR	M, G, Hm, Lh, Lm, P	3	2
Eonycteris spelaea	D	B	3, F	Unk	Unk	Unk	2, 3, 5	No	VU	NM	S, M, H, Lh, T	1	Unk
Eothenomys melanogastor	B	C	> 3	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Eptesicus pachyotis	Unk	Unk	1	Unk	Unk	Unk	5	Unk	DD	--	T, S, M	P	Unk
Eptesicus serotinus	C	C	1	Unk	Unk	Unk	5	Unk	DD	--	T, S, M	P	Unk
Equus kiang	D	C	2, F	Unk	Unk	Unk	2, 3	I	VU	RD,NM	M, P	P	Unk
Eubalaena glacialis	D	D	Many	80%	20 yrs	Unk	1, 2	H, Cs, Pu, F, T	EN	PE	M, P	No	Unk
Eupetaurus cinereus	D	D	Many	Unk	Unk	Unk	3, 4, 5	Gr, Tp, T	LRnt	--	S, M, Lr, Lh	3	3
Felis chaus	D	D	Many	Unk	Unk	Unk	2, 3, 4, 5	I, Hf, T	LRnt	--	S, M, Lh	3	3
Felis silvestris ornata	D	D	Many	Decl.	3 dec	Unk	1	Hyb, L, Lp, Tp, T	LRnt	--	S, M, Hm, T, Lh	3	3
Feroculus feroculus	C	C	4	Unk	Unk	Unk	2, 5	Lf	VU	RD,NM	M, S	1	Unk
Funambulus layardi	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S	P	Unk
Funambulus palmarum	D	D	Many	Stable	Unk	Unk	1, 2, 3, 4, 5	T	LRlc	--	O	No	Unk
Funambulus pennantii	D	D	Many	Incre.	Decr.	-	1, 2, 3, 4, 5	T	LRlc	--	Unk	No	Unk
Funambulus sublineatus	Unk	Unk	Unk	Unk	Unk	Unk	5	No	DD	--	Unk	P	Unk

Species	Range	Area	No. of loc./F	% decl.	Year/ gen.	Pop. no	Data quality	Threat	IUCN cat.	Crit. Use	Research recom.	Cult. rec.	Lev diff
Gazella bennettii	D	D	Many	Stable	10 yrs	Many	2	Hf	LRlc	--	Unk	No	1
Gerbillus gleadowi	D	D	Many	Stable	Unk	Many	2, 5	I, L	LRlc	--	M	No	Unk
Gerbillus nanus	D	D	> 5	Unk	Unk	Unk	5	L	LRnt	--	S, M	3	Unk
Globicephala macrorhynchus	D	D	Many	Unk	Unk	Unk	2	F	LRnt	--	M	P	Unk
Gohunda ellioti	D	D	Many	Stable	Unk	Unk	2, 5	No	LRlc	--	S, M	No	Unk
Grampus griseus	D	D	Many	Unk	Unk	Unk	3	F	LRnt	--	M	P	Unk
Hadromys humei	B	B	> 5	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Helarctos malayanus	Unk	Unk	Unk	Unk	Unk	Unk	2	H, Hm, L, T	DD	--	Unk	P	1
Hemiechinus collaris	D	D	Many	Stable	UNK	Unk	5	No	LRlc	--	M	No	Unk
Hemitragus jemlahicus	D	C	Many	Decl.	10 yrs	Unk	2, 3	I, Hf, L, T	LR-nt	--	S, M, Hm	3	Unk
Herpestes endwardsii	D	D	Many	Stable	Unk	Unk	3, 4, 5	Ht, Hf, Hm, T, Tp,	LRlc	--	M, Lh	No	1
Herpestes javanicus	D	D	Many	Stable	Unk	Unk	2, 3, 4	Ht, Hf, Ps, R, Tp, T	LRlc	--	Lh, M	No	Unk
Herpestes smithii smithii	D	D	Many	Stable	Unk	Unk	3, 4, 5	L, Lf, Tp, T	LRlc	--	S, M, Lm, Lr, Lh	No	Unk
Herpestes urva	C	D	3, F	Unk	Unk	Unk	1, 2, 3	L, Po	VU	RD	S, M, Lh	1	Unk
Herpestes vitticollis	D	D	Many	Unk	Unk	Unk	3, 4, 5	L, Lf	LRnt	--	M, Lr, Lh	3	3
Hesperoptenus tickelli	D	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Hipposideros armiger	D	D	Many	Unk	Unk	Unk	2	I, L	LRnt	--	S, M	3	Unk
Hipposideros ater	D	D	Many	Unk	Unk	Unk	2	I, L	LRnt	--	M, S	3	Unk
Hipposideros cineraceus	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Hipposideros fulvus	D	D	Many	Unk	Unk	Unk	2	I, L	LRnt	--	S, M	3	Unk
Hipposideros galeritus	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Hipposideros lankadiva	D	C	< 10	Unk	Unk	Unk	2	I, L	VU	RD	S, M	1	Unk
Hipposideros larvatus	C	C	2, F	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Hipposideros pomona	D	C	Many,F	Unk	Unk	Unk	2, 5	Unk	DD	--	S, M	P	Unk
Hipposideros speoris	D	D	Many	Unk	Unk	Unk	2	I, L	LRnt	--	S, M	3	Unk
Hyaena hyaena	D	D	Many	Unk	Unk	Unk	2, 3	Po, R, T	LRnt	--	S, M, Hm, Lr, PP, O	3	1
Hylobates hoolock	D	D	Many,F	Decl.	10 yrs	< 10,000	2, 3	H, Hf, Hm, L, Lf, Tp, T	EN	PE	S, M, Lm, Lr, P	1	3
Hylopetes alboniger	C	D	< 10	Decl.	Unk	Unk	2, 3, 4, 5	I, L	VU	RD	S, M, Hm, Lm, Lr, Lh	1	3
Hylopetes barberi	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	DD	--	Unk	P	Unk
Hylopetes fimbriatus	D	D	Many,F	Decl.	Unk	Unk	2, 3, 4, 5	I, L	LRnt	--	S, M, Hm, Lr, Lh	1	3
Hyperacrius fertilis	B	C	> 10	Unk	Unk	Unk	2, 5	Unk	DD	--	S, M	P	Unk
Hyperacrius wynnei	B	B	< 5	Unk	Unk	Unk	5	No	VU	NM	S, M	P	Unk
Hystrix brachyura	D	C	> 4, HF	Decl.	Unk	Unk	2, 4, 5	L, Lf	VU	RD,NM	S, M	1	Unk
Hystrix indica	D	D	Many	Stable	Unk	Many	2, 3, 4, 5	Hf, Tp, T	LRlc	--	S, M	5	Unk
Ia io	B	B	2, F	Unk	Unk	Unk	2	I	EN	RD	S, M, T	1	Unk
Kerivoula papillosa	D	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Kerivoula hardwickii	D	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Kerivoula picta	D	D	Many	Unk	Unk	Unk	2, 3	I	LRnt	--	M, S	3	Unk

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Kogia breviceps	D	D	Unk	Unk	Unk	Unk	--	F	LRnt	--	M	3	Unk
Kogia simus	D	D	2	Unk	Unk	Unk	Unk	F	LRnt	--	M	P	Unk
Leopoldamys edwardsi	D	D	Many	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Lepus capensis	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S	P	Unk
Lepus nigricollis	D	D	Many	Stable	Unk	Unk	2, 3, 4, 5	H, L, Ps, Po	LRlc	--	Lm, Lr, Lh	5	1
Lepus oiostolus	D	D	Many	Unk	Unk	Unk	5	Unk	DD	--	S	P	Unk
Loris tradigradus	D	D	Many	Decl.	10 yrs.	Unk	2, 3, 4	H, Hm, T	LRnt	--	S, M, Lm, Hm, Lr, Lh, O	3	3
Lynx lynx	B	C	1	Unk	Unk	Unk	2, 4	L, Lf	EN	RD	S, M, Lh	P	Unk
Macaca arctoides	D	C	Many,F	Unk	Unk	Unk	2, 3	H, L, T	LRnt	--	S, M, Lr, Lh, PP	P	Unk
Macaca assamensis	D	D	Many	Unk	Unk	Unk	2,4	I, Hf, L	LRnt	--	S, M, Lr, PP	P	Unk
Macaca fascicularis umbrosa	B	B	5	Unk	Unk	<250	1, 2, 3	I, L, P	CR	PE	S, M, Lr, Lh, PP	1	1
Macaca mulatta	D	D	Many	Incre.	10 yrs	Unk	1, 2	T	LRlc	--	S, M, Lr, O	5.2	1
Macaca nemestrina	D	D	Unk	Unk	Unk	Unk	2,3	Unk	DD	--	S, M, Lr, Lh, PP	P	Unk
Manis crassicaudata	D	D	Many	Unk	Unk	Unk	3, 4, 5	I, H, Hm, Tp, T	LRnt	--	M, Lh, H	3	3
Manis pentadactyla	D	D	Many	Unk	Unk	Unk	3, 4, 5	I, L	LRnt	--	S, M, Lh	P	3
Marcoglossus sobrinus	Unk	Unk	Unk	Unk	Unk	Unk	2, 5	--	DD	--	S, M, Lh	P	Unk
Marmota bobak	B	B	Many,F	Decl.	Unk	Unk	2, 3, 4, 5	I, L, W	EN	RD	S, M, Hm, Lm, Lr, Lh	1	3
Marmota caudata	C	D	Many,F	Decl.	Unk	Unk	3, 4, 5	I, H, Hf, L, W	VU	RD	S, M, Lm, Lh	1	3
Martes flavigula	D	D	Many	Stable	Unk	Many	2, 3, 4, 5	H, Tp	LRlc	--	S, Lh	No	Unk
Martes foina	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, PP	P	Unk
Megaderma lyra	D	D	Many	Unk	Unk	Unk	2, 5	No	LRlc	--	S, M	No	Unk
Megaderma spasma	D	D	Many	Unk	Unk	Unk	2	Unk	DD	--	S, M	P	Unk
Megaptera novaeangliae	D	D	Unk	Unk	Unk	Unk	2, 4	Cs, F	LRnt	--	Unk	No	Unk
Megarops niphanae	D	D	3, F	Unk	Unk	Unk	2, 5	No	DD	--	No	P	Unk
Mellivora capensis	D	D	Many	Unk	Unk	Unk	3, 4, 5	I, L	LRnt	--	S, M, Lh	3	3
Melogale moschata	B	C	1	Unk	Unk	Unk	4	Hf, L, T	EN	RD	S, M, Lh	1	3
Melogale personata	D	C	6-7, F	Unk	Unk	Unk	5	L	VU	RD	S, M, Lh, PP	1	Unk
Melursus ursinus	D	D	Many,F	Decl.	10 yrs	<5, 000	1, 2	H, Lf, Po, Tp,T	VU	PE	S, M, Lr, O	3	2
Meriones hurriane	D	D	Many	Stable	Unk	Unk	1, 2, 5	L, Ps	LRlc	--	M	No	Unk
Micromys minutus	C	B	> 2	Unk	Unk	Unk	5	Unk	VU	NM	S, M	1	Unk
Microtus leusurus	D	C	Many	Unk	Unk	Unk	5	Unk	DD	--	S	P	Unk
Microtus sikimensis	C	C	Many	Stable	Unk	Unk	2, 5	No	LRlc	--	M	No	Unk
Millardia gleadowi	D	D	Many	Unk	Unk	Unk	2, 5	L	LRnt	--	S, M	3	Unk
Millardia meltada	D	D	Many	Stable	Unk	Unk	1, 2, 5	Ic, Ps, Po	LRlc	--	M	No	Unk
Miniopterus pusillus	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Miniopterus schreibersii	D	D	Many	Unk	Unk	Unk	2, 5	No	LRlc	--	S, M	No	Unk
Moschola meminna	D	D	Many	Unk	10 yrs	Unk	5	H, Hf	LRnt	--	S, M, Lh.	3	3
Moschus chrysogaster	D	D	Many	>80%	10 yrs	Unk	2, 4, 6	H, Tp, T	CR	PR	H, M, T, O, P	1	2
Muntiacus muntjak	D	D	Many	Stable	10 yrs	Unk	1	Hf	LRlc	--	Lh, S, M, O	No	1
Murina aurata	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk

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Murina cyclotis	Unk	Unk	Unk	Unk	Unk	Unk	2, 5	Unk	DD	--	S, M	P	Unk
Murina huttoni	D	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M, T	P	Unk
Murina leucogaster	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Murina tubinaris	D	C	2, F	Unk	Unk	Unk	2, 5	I	VU	RD,NM	S, M	1	Unk
Mus booduga	D	D	Many	Stable	Unk	Many	1, 2, 3, 5	Dr, Ps, Po	LRlc	--	G, S, T, Hm	No	N
Mus cervicolor	D	D	Many	Stable	Unk	Unk	2, 5	No	LRlc	--	S, M	No	Unk
Mus cookii	D	D	8, F	Unk	Unk	Unk	1, 2, 5	L, Lf	LRnt	--	S, T, M, Lr	3	Unk
Mus musculus	D	D	Many	Incre.	Unk	Many	1, 2, 3, 5	Unk	LRlc	--	T	No	Unk
Mus pahari	D	D	Unk	Unk	Unk	Unk	2, 5	Unk	DD	--	S, M	P	Unk
Mus saxicola	D	D	Many,F	Stable	Unk	Many	2, 5	Dr, Po	LRlc	--	S	No	Unk
Mustela altaica	D	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, PP	P	Unk
Mustela erminea ferghanae	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, PP	P	3
Mustela kathiah	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, PP	P	Unk
Mustela putorius larvatus	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	DD	--	S, PP	P	Unk
Mustela sibirica	D	D	Many,F	Unk	Unk	Unk	1, 2, 5	I, Lf	LRnt	--	S, Lh, M	3	Unk
Mustela strigidorsa	C	D	2, F	Unk	Unk	Unk	4, 5	Unk	DD	--	S, M, Lh, PP	P	Unk
Myotis annectans	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Myotis blythi	D	D	4	Unk	Unk	Unk	2	Unk	DD	--	M, S	P	Unk
Myotis daubentoni	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Myotis formosus	D	D	Many	Unk	Unk	Unk	2	I, L	LRnt	--	S, M, T	3	Unk
Myotis hasseltii	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	M, S	P	Unk
Myotis horsfieldii	D	D	3, F	Unk	Unk	Unk	2	I	LRnt	--	S, M	3	Unk
Myotis longipes	D	B	2, F	Unk	Unk	Unk	2	I	EN	RD	S, M	1	Unk
Myotis montivagus	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Myotis muricola	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Myotis mystacinus	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Myotis sicarius	C	B	2, F	Unk	Unk	Unk	5	Unk	VU	NM	S, M	P	Unk
Myotis siligorensis	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S	P	Unk
Naemorhedus sumatraensis	D	D	Many,F	Decl.	Unk	<5,000	2, 3	I, Hf, L, T	VU	NM	S, M, Hm, O	1	1
Nectogale elegans	D	C	< 5	Unk	Unk	Unk	5	L, I	VU	NM	S, M	1	Unk
Neofelis nebulosa	D	D	Many	Decl.	20 yrs	Unk	3, 4	Dp, Ht, H, L, Tp, T	LRnt	--	S, M, Hm, Lh, Lr, PP	P	2
Neophocaena phocaenoides	D	D	Many	Decl.	Unk	Unk	2, 3	F	LRnt	--	M	3	3
Nesokia indica	D	D	Many,F	Stable	Unk	Unk	2, 5	Dr	LRlc	--	S, M	No	Unk
Niviventer brahma	B	B	1	Unk	Unk	Unk	5	I, L	EN	RD	S, M	1	Unk
Niviventer eha	C	C	4	Unk	Unk	Unk	2, 5	I, L	VU	RD,NM	S, M	1	Unk
Niviventer fulvercens	D	D	Many	Unk	Unk	Unk	2, 5	No	LRlc	--	S, M	No	Unk
Niviventer langbianis	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	T, S, M	P	Unk
Niviventer niviventer	D	D	Many	Unk	Unk	Unk	2, 5	Unk	DD	--	S, M	No	Unk
Niviventer tenaster	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	---	T, S, M	P	Unk
Nyctalus leisleri	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Nyctalus montanus	C	D	1	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk

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Nyctalus noctula	Unk	Unk	Unk	Unk	Unk	Unk	2	Unk	DD	--	S, M	P	Unk
Nycticebus coucang	D	D	Many	Unk	10 yrs.	Unk	2, 3	Hm, L, Lf, T	LRnt	--	S, M, Lr, Lh	3	3
Ochotona curzoniae	B	B	1	Decl.	Unk	Unk	2, 3, 4, 5	I, L, W	EN	RD	S, M, Lh, Lm, Lr, Hm	1	3
Ochotona forresti	C	D	Many,F	Decl.	Unk	Unk	2, 3, 4, 5	I, L, Sn	LRnt	--	S, M, Lh, Hm, Lr	3	3
Ochotona ladacensis	Unk	Unk	Unk	Unk	Unk	5	Unk	Unk	DD	--	S, M	P	Unk
Ochotona macrotis	D	D	Many	Decl.	Unk	Unk	2, 3, 4, 5	Unk	DD	--	S, M	P	Unk
Ochotona nubrica	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Ochotona roylei	D	D	Many	Decl.	Unk	Unk	2, 3, 4, 5	I, L, W	LRnt	--	S, M, Lr, Lh	3	3
Ochotona thibetana	C	D	Many	Decl.	Unk	Unk	2, 3, 4, 5	I, L	LRnt	--	S, M, Hm, Lm, Lr, Lh	3	3
Orcaella brevirostris	B	C	5	Decl.	10 yrs	Unk	1, 2, 5	F, Sn	EN	RD	M, Hm, Lm	1	3
Orcinus orca	D	D	Many	Unk	Unk	Unk	2	F	LRnt	--	M	No	Unk
Otonycteris hemprichii	B	B	1	Unk	Unk	Unk	2	Unk	VU	NM	S, M	1	Unk
Ovis ammon	B	C	3	Decl.	10 yrs	<250	2	Ic, Gr, D, H, Hf, P	CR	PE	T, S, M, Hm, Lr, P	1	2
Ovis orientalis	B	C	1	Unk	Unk	Unk	2, 5	Gr, Dm, H	EN	RD	S, M, Lr, PP	1	Unk
Paguma larvata	D	D	Many	Stable	Unk	Unk	1, 2, 5, 4	H, L, T	LRlc	--	S, Lh, M	No	2
Panthera pardus	D	D	Many,F	Stable	10 yrs	<10000	2, 3	H, L, Ov, Po,T	VU	PE	S, M, Lr, Lm, PP	3	Unk
Panthera tigris	D	D	Many,F	Decl.	10 yrs	1500-2000	1, 2	Dp, Hm, Lf, Po, Tp, T	EN	PE	S, M, Hm, Lr, Lm, P, O	1	1
Pantholops hodgsoni	B	C	1	Decl.	10 yrs	< 250	2, 3	D, H, Hf, Tp, T	CR	PE	S, M, T, Lh, PP	1	3
Paradoxurus hermaphroditus	D	D	Many	Stable	Unk	Many	2, 3, 5	H, Hf, R, Tp, T	LRlc	--	M, Lh	No	2
Paraechinus micropus	D	D	> 10	Stable	Unk	Unk	2, 5	P	LRlc	--	S, M	No	Unk
Pardofelis marmorata	D	D	< 10	Decl.	10 yrs	Unk	Unk	H, Tp, T	LRnt	--	S, M, Lm, Lr, PP	3	3
Peponocephala electra	D	D	Many	Unk	Unk	Unk	1, 2, 3	F	LRnt	--	M	P	Unk
Petaurista philippensis	D	D	Many	Decl.	Unk	Unk	2, 3, 4, 5	I, H, Hf, L, Lf,T	LRnt	--	S, Lm, Lr, Lh, M	3	3
Physeter catodon	D	D	Many	Decl.	Unk	Unk	Unk	H, T	LRnt	--	S, M	No	Unk
Pipistrellus affinis	D	D	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Pipistrellus cadornae	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Pipistrellus ceylonicus	D	D	Many	Unk	Unk	Unk	2	No	LRlc	--	S, M	No	Unk
Pipistrellus coromandra	D	D	Many	Unk	Unk	Unk	2, 5	I, L	LRnt	--	S, M	3	Unk
Pipistrellus dormeri	D	D	Many	Unk	Unk	Unk	2	I, L	LRnt	--	S, M	3	Unk
Pipistrellus kuhlii	D	D	Unk	Unk	Unk	Unk	2	Unk	DD	--	S, M	P	Unk
Pipistrellus paterculus	D	D	4	Unk	Unk	Unk	2	I, L	LRnt	--	S, M	1	Unk
Pipistrellus pipistrellus	B	B	1	Unk	Unk	Unk	5	Unk	VU	NM	T, S, M	1	Unk
Pipistrellus savii	D	Unk	Unk	Unk	Unk	Unk	2	Unk	DD	--	S, M	P	Unk
Pipistrellus tenuis	D	D	Many	Unk	Unk	Unk	2	No	LRlc	--	M, S	No	Unk
Platanista gangetica	D	D	Many,F	10%	10 yrs	about 200	2, 5	Dp, Fd, F, Hf, L, Lf, Pu, Sn, Tp, T	CR	PR,PE	M, Lr, Hm, P	1	Unk
Plecotus austriacus	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	T, M, S	P	Unk
Plecotus auritus	D	D	Unk	Unk	Unk	Unk	2, 5	Unk	DD	--	S, M	P	Unk

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Prionailurus bengalensis	D	D	Many	Decl.	Unk	Unk	3, 4	I, L, T	LRnt	--	S, M, Lh	3	1
Prionailurus rubiginosus rubiginosus	D	D	Many	Unk	Unk	Unk	3, 5	Hyb, R	LRnt	--	S, T, Lh (?)	1	1
Prionailurus viverrinus	D	C	Many,F	Decl.	Unk	Unk	2, 3	Fd, I, L, Tp, T	VU	RD	M, S, Lh, Hm	3	1
Prionodon pardicolor	D	C	4	Decli	Unk	Unk	1, 4, 5	H, L	VU	RD	S, M, Lh	1	Unk
Procapra picticaudata picticaudata	B	D	2, F	Unk	10 yrs	<50	2	L, I	CR	NM	S, M, Lh, PP	1	2
Pseudois nayaur	D	D	4	Stable	10 yrs	Unk	1, 2	Gr, D, H	LRlc	--	S, M, Lr	3	3
Psuedorca crassidens	D	D	Unk	Unk	Unk	Unk	Unk	F	LRnt	--	M	P	Unk
Pteropus giganteus giganteus	D	D	Many	Unk	Unk	Unk	2, 3, 4	I, H, Hf, Hm, L	LRnt	--	S, M	3	1
Pteropus melanotus	D	D	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Pteropus vampyrus	D	D	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Rattus nitidus	D	D	Many	Unk	Unk	Unk	2, 5	Unk	DD	--	S, M, Lh	P	Unk
Rattus norvegicus	Unk	Unk	Unk	Unk	Unk	Unk	2, 5	Ic	LRlc	--	S, M	No	Unk
Rattus rattus	D	D	Many	Stable	Unk	Many	1, 2, 5	Ic	LRlc	--	No	No	1
Rattus sikkimensis	D	D	Unk	Unk	Unk	Unk	2, 5	L	DD	--	S, M	P	Unk
Rattus tiomanicus	B	C	3	Unk	Unk	Unk	5	No	VU	NM	S, M	1	Unk
Rattus turkestanicus	D	D	Many	Unk	Unk	Unk	2, 5	Unk	DD	--	S, M	No	Unk
Ratufa bicolor gigantea	D	D	Many,F	>20	10 yrs	>10000	1, 2, 3, 4, 5	H, Hf, Hm, L, Lf, T, Tp	VU	PR	S, M, Lm, Hm, Lr, Lh	1	2
Ratufa macroura dandolena	B	B	10, F	>50%	10 yrs	< 800	1, 2, 3, 4, 5	Dm, Sn, G, H, Hf, L, Lf	EN	RD PE	T, S, M, Hm, Lh, Lm, Lr, Tl, P	1	3
Rhinoceros sondaicus	No	No	No	No	No	No	2, 3	L	EX	--	None	Unk	Unk
Rhinocerous unicornis	D	C	10, F	50%	20 yrs	Many	2	Gr, D, Dr, E, G, H, L, Lp, Pl, Tp, Ii, T	EN	RD	Tl, S, M, G, Hm, Lm, Lr	1	2
Rhinolophus affinis	D	D	<10	Unk	Unk	Unk	5	I, L	LRnt	--	M, S	3	Unk
Rhinolophus ferrumeuinum	D	C	3, F	Unk	Unk	Unk	2	L, I	VU	RD,NM	M, S	3	Unk
Rhinolophus hipposideros	Unk	Unk	1	Unk	Unk	Unk	5	Unk	VU	NM	S, M	P	Unk
Rhinolophus lepidus	D	D	Many,F	Unk	Unk	Unk	2	I, L	LRnt	--	M, S	3	Unk
Rhinolophus pearsonii	D	D	4	Unk	Unk	Unk	5	I, L	LRnt	--	S, M	3	Unk
Rhinolophus pusillus	D	D	3, F	Unk	Unk	Unk	2	I	LRnt	--	S, M	1	Unk
Rhinolophus rouxi	D	D	Many	Unk	Unk	Unk	2	I, L	LRnt	--	M	3	Unk
Rhinolophus subbadius	A	A	1	Unk	Unk	Unk	5	I	CR	RD	S, M	1	Unk
Rhinolophus trifoliatus	Unk	Unk	Unk	Unk	Unk	Unk	5	No	DD	--	S, M	P	Unk
Rhinolophus yunanensis	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M, T	P	Unk
Rhinolopus luctus	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M, T	P	Unk
Rhinopoma hardwickii	D	D	Many	Unk	Unk	Unk	2, 5	G, I, L	LRnt	--	S, M	3	Unk
Rhinopoma microphyllum	D	D	Many	Unk	Unk	Unk	2	G, I, L	LRnt	--	T, S, M	3	Unk
Rhizomys pruinosus	D	D	> 10	Unk	Unk	Unk	2, 5	Hf, L	LRnt	--	S, M	3	Unk
Rousettus leschenaulti	D	D	Many	Unk	Unk	Unk	2, 3, 5	No	LRlc	--	M	No	Unk
Saccolaimus saccolaimus	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Scotoecus pallidus	D	D	Many	Unk	Unk	Unk	2	I	LRnt	--	M, S	3	Unk
Scotomanes ornatus	D	D	Unk	Unk	Unk	Unk	2, 5	Unk	DD	--	S, M	P	Unk
Scotophilus heathi	D	D	Many	Unk	Unk	Unk	2, 5	No	LRlc	--	S, M	No	Unk

Species	Range	Area	No. of loc./F	% decl.	Year/ gen.	Pop. no	Data quality	Threat	IUCN cat.	Crit. Use	Research recom.	Cult. rec.	Lev diff
Scotophilus kuhlii	D	D	Many	Unk	Unk	Unk	2	I	LRnt	--	S, M	3	Unk
Semnopithecus entellus	D	D	Many	Incre	10 yrs.	Abund.	1, 2	No	LRlc	--	S, M, Lr	5.1	1
Sicista concolor	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Sorex caudatus	D	C	> 5, F	Unk	Unk	Unk	5	L, I	VU	RD	S, M	1	Unk
Sorex minutus	B	C	2	Unk	Unk	Unk	5	No	VU	NM	S, M	1	Unk
Soriculus leucops	D	C	3, F	Unk	Unk	Unk	5	L, Lf	VU	RD,NM	T, S, M	1	Unk
Soriculus macrurus	C	C	> 2	Unk	Unk	Unk	5	L, Lf	VU	RD,NM	S, M, Lh	1	Unk
Soriculus nigrescens	D	C	> 5	Unk	Unk	Unk	5	L, I	VU	RD	S, M, Lh	1	Unk
Sousa chinensis	D	D	Many	>50%	10 yrs	About 1500	2, 4	Sn, F	EN	PR	T, M, H, Lr, P	1	3
Sphaerias blanfordi	D	D	2, F	Unk	Unk	Unk	2	Unk	DD	--	S, M, T, Lh	P	Unk
Stenella longirostris	D	D	Many	Unk	Unk	Unk	5	F, T	LRnt	--	M	P	Unk
Suncus etruscus	D	D	Many	Stable	Unk	Many	2, 3, 5	No	LRlc	--	S, M	No	Unk
Suncus montanus	C	C	> 5	Stable	Unk	Unk	2, 3, 5	I, L	VU	RD	S, M	1	Unk
Suncus murinus	D	D	Many	Stable	Unk	Many	1, 2, 3, 5	No	LRlc	--	M	No	Unk
Suncus stoliczkanus	D	D	Many	Stable	Unk	Many	2, 5	Unk	LRlc	--	S, M	No	Unk
Sus salvanius	B	B	8-9, F	Decl.	10 yrs	< 100	1, 2	Hf, L	CR	PE	M, S, Lr, P	2	3
Sus scrofa	D	D	Many	Incre.	10 yrs	Abund.	1, 2	D	LRlc	--	M	5.2	Unk
Tadarida aegyptiaca	D	D	Many	Unk	Unk	Unk	2, 5	I	LRnt	--	S, M	3	Unk
Tadarida teniotis	Unk	Unk	Unkl	Unk	Unk	Unk	5	Unk	DD	--	S, M	P	Unk
Talpa leucura	C	C	> 5	Unk	Unk	Unk	5	Lf	VU	RD	S, M, T, Lh	1	Unk
Talpa micrura	D	C	> 5	Stable	Unk	Unk	5	No	LRlc	--	T, M, S, Lh	No	Unk
Tamiops macclellandi	D	D	Many	Decl.	Unk	Unk	2, 3, 4, 5	L	LRnt	--	M, Lm, Lh, Hm	3	1
Taphozous longimanus	D	D	Many	Unk	Unk	Unk	2, 5	No	LRlc	--	S, M, T, Lh	No	Unk
Taphozous melanopoganTemminck	D	D	Many	Unk	Unk	Unk	2, 5	I, H	LRnt	--	S, M, H, Lh	3	Unk
Taphozous nudiventris	D	D	Many	Unk	Unk	Unk	2	I	LRnt	--	S, M, Lh	3	Unk
Taphozous perforatus	D	D	>10	Unk	Unk	Unk	2, 5	I, L	LRnt	--	No	3	Unk
Taphozous theobaldi	Unk	Unk	Unk	Unk	Unk	Unk	5	Unk	DD	--	T, S, M	P	Unk
Tatera indica	D	D	Many	Stable	Unk	Many	1, 2, 5	Ps	LRlc	--	M	No	Unk
Tetracerus quadricornis	D	D	83	Unk	10 yrs	Unk	2, 3	Gr, H, L, T	LRnt	--	Hm, Lm, S, M, Lh, PP	3	1
Trachypithecus geei	B	B	< 5	Decli.	10 yrs.	< 250	1, 2	H, T	CR	PE	S, M, Lh, Lm, P	1	2
Trachypithecus phayrei	C	D	5-8, HF	10%	10 yrs.	> 500	2	I, I ce, L	EN	PE	S, M, PP	1	Unk
Trachypithecus piletaus	D	D	Many	Stable	10 yrs	Unk	2, 3	H, L, Tp, T	LRnt	--	S, M, Lr, Lm, PP	3	2
Tupaia belangeri	C	C	> 5	Stable	Unk	Unk	5	Hf, P	LRlc	--	T, S, M	No	Unk
Tursiops truncatus	D	D	Many	Unk	Unk	Unk	2, 3	F	LRnt	--	M	P	Unk
Tylonycteri spachypus	D	D	Many	Unk	Unk	Unk	2	I, L	LRnt	--	S, M, T	3	Unk
Uncia uncia	D	D	Many,F	<20%	10 yrs	Unk	1, 2	Tp, T	EN	PE	S, M, Lm, Lr, P	1	1
Ursus arctos	D	D	Many	Decl.	10 yrs	Unk	2, 5	Dp, H, Hm, Tp, T	LRnt	--	S, M, Lr	3	2
Ursus thibetanus	D	D	Many	Stable	10 yrs	Unk	Unk	I, Tp, T	LRlc	--	S, M, Lr, Lh, O	3	2
Vandeleuria oleracea	D	D	Many	Stable	Unk	Many	2, 5	No	LRlc	--	No	No	Unk

Species	Range	Area	No. of loc./F	% decl.	Year/ gen.	Pop. no	Data quality	Threat	IUCN cat.	Crit. Use	Research recom.	Cult. rec.	Lev diff
Viverra zibetha	D	D	Many	>20%	10 yrs	Unk	2, 3, 4	H, Hf, Hm, L, Tp, I, T	VU	PR	S, M, H, O	1	2
Viverricula indica	D	D	Many	Decli	Unk	Many	2, 3, 4	I, H, Hm, L, Tp, T	LRnt	--	M, H, Lh	3	2
Vulpes bengalensis	D	D	Many,F	Decli	Unk	Unk	2, 3	I, H, Tp, Po, T	LRnt	--	S, M, Lr, O	3	Unk
Vulpes vulpes montanna	D	D	Many	Decl.	10 yrs	Unk	2, 3, 4, 6	I, Tp, T	LRnt	--	S, M, Lh	3	1
Vulpes vulpes pusilla	D	D	Many	Unk	Unk	Unk	2, 5	I, Hf, Tp, T	LRnt	--	S, M, Lr	3	Unk
Ziphius cavirostris	D	D	Many	Unk	Unk	Unk	3, 4	F	LRnt	--	Unk	No	Unk

Mammals of India

Report

Biodiversity Conservation Prioritisation Project, India -- Endangered Species Project
Conservation Assessment and Management Plan (C.A.M.P.) Workshops

Mammals of India

Hosted by Centre for Ecological Sciences, I.I.Sc., Bangalore
25 - 29 August 1997

REPORT

Convention on Biological Diversity

The Convention on Biological Diversity adopted in Nairobi in May 1992 and signed by more than 150 states in June 1992 at Rio de Janeiro, came into force officially in December 1993. The Convention is a "framework agreement" in that its provisions are expressed as goals and policies (as opposed to "obligations"), leaving the implementation of its provisions up to individual parties (the states) at the national level. In the Convention, the importance of non-governmental organisations in implementing the provisions was specifically mentioned.

Articles in the Convention cover objectives, terminology, principles, legislation, cooperation and strategy as applied to various issues and methodology. One of the very basic methods of organising conservation action is prioritisation. Article 7 of the Convention deals with Identification and Monitoring, calling on parties to identify components of biological diversity important for its conservation and sustainable use. Components of an "indicative list" include:
* Ecosystems and habitats
* Species and communities, and
* Described genomes and genes of social, scientific and economic value.

Knowledge of species and communities can reveal crucial facts necessary to the management of ecosystems and habitats as well as to the identification of important genomes and genes. Identification, listing and prioritisation of species are one of the important tasks in conservation. In India, it is well known by biologists across many taxon groups that species information has many gaps. In many instances, the species has not been surveyed or studied since its description, perhaps in the 18th or 19th century. Even species, which have been studied more recently in the 20th century, require constant attention due to the fact that the very fabric of the earth is changing so rapidly. It is common knowledge today that the ecosystems and habitats which sustain species are deteriorating exponentially as a result of population expansion, industrialisation, and the build-up of habits resulting from decades and centuries of thinking the Earth and its resources were unlimited. Awareness of this fact is, of course, the raison d'être for the Convention on Biological Diversity itself.

Biodiversity Conservation Prioritisation Project – Endangered Species Component

The Biodiversity Conservation Prioritisation Project (BCPP) is an attempt to amalgamate the knowledge of government, academics, enthusiasts, and other knowledgeable persons of India to meet obligations of the Convention on Biological Diversity. This Project was funded by the Biodiversity Support Program, a consortium of organisations, USAID, World Resources Institute and the Nature Conservancy, and coordinated by World Wide Fund for Nature. It consists of three segments, sites, species and strategies for biodiversity conservation. The overall aim of the species segment is to list out species which need to be conserved for their biodiversity value in order of priority, under categories of medicinal and economic value, wild relatives of domesticated and cultivated species and other endangered fauna, flora and micro-organisms.

An Endangered Species Subgroup decided to use the IUCN criteria to assess the conservation status of a large part of Indian species diversity. A workshop "process" called the Conservation Assessment and Management Plan (CAMP) developed by the Conservation Breeding Specialist Group, SSC, IUCN was selected by the subgroup as the methodology to use for conducting the assessments. CBSG, India, a Regional Network of the Conservation Breeding Specialist Group was asked to conduct the "CAMP" workshops on the basis of their experience and expertise. The IUCN Red List criteria are central to the CAMP process.

IUCN Red List

Earlier efforts to monitor the earth's resources and activate conservation measures include the Red Data Books of IUCN, now called the World Conservation Union. The IUCN Red Data Books have provided a guide for species conservation status for the last three decades. A few years ago, it was felt that both the categories and methodology used by individuals compiling the Red Data Books needed review. Over a seven-year period, the

IUCN Criteria for Endangerment used in compiling Red Data Books, were examined, revised, reviewed and improved over six different iterations. The present system, the IUCN Red List Categories, 1994, is more objective, numerate, and consistent for all groups. The revised IUCN Red List Categories provide a methodology for assessment and categorisation, which can be applied, to any group of organisms (except microorganisms). The revised IUCN Red List criteria is being used now by conservation actioners and scientists all over the world and is considered the best possible method available today for assessing the conservation status of species.

Conservation Assessment and Management Plan

One of the great difficulties of carrying out basic tasks such as identification and monitoring, creation of management and action plans and recovery programmes for species, is coordinating the great mass and variety of specialist knowledge and agency authority. Much time and energy is wasted in duplication of effort, territorial and ownership disputes, and inability to find and adhere to a common ground. The business community, realising the importance of effective communication and teamwork, has developed a broad spectrum of management strategies and tools which are used daily to manage time and human interaction. More and more, the conservation community is recognising the importance of using some of these tools to achieve their goals, rapidly and effectively. The Conservation Breeding Specialist Group (CBSG) of the Species Survival Commission of IUCN has pioneered the use of some these tools in well-planned strategic problem-solving and task -performance exercises. CBSG calls these exercises “processes” because — in the contemporary conservation scenario — nothing is static except the fact of change itself.

The Conservation Action and Management Plan Workshop was developed by CBSG for the purpose of prioritising species for conservation action including *ex situ* component. Over the last decade, CBSG has conducted dozens of CAMP workshops for literally hundreds of species, using (and thereby testing) the then current iteration of the IUCN Red List Categories as their basic methodology to glean a status ranking. The IUCN Red List guidelines and criteria are used in all CAMP workshops to assess and assign a category to each species.

For the CAMP Workshop CBSG has developed a Taxon Data Sheet and a Spreadsheet format which includes parameters necessary to assess the IUCN status as well as provide other useful information necessary for creating management and action plans. The spreadsheet organises the information in a concise manner so that it is accessible at a glance. The information in this Report is organised on spreadsheets in the Report section, followed by the individual Taxon Data Sheets. A CAMP Workshop also utilises principles of management psychology to guide human interaction. A set of Guidelines for Group Interaction is presented to the workshop participants who agree as a group to work accordingly in order to complete the task. Objective Facilitators (persons trained in management skills and the workshop process) are used to lead and guide the workshop so that individual and professional bias does not affect group decisions and to assist in maintaining the integrity and focus of the workshop.

CAMP Workshops bring together a variety of specialists and enthusiasts from academic, government, managerial, and even the commercial sector to evaluate taxa for setting priorities for conservation action. The fear of loss and hope of recovery of species drives CAMP Workshops. Individuals part with unpublished information in order to contribute to a body of information which will provide strategic guidance for application of intensive management and information gathering. CAMP Workshops results, are, or should be, dynamic, leading to specific conservation activities in forest, market, classroom, courtroom — locally and nationally as well as on the international stage.

Conservation of Indian mammals

Mammals are clearly the most charismatic organisms on the planet with larger forms being perceived by the general public practically as synonomous with biodiversity and conservation. Interest in higher mammals is evident even from the abundance of studies conducted all over the world as compared with other forms. Mammals serve as “umbrella” or “flagship” species for wildlife conservation, with the most recent and obvious example being the tiger. Saving mammals, particularly the flagship species, is equated with saving everything -- wildlife, ecosystem, habitat, biodiversity. However realistic this view may be, it is definitely an indicator of the popularity of mammals and their ability to evoke interest in the problems of the natural world.

Scientists are not immune to the charm of mammals, particularly large mammals. The majority of Specialist Groups (more than 100) of the Species Survival Commission of the World Conservation Union are devoted to mammals, either single mammal specialist groups (e.g. Asian Elephant S.G.) or mammal orders or families (e.g. Cat S.G., Cervid S.G., etc.).

Ironically, the large bodied animals occupy a small niche in the mammal group. A rough division of the different families into “small” and “large” bodied mammals is revealing. The “small-bodied” mammal groups are

Chiroptera, or bats, as the largest with more than 100 species in 7 families, followed by Rodents (rats, shrews, squirrels, etc., with more than 100 species in four families). Bats and rats then make up more than 50% of all Indian mammals already! The remainder are Insectivora (30 species in 3 families), Primates (15 species in 3 families), Lagomorpha (11 species in 2 families), Scandentia (3 species in 1 family), and Pholidota (2 species in 1 family). There are no species which could be considered as "large bodied " mammals in these groups.

The remaining groups contain large-bodied animals, but not exclusively. In the felids, there are very small cats such as leopard cat, rusty spotted cat, etc. in canids, foxes, jackals, etc. and in Artiodactyla the Mouse deer. The large-bodied mammal groups are Carnivora or felids, canids, etc. (61 species in 7 families), Artiodactyla (36 species in 6 families), Cetaceae (31 species in 7 families), Persiodactyla (8 species in 2 families) and Sirennia and Proboscidea each with 1 species in 1 family each. This is a total of 138 species, of which some are not truly large. It is probably safe to say that only one fourth of mammals are large bodied but they claim nearly all the public attention.

This focus or fascination for "charismatic megavertebrates" has its advantages in garnering support for wildlife conservation from lay persons who admire their beauty, intelligence, ferocity and -- perhaps most of all – size. The disadvantage is that the lion's share of mammals, that is the ¾ which are not big are in danger of being neglected – in studies, in conservation planning, in conservation action. People do not give a great deal of thought to the small bodied mammals in terms of conservation, with the exception of primates which are – possibly because of the characteristics they share with human beings – the most popular and charismatic small bodied mammals. The CAMP Workshop held in Bangalore, by attempting to assess the entire spectrum of mammals, has demonstrated that some mammal species in all families are under threat and many of them are small, dull-coloured, … kind of uninteresting if not actually unattractive to most people. Yet, these are also part of biodiversity and potentially as useful and necessary to man and the ecosystem as the other.

The 1996 Red List of Threatened Animals lists 4649 mammal species of the world. Of these, 1096 species have been categorised as "threatened" under one of the three IUCN Red List threatened categories, Critically Endangered, Endangered and Vulnerable. The remaining 3553 mammals have been categorised either as non-threatened under one of the Lower risk categories, or are Extinct, Data Deficient or Not Evaluated.
Of these 4649 listed mammal species, 315 of them have been listed as occurring in India and 75 of those have been listed in a threatened category.

India has many endemic species of plants and animals. The 1996 Red List (Bailie & Groombridge, 1996) lists 44 species of mammals as endemic to India. Five endemic mammal species of conservation significance occur in the Western Ghats. They are *Macaca silenus, Trachypithecus johnii, Paradoxurus jerdoni, Viverra civettina* and *Hemitragus hylocrius*. The IUCN Red Data Book also lists 587 subspecies in the world of which 24 are in India. Further, the Indian Red Data Book of 1994 by the Zoological Survey of India assessed 75 species of mammals; 57 of those as being threatened, 16 insufficiently known and 2 extinct.

Tabulated underneath are the evaluations by different agencies

Evaluation	Total evaluated	Threatened	Non-Threatened & DD	Extinct	Not Evaluated	Indian Endemic	Non-endemic	Sub species
IUCN RDB (1996) Global mammals	4649	1096	3553	86	36	--	--	587
IUCN RDB (1996) Indian mammals	315	75	240	0	2	44	271	24
ZSI Red Data Book (1994)	75	57	16	1	--	10	65	15
CAMP (1997)	372 of 404	118	254	3	>30	54	318	26

Mammals in India are under threat for many different reasons, one of the most well known being trade. Trade brings to mind species such as tiger, rhinoceros, desert fox, etc., which are more commonly known to be in trade. However, some species from almost all families of Indian mammals are in trade at some level. Trade is not the only reason for their decline, although it may be a primary reason if it is unsustainable. Other common threats that affect mammal populations are habitat loss and human influence.

Many of the Indian mammals, which are, as a whole, probably the most well studied of all the groups of organisms in India, still lack basic information with respect to population studies or trends, which hinders status assessment. This is not only true of mammals such as marine dolphins and whales that occur in the seas with a wide distribution are very poorly studied due to the prohibitive expense of carrying out oceanic surveys but also of more easily studied land species such as rodents and bats.

In preparing for the workshop, a major task was to locate the most complete and current checklist of mammals, which was not so straightforward as one might expect for the most well studied Indian animal group. Over the centuries there have been several books and lists of Indian mammals. Probably the first systematic attempt to list the mammalian fauna of India is a little-known one. In 1801, Arthur Wellesley, a brilliant albeit tactless, Governor General of Bengal, wanted to set up a Natural History Institute in a special college which would cater to English babus who were to serve in India. Wellesley desired to give them a firm grounding in Indian language and culture before sending them to the districts, but his Board of Governors did not agree. They did, however, grant permission and a modest budget for the Indian Natural History Project, probably the most amphibious official project of its type to that date. Wellesley engaged Sir Frances Buchanan-Hamilton, a surgeon naturalist, to serve as Director of the Project. The project was ill fated and did not survive long, but during the three or fours years that it lasted, some nearly 200 species of mammals, birds and reptiles were listed, described and drawn. This work was never published and is currently being edited and annotated by one of the editors of this Report (Walker, work in progress). Hamilton-Buchanan has the credit of describing innumerable plants and fishes in India.

According to Nameer (in press), the Golden Age of Indian Mammology was during second quarter of the 19th century, led by Brian Houghton Hodgson (Wroughton, 1918). Before Hodgson, with the exception of Buchanan, collecting and study was sporadic. T.C. Jerdon's *The Mammals of India*, published in 1867, may have been the first published listing with 242 species. Robert A. Sterndale's *Natural History of the Mammalia of India & Ceylon*, 1884, described 482 species of mammals from India and much of what we call south Asia today, e.g., Nepal, Pakistan and Sri Lanka. In 1888 and 1891 W.T. Blanford published the first part of *The Fauna of British India, Mammalia,* in which 400 and odd species were listed and described. This work is said to be the first authoritative account on Indian mammals. Two decades later BNHS began a *Mammal Survey of India*, which continued till 1923 with results being published in their journal between 1912 and 1930. Following the BNHS Mammal Survey, a second edition of the *Mammalia* of the *Fauna of British India* series was published in 1939 (primates), in 1941(carnivora) by R.I. Pocock, and 1961 (rodents) by J.R. Ellerman. *A Checklist of Palearctic & Indian Mammals* was published by Ellerman and Morrison-Scott in 1951. The most popular reference on mammals in recent years is S.H. Prater's *Book of Indian Animals***,** first published in 1948 then updated and reprinted several times since. Wildlife Institute of India developed a database of mammals in protected areas with common names as well as scientific names.

With all of these works in existence, the organisers of this workshop were still hard pressed to find a genuine checklist of Indian mammals with any degree of real currency. Finally it was learned that P.O. Nameer of Kerala Agricultural University, Thrissur with the help of Dr. Lawrence Heaney of the Field Museum, Chicago had compiled a comprehensive checklist based on the latest nomenclature as published by Corbett and Hill. This checklist was indeed the most comprehensive and current and finally taken as the basis of the CAMP Workshop with the consensus of participants.

Despite this, there is still confusion with regard to identification and taxonomy, especially of the smaller mammals as indicated in the BCPP CAMP workshop. Though mammals are a relatively wellstudied group, there are anomalies in validity of subspecies and of nomenclature even in the higher forms. This was revealed by varied opinions of researchers working on the same animal in different parts of its distribution. An example of this confusion is the Indian dhole, which was assessed as a single species by the group, some of whom had surveyed the species, but later divided by the authority on dhole into 4 subspecies. Other examples either of name change or confusion in identification include the Himalayan ibex, musk deer, yak, wild buffalo, and other large mammals, as well as the numerous and smaller rodents and bats. There is a clear lack of communication and ccordination among Indian mammal specialists. Some of the common misunderstandings in taxonomy, identification, field techniques, etc. could be resolved through networking which would promote more communication and cooperation and therefore coordination of information.

The CAMP workshop was conducted with a view to bring together as many of the country's current as well as retired mammal field biologists, so that the full depth of knowledge regarding population trends and status of India mammals could be fully utilised. This exercise may be the first time that a systematic effort has made to assess the status of a country's mammalian fauna using IUCN threat criteria and a large group of biologists. The BCPP CAMP workshops on amphibians and reptiles before this exercise provided a model example in conducting a countrywide assessment for any single group of organisms.

Objectives of the BCPP Mammal CAMP

1. To create a complete list of those species which should be considered the mammalian fauna of India with the aim of an inventory of Indian mammalian biodiversity.

2. To assess each species (and where appropriate each subspecies), according to the revised IUCN Red List criteria using the CAMP workshop process with the aim of prioritising species for conservation (In the case of species not represented by an acknowledged expert, to name an expert and refer the appropriate species questionaire to them for up-to-date information).

3. To create a set of "survey, search and find" recommendations for the species that clearly lack information (DD species).

4. To create a set of conservation recommendations for species that are threatened.

5. To list the problems working groups had in applying the revised IUCN Red List criteria to species for forwarding to the Task Force which is to be set up to review the application of the revised criteria so far.

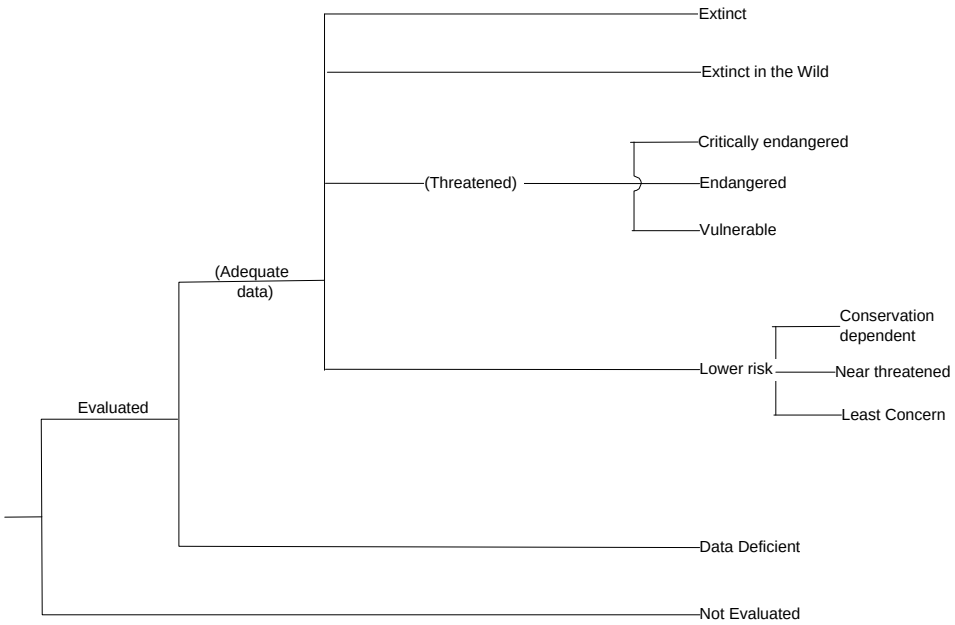
6. To produce a Draft Report of the work done to be sent for correction to participants and then a Report to organisations and individuals relevant to conservation of Indian mammals.

Results and Discussion

Red List categories have been in use since the 1960s with few revisions made until 1990. The criteria on which these categories are based and – for the most part – their intended application were based on mammals. However, since 1991, the IUCN Red List Categories have undergone a series of revisions to enhance their applicability to organisms other than mammals and to reflect the development of the new conservation sciences, population dynamics and conservation biology of the last two decades. The current version of the IUCN Red List Criteria is the version that was ratified in December 1994 by the IUCN General Assembly. This version has far more objective criteria for assessment as well as detailed guidelines on how to use the criteria in deriving the category of threat status. Therefore mammal evaluation, as well as other organisms, has benefited from the revisions. The categories can be divided into 5 divisions as illustrated in the list and figure below

1. Extinct (Extinct and Extinct in the Wild),
2. Threatened (Critically Endangered, Endangered and Vulnerable),
3. Non-threatened (Lower Risk -- near threatened, conservation dependent and least concern),
4. Data Deficient and
5. Not Evaluated

Structure of the Categories



Methodology

In the past global species evaluation and even Red Data Books have been a compilation of information by one person or a group of persons, usually from temperate countries, who have access to all available literature on distribution and ecological information with reference to a particular species. The status according to old IUCN categories was derived based on the compiler's perception of the status as understood from the compiled literature. Later, this exercise was broadened to include some range country representatives from different continental regions if the exercise was global in scope, such as the IUCN Red Data Books. In India national level

exercises such as the Indian Red Data Books relied a similar method of one or two people compiling information and from some specialists from the different regions of the country.

In international and national exercises of this type, specialists were asked to participate in providing information on a taxon, information that was gathered by post and evaluated by the coordinator at a central office. Within this format are different methods in deriving status categories by different groups both internationally (such as those done by BirdLife International, World Conservation Monitoring Centre and the different Specialist Groups of the IUCN) and nationally (such as – for India – Botanical Survey of India or Zoological Survey of India). Although different organisations use somewhat different methods of evaluating and deriving status, the fact of following the IUCN Red List categories for a Red Data Book or other species review has been common.

The methodology for assessment of threat adopted in India at the Conservation Assessment and Management Plan workshops also used the IUCN Red List categories (Revised, 1994) but differs in its unqualified dependence on face-to face interaction between specialists. The objective of assembling data is the same but in a CAMP Workshop every attempt is made to gather a representative group of field biologists with direct field experience of the species and their habitat. Information is collected from several sources on the target taxa and in an interactive process of small working groups, this information and the personal field experience of participants is discussed extensively until the group reaches a consensus on every fact. A questionnaire called a Taxon Data Sheet, based on IUCN guidelines for deriving status as well as some additional questions, is provided and used to record this consensually processed information.

The advantages of being able to have interactive discussions on the information provided by various publications and active field biologists as opposed to one person compiling data in isolation is, or should be, self-evident. Among the advantages of accruing better quality and quantity of information, the payoff resulting from participant "buy in" of the process is most worthwhile. In a national assessment this can have very positive effects on future research.

The Conservation Assessment and Management Plan for Indian mammals was intended to cover all mammalian taxa of India. At the beginning of the workshop an interactive discussion was held in which workshop participants agreed on a strategy for the exercise and selected four working groups that would assess mammals according to families, with group members moving around from group to group depending on their experience and expertise. It was also decided to first assess all Indian political endemics before going on to assess non-endemics.

Since this was the first All India exercise in mammalian status evaluation, it also provided mammal researchers an opportunity to discuss checklists and taxonomy with other mammal field biologists and taxonomists in India. Special Issue Working Groups on the Wildlife Protection Act, Marine Mammals, Data Deficient species, and IUCN Red List Criteria were formed, though many issues were discussed during the assessments also

Assessment

The checklist of Indian mammals compiled by P.O. Nameer gives the total number of mammalian species in India to be 404, however, this total did not include subspecies and included domestic mammals. At the workshop, a total of 372 mammal taxa (both species and subspecies) were evaluated. The group decided to assess only "wild" mammals and did not include domestic animals such as dog, cat, cow, etc.

The IUCN categories are stated to work best at the global level. Guidelines for regional or national assessments are being discussed but have not been developed to date. In the absence of national or regional guidelines, however, the current Red List Criteria were used even for national assessments. Certain of the criteria are not so straightforward when applied to a national or regional population, however, it was found that any anomaly was "conservative" in favour of the species. In other words, some of the non-endemic taxa may have been given a higher category than their population status actually deserves. The alternative, however, was to leave off assessing non-endemic taxa until specific national/ regional guidelines are developed, a process which could take years. In India, "wildlife" definition and legislation applies to all wildlife occurring naturally in India with no prejudice towards endemic species. While endemicity enhances the conservation value of a species, other considerations – legislative, ecosystemic, etc - are also valid. A biodiversity inventory should include all species.

Results

A total of 372 taxa were assessed at the workshop – 54 endemics and 318 non-endemics. Of the assessed taxa, a total of 45 families are represented among Indian mammals of which families Muridae and Vespertelionidae are the most represented followed by Sciuridae and Soricidae. One taxon each represents families Ailuridae, Balaenidae, Caprinae, Dugongidae, Elephantidae, Equidae, Hyaenidae, Hylobatidae, Moschidae, Planistidae, Tragulidae and Ziphiidae (all non-endemics).

Table 1. List of Indian mammals assessed at the workshop

Species	IUCN
Ailuridae	
Ailurus fulgens fulgens	VU
Balaenidae	
Eubalaena glacialis	EN
Balaenoptridae	
Balaenoptera acutorostrata	LR-nt
Balaenoptera borealis	LR-nt
Balaenoptera edeni	LR-nt
Balaenoptera musculus	CR
Balaenoptera physalus	LR-nt
Megaptera novaeangliae	LR-nt
Bovidae	
Antilope cervicapra	LR-lc
Bos gaurus	VU
Bos grunniens	CR
Boselaphus tragocamelus	LR-lc
Bubalus arnee *	EN
Capra falconeri falconeri	CR
Capra falconeri kashmeriensis	CR
Capra ibex	VU
Gazella bennettii	LR-lc
Hemitragus hylocrius *	EN
Hemitragus jemlahicus	LR-nt
Ovis ammon	CR
Ovis orientalis	EN
Ovis vignei vignei *	EN
Pantholops hodgsoni	CR
Procapra picticaudata picticaudata	CR
Pseudois nayaur	LR-lc
Tetracerus quadricornis	LR-nt
Canidae	
Canis aureus	LR-lc
Canis lupus palipus	LR-nt
Cuon alpinus adjustes	CR
Cuon alpinus dekhanensis *	LR-nt
Cuon alpinus laniger *	CR
Cuon alpinus primaevus	VU
Vulpes bengalensis	LR-nt
Vulpes vulpes montanna	LR-nt
Vulpes vulpes pusilla	LR-nt
Caprinae	
Naemorhedus sumatraensis	VU
Cercopithecidae	
Macaca arctoides	LR-nt
Macaca assamensis	LR-nt
Macaca fascicularis umbrosa	CR
Macaca mulatta	LR-lc
Macaca nemestrina	DD
Macaca radiata *	LR-lc
Macaca silenus *	EN
Semnopithecus entellus	LR-lc
Trachypithecus geei	CR
Trachypithecus johnii *	VU
Trachypithecus phayrei	EN
Trachypithecus piletaus	LR-nt
Cervidae	
Axis axis	LR-lc
Axis porcinus	LR-nt
Cervus duvaucelli branderi *	CR
Cervus duvaucelli duvaucelii	EN
Cervus elaphus hanglu *	CR
Cervus eldi eldi *	CR
Cervus unicolor	LR-lc
Muntiacus muntjak	LR-lc
Delphinidae	
Delphinus delphis	LRnt
Globicephala macrorhynchus	LR-nt
Grampus griseus	LR-nt
Orcaella brevirostris	EN
Orcinus orca	LR-nt
Peponocephala electra	LR-nt
Psuedorca crassidens	LR-nt
Sousa chinensis	EN
Stenella longirostris	LR-nt
Tursiops truncatus	LR-nt
Dugongidae	
Dugong dugon	CR
Elephantidae	
Elephas maximus	VU
Emballonuridae	
Saccolaimus saccolaimus	DD
Taphozous longimanus	LR-lc
Taphozous melanopogan	LR-nt
Taphozous nudiventris	LR-nt
Taphozous perforatus	LR-nt
Taphozous theobaldi	DD
Equidae	
Equus kiang	VU
Erinaceidae	
Hemiechinus collaris	LR-lc
Paraechinus micropus	LR-lc
Paraechinus micropus nudirentris *	VU
Felidae	
Acinonyx jubatus venaticus	EX
Caracal caracal	LR-nt
Felis chaus	LR-nt
Felis silvestris ornata	LR-nt
Lynx lynx	EN
Neofelis nebulosa	LR-nt
Panthera leo persica *	CR
Panthera pardus	VU
Panthera tigris tigris	EN
Pardofelis marmorata	LR-nt
Prionailurus bengalensis	LR-nt

Species	IUCN
Prionailurus rubiginosus rubiginosus	LR-nt
Prionailurus viverrinus	VU
Uncia uncia	EN
Herpestidae	
Herpestes endwardsii	LR-lc
*Herpestes fuscus fuscus**	VU
Herpestes javanicus	LR-lc
*Herpestes palustris **	EN
Herpestes smithii smithii	LR-lc
Herpestes urva	VU
Herpestes vitticollis	LR-nt
Hipposideridae	
Coelops frithi	DD
Hipposideros armiger	LR-nt
Hipposideros ater	LR-nt
Hipposideros cineraceus	DD
Hipposideros fulvus	LR-nt
Hipposideros galeritus	DD
Hipposideros lankadiva	VU
Hipposideros larvatus	DD
Hipposideros pomona	DD
*Hipposideros schistaceus **	DD
Hipposideros speoris	LR-nt
Hyaenidae	
Hyaena hyaena	LR-nt
Hylobatidae	
Hylobates hoolock	EN
Hystricidae	
*Atherurus macrourus assamensis **	EN
Hystrix brachyura	VU
Hystrix indica	LR-lc
Leporidae	
Lepus capensis	DD
Lepus nigricollis	LR-lc
Lepus oiostolus	DD
Loridae	
Loris tradigradus	LR-nt
Nycticebus coucang	LR-nt
Manidae	
Manis crassicaudata	LR-nt
Manis pentadactyla	LR-nt
Megadermatidae	
Megaderma lyra	LR-lc
Megaderma spasma	DD
Molossidae	
Chaerephon plicata	DD
*Otomops wroughtoni **	CR
Tadarida aegyptiaca	LR-nt
Tadarida teniotis	DD
Moschus chrysogaster	CR

Species	IUCN
Muridae	
*Alticola albicauda **	DD
Alticola montosa	DD
Alticola roylei	DD
Alticola stoliczkanus	DD
Apodemus draco	VU
Apodemus sylvaticus	DD
Bandicota bengalensis	LR-lc
Bandicota indica	LR-nt
Berylmys bowersi	EN
Berylmys mackenziei	LR-lc
Berylmys manipulus	DD
Cannomys badius	LR-lc
Chiropodomys gliroides	VU
Cremnomys blanfordi	LR-nt
*Cremnomys cutchicus **	LR-lc
*Cremnomys elvira **	VU
Cricetulus alticola	VU
Cricetulus migratorius	EN
Daenomys millardi	VU
Diomys crumpi	EN
Eothenomys melanogastor	DD
Gerbillus gleadowi	LR-lc
Gerbillus nanus	LR-nt
Gohunda ellioti	LR-lc
Hadromys humei	DD
Hyperacrius fertilis	DD
Hyperacrius wynnei	VU
Leopoldamys edwardsi	DD
Meriones hurriane	LR-lc
Micromys minutus	VU
Microtus leusurus	DD
Microtus sikimensis	LR-lc
Millardia gleadowi	LR-nt
Millardia meltada	LR-lc
Mus booduga	LR-lc
Mus cervicolor	LR-lc
Mus cookii	LR-nt
*Mus famulus **	EN
Mus musculus	LR-lc
Mus pahari	DD
*Mus phillipsi **	LR-lc
*Mus platythrix **	LR-lc
Mus saxicola	LR-lc
Nesokia indica	LR-lc
Niviventer brahma	EN
Niviventer eha	VU
Niviventer fulvercens	LR-lc
Niviventer langbianis	DD
Niviventer niviventer	DD
Niviventer tenaster	DD
*Plantacanthomys lasiurus **	LR-lc
Rattus nitidus	DD
Rattus norvegicus	LR-lc
*Rattus palmarum **	DD
*Rattus ranjiniae **	VU
Rattus rattus	LR-lc
Rattus sikkimensis	DD
*Rattus stoicus **	VU
Rattus tiomanicus	VU
Rattus turkestanicus	DD

Species	IUCN
Rhizomys pruinosus	LR-nt
Sicista concolor	DD
Tatera indica	LR-lc
Vandeleuria oleracea	LR-lc
Mustelidae	
Arctonyx collaris	DD
Martes flavigula	LR-lc
Martes foina	DD
Martes gwatkinsi *	VU
Mellivora capensis	LR-nt
Melogale moschata	EN
Melogale personata	VU
Mustela altaica	DD
Mustela erminea ferghanae	DD
Mustela kathiah	DD
Mustela putorius larvatus	DD
Mustela sibirica	LR-nt
Mustela strigidorsa	DD
Ochotonidae	
Ochotona nubrica	DD
Ochotona curzoniae	EN
Ochotona forresti	LR-nt
Ochotona ladacensis	DD
Ochotona macrotis	DD
Ochotona roylei	LR-nt
Ochotona thibetana	LR-nt
Phocoenidae	
Kogia breviceps	LR-nt
Kogia simus	LR-nt
Neophocaena phocaenoides	LR-nt
Physeter catodon	LR-nt
Platanistidae	
Platanista gangetica	CR
Pterpodidae	
Cynopterus brachyotis	LR-lc
Cynopterus sphinx	LR-lc
Eonycteris spelaea	VU
Latidens salimalii *	EN
Marcoglossus sobrinus	DD
Megarops niphanae	DD
Pteropus faunulus *	VU
Pteropus giganteus giganteus	LR-nt
Pteropus melanotus	DD
Pteropus vampyrus	DD
Rousettus leschenaulti	LR-lc
Sphaerias blanfordi	DD
Rhinocerotidae	
Dicerorhinus sumatrensis	CR
Rhinoceros sondaicus	EX
Rhinocerous unicornis	EN
Rhinolopidae	
Rhinolophus affinis	LR-nt
Rhinolophus cognatus *	DD
Rhinolophus ferrumeuinum	VU

Species	IUCN
Rhinolophus hipposideros	VU
Rhinolophus lepidus	LR-nt
Rhinolophus mitratus *	VU
Rhinolophus pearsonii	LR-nt
Rhinolophus pusillus	LR-nt
Rhinolophus rouxi	LR-nt
Rhinolophus subbadius	CR
Rhinolophus trifoliatus	DD
Rhinolophus yunanensis	DD
Rhinolopus luctus	DD
Rhinopomatidae	
Rhinopoma hardwickii	LR-nt
Rhinopoma microphyllum	LR-nt
Sciuridae	
Belomys pearsonii	LR-nt
Biswamoyopterus biswasi *	CR
Callosciurus erythraeus	LR-nt
Callosciurus pygerythus	LR-nt
Dremomys lokriah	LR-nt
Eupetaurus cinereus	LR-nt
Funambulus layardi	DD
Funambulus palmarum	LR-lc
Funambulus pennantii	LR-lc
Funambulus sublineatus	DD
Funambulus tristriatus *	LR-nt
Hylopetes alboniger	VU
Hylopetes barberi	DD
Hylopetes fimbriatus	LR-nt
Marmota bobak	EN
Marmota caudata	VU
Petaurista philippensis	LR-nt
*Petinomys fuscocapillus fuscocapillus**	VU
Ratufa bicolor gigantea	VU
Ratufa indica centralis *	VU
Ratufa indica dealbata *	EX
Ratufa indica indica *	VU
Ratufa indica maxima *	VU
Ratufa macroura dandolena	EN
Tamiops macclellandi	LR-nt
Soricidae	
Anourosorex squamipes	VU
Chimarrogale himalayica	LR-nt
Crocidura andamanensis *	DD
Crocidura attenuata	LR-lc
Crocidura fuliginosa	DD
Crocidura hispida *	EN
Crocidura horsfieldi	DD
Crocidura jenkinsi *	DD
Crocidura leucodaon	DD
Crocidura nicobarica *	DD
Crocidura pergrisea	EN
Crocidura pullata	DD
Feroculus feroculus	VU
Nectogale elegans	VU
Sorex caudatus	VU
Sorex minutus	VU
Soriculus leucops	VU
Soriculus macrurus	VU
Soriculus nigrescens	VU

Species	IUCN
Suncus dayi *	VU
Suncus etruscus	LR-lc
Suncus montanus	VU
Suncus murinus	LR-lc
Suncus stoliczkanus	LR-lc
Suidae	
Sus salvanius	CR
Sus scrofa	LR-lc
Talpidae	
Talpa leucura	VU
Talpa micrura	LR-lc
Tragulidae	
Moschola meminna	LR-nt
Tupaiidae	
Anathana ellioti *	LR-nt
Tupaia belangeri	LR-lc
Tupaia nicobarica *	EN
Ursidae	
Helarctos malayanus	DD
Melursus ursinus	VU
Ursus arctos	LR-nt
Ursus thibetanus	LR-lc
Vespertilionidae	
Barbastella leucomelas	DD
Eptesicus nilssoni *	DD
Eptesicus pachyotis	DD
Eptesicus serotinus	DD
*Eptesicus tatei**	DD
Harpiocephalus harpia *	DD
Hesperoptenus tickelli	DD
Ia io	EN
Kerivoula papillosa	DD
Kerivoula hardwickii	DD
Kerivoula picta	LR-nt
Miniopterus pusillus	DD
Miniopterus schreibersii	LR-lc
Murina aurata	DD
Murina cyclotis	DD
Murina grisea *	VU
Murina huttoni	DD
Murina leucogaster	DD
Murina tubinaris	VU
Myotis annectans	DD
Myotis blythi	DD
Myotis daubentoni	DD
Myotis formosus	LR-nt
Myotis hasseltii	DD
Myotis horsfieldii	LR-nt
Myotis longipes	EN
Myotis montivagus	DD
Myotis muricola	DD
Myotis mystacinus	DD
Myotis sicarius	VU
Myotis siligorensis	DD
Nyctalus leisleri	DD
Nyctalus montanus	DD
Nyctalus noctula	DD
Otonycteris hemprichii	VU
Pipistrellus affinis	DD
Pipistrellus cadornae	DD
Pipistrellus ceylonicus	LR-lc
Pipistrellus coromandra	LR-nt
Pipistrellus dormeri	LR-nt
Pipistrellus kuhlii	DD
Pipistrellus paterculus	LR-nt
Pipistrellus pipistrellus	VU
Pipistrellus savii	DD
Pipistrellus tenuis	LR-lc
Plecotus auritus	DD
Plecotus austriacus	DD
Scotoecus pallidus	LR-nt
Scotomanes ornatus	DD
Scotophilus heathi	LR-lc
Scotophilus kuhlii	LR-nt
Tylonycteri spachypus	LR-nt
Viverridae	
Arctictis binturong albifrons	DD
Arctogalidia trivirgata	VU
Paguma larvata	LR-lc
Paradoxurus hermaphroditus	LR-lc
*Paradoxurus jerdoni**	VU
Prionodon pardicolor	VU
Viverra civettina *	CR
Viverra zibetha	VU
Viverricula indica	LR-nt
Ziphiidae	
Ziphius cavirostris	LR-nt

* Indian endemics assessed globally.

Mammalian families represented in the assessments

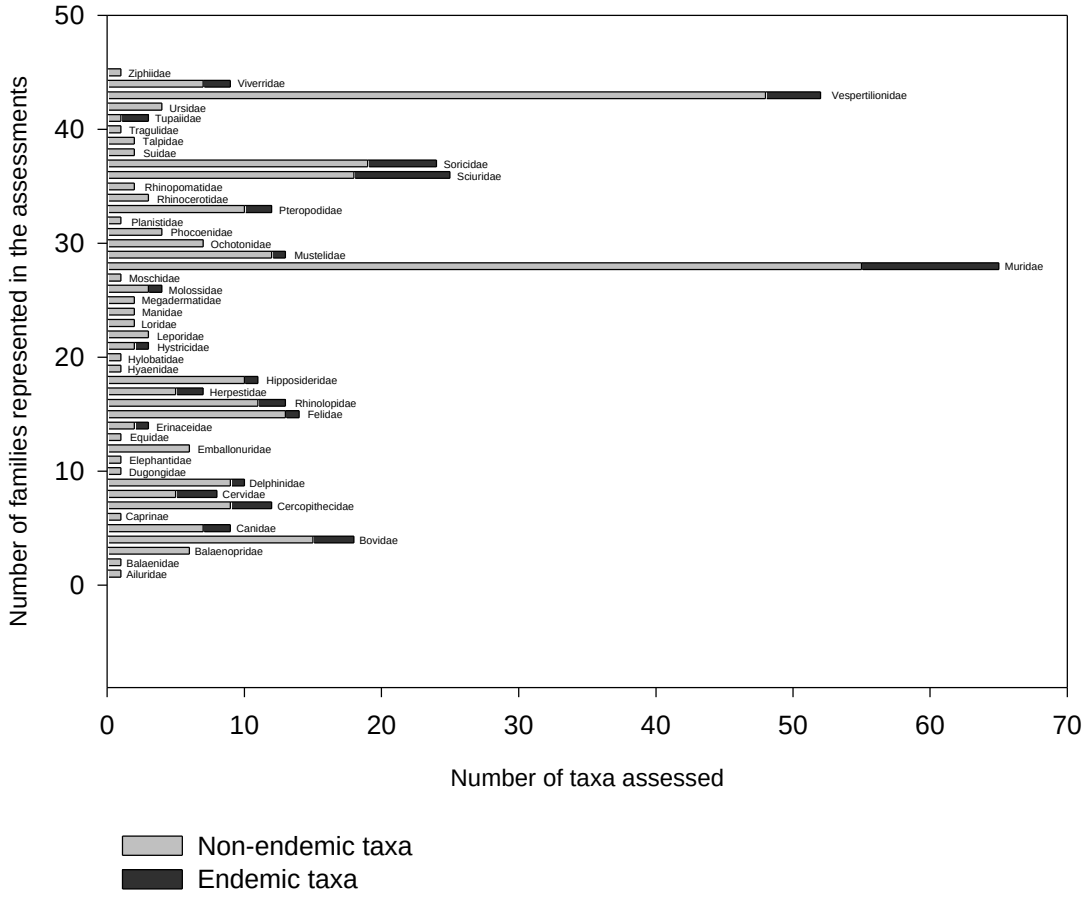


Table 2. Basis of criteria for assessing endemic and non-endemic mammals of India

Species	IUCN	Distribution in India	Threatened due to	Criteria
INDIAN ENDEMICS				
Alticola albicauda	DD	North	--	--
Anathana ellioti	LR-nt	East, west, central, south	--	--
Atherurus macrourus assamensis	EN	Northeast	Restricted distribution	B1, 2c, 2b, 2d
Biswamoyopterus biswasi	CR	Northeast	Restricted distribution	B1, 2c
Bubalus arnee	EN	Central, northeast	Restricted distribution	B1, 2c
Cervus duvaucelli branderi	CR	Central, east	Population estimates	C2b
Cervus elaphus hanglu	CR	North	Restricted distribution Population estimates	B1, 2c, 3d; C2b
Cervus eldi eldi	CR	Northeast	Restricted distribution Population estimates	B1, 2c C2b
Cremnomys cutchicus	LR-lc	North, west, east, south	--	--
Cremnomys elvira	VU	South	Restricted population	D2
Crocidura andamanensis	DD	Andaman & Nicobar	--	--
Crocidura hispida	EN	Andaman & nicobar	Restricted distribution	B1, 2c
Crocidura jenkinsi	DD	Andaman & Nicobar	--	--
Crocidura nicobarica	DD	Andaman & Nicobar	--	--
Cuon alpinus dekhanensis	LR-nt	Peninsular India	--	--
Cuon alpinus laniger	CR	North	Population estimates	C2b

Species	IUCN	Distribution in India	Threatened due to	Criteria
Eptesicus nilssoni	DD	North	--	--
Eptesicus tatei	DD	East	--	--
Funambulus tristriatus	LR-nt	Western Ghats	--	--
Harpiocephalus harpia	DD	East, south	--	--
Hemitragus hylocrius	EN	Western Ghats	Restricted distribution Population estimates	B1, 2a, 2c, 2d; C2a
Herpestes fuscus fuscus	VU	Western Ghats	Restricted distribution	B1, 2a, 2b, 2c
Herpestes palustris	EN	East, north	Restricted distribution	B1, 2a,2b,2c,2d
Hipposideros schistaceus	DD	South	--	--
Latidens salimalii	EN	Western Ghats	Restricted distribution Population estimates	B1, 2a; C2a
Macaca radiata	LR-lc	Peninsular India	--	--
Macaca silenus	EN	Western Ghats	Restricted distribution Population estimates	B1, 2c; C2a
Martes gwatkinsi	VU	Western Ghats	Restricted distribution	B1, 2c, 2b
Millardia kondana	VU	West	Restricted population	D2
Murina grisea	VU	North	Restricted population	D2
Mus famulus	EN	South, Andaman&Nicobar	Restricted distribution	B1, 2c
Mus phillipsi	LR-lc	South, central, west	--	--
Mus platythrix	LR-lc	Peninsular, east	--	--
Otomops wroughtoni	CR	Western Ghats	Restricted distribution	B1, 2c
Ovis vignei vignei	EN	North	Population estimates	C2a
Panthera leo persica	CR	West	Population estimates	C2b
Paradoxurus jerdoni	VU	Western Ghats	Restricted distribution	B1, 2b, 2c
Paraechinus micropus nudirentris	VU	South	Restricted population	D2
Petinomys fuscocapillus fuscocapillus	VU	Southern Western Ghats	Restricted distribution	B1, 2b, 2c
Plantacanthomys lasiurus	LR-lc	Western Ghats	--	--
Pteropus faunulus	VU	Andaman & Nicobar	Restricted distribution	B1, 2c, 2d
Rattus palmarum	DD	Andaman & Nicobar	--	--
Rattus ranjiniae	VU	South	Restricted population	D2
Rattus stoicus	VU	Andaman & Nicobar	Restricted population	D2
Ratufa indica centralis	VU	Central, east	Population reduction	A1c
Ratufa indica dealbata	EX			
Ratufa indica indica	VU	Southern Western Ghats	Population reduction Population estimates	A1a, 1c; C1a
Ratufa indica maxima	VU	Southern Western Ghats	Restricted distribution Population estimates	B1, 2c; C1a
Rhinolophus cognatus	DD	Andaman & Nicobar	--	--
Rhinolophus mitratus	VU	East	Restricted population	D2
Suncus dayi	VU	Western Ghats	Restricted distribution	B1, 2b
Trachypithecus johnii	VU	Western Ghats	Restricted distribution Population estimates	B1, B2; C1a
Tupaia nicobarica	EN	Andaman & Nicobar	Restricted distribution	B1, 2c
Viverra civettina	CR	Western Ghats	Population reduction	A1b, 1c
NON ENDEMIC				
Acinonyx jubatus venaticus	EX			
Ailurus fulgens fulgens	VU	Indian Himalaya	Restricted distribution	B1, 2a, 2b, 2c
Alticola montosa	DD	North	--	--
Alticola roylei	DD	North	--	--
Alticola stoliczkanus	DD	North, East	--	--
Anourosorex squamipes	VU	Northeast	Restricted distribution	B1, 2c
Antilope cervicapra	LR-lc	Not known	--	--
Apodemus draco	VU	Northeast	Restricted population	D2
Apodemus sylvaticus	DD	Indian Himalaya	--	--
Arctictis binturong albifrons	DD	East, northeast	--	--
Arctogalidia trivirgata	VU	Northeast	Restricted distribution Restricted population	B1, 2c; D2

Species	IUCN	Distribution in India	Threatened due to	Criteria
Arctonyx collaris	DD	East & Himalaya	--	--
Axis axis	LR-lc	India	--	--
Axis porcinus	LR-nt	North, Northeast	--	--
Balaenoptera acutorostrata	LR-nt	East, west coast	--	--
Balaenoptera borealis	LR-nt	East, west coast	--	--
Balaenoptera edeni	LR-nt	East, west coast	--	--
Balaenoptera musculus	CR	East, west coast	Population reduction	A1b, 1d
Balaenoptera physalus	LR-nt	East, west coast	--	--
Bandicota bengalensis	LR-lc	India	--	--
Bandicota indica	LR-nt	India	--	--
Barbastella leucomelas	DD	East, north, northeast	--	--
Belomys pearsonii	LR-nt	Northeast, east	--	--
Berylmys bowersi	EN	Northeast	Restricted distribution	B1, 2c
Berylmys mackenziei	LR-lc	Northeast	--	--
Berylmys manipulus	DD	Northeast	--	--
Bos gaurus	VU	Central, east, west	Population estimates	C2a
Bos grunniens	CR	East	Population estimates	C2a
Boselaphus tragocamelus	LR-lc	Central, North, Northeast, Northwest	--	--
Callosciurus erythraeus	LR-nt	East, northeast	--	--
Callosciurus pygerythus	LR-nt	East, northeast	--	--
Canis aureus	LR-lc	India	--	--
Canis lupus palipus	LR-nt	India	---	--
Cannomys badius	LR-lc	Northeast	--	--
Capra falconeri falconeri	CR	North	Population estimates	C2b
Capra falconeri kashmeriensis	CR	North	Population estimates	C2b
Capra ibex	VU	North	Restricted distribution	B1, 2c
Caracal caracal	LR-nt	Central, north, west	--	--
Cervus duvaucelli duvaucelii	EN	East, North, Northeast	Population estimates	C2a
Cervus unicolor	LR-lc	India	--	--
Chaerephon plicata	DD	India	--	--
Chimarrogale himalayica	LR-nt	North, east	--	--
Chiropodomys gliroides	VU	Northeast	Restricted population	D2
Coelops frithi	DD	East, northeast	--	--
Cremnomys blanfordi	LR-nt	Peninsular India	--	--
Cricetulus alticola	VU	North	Restricted distribution	B1, 2c
Cricetulus migratorius	EN	North	Restricted distribution	B1, 2c
Crocidura attenuata	LR-lc	North, east, northeast	--	--
Crocidura fuliginosa	DD	Northeast	--	--
Crocidura horsfieldi	DD	North, sourth	--	--
Crocidura leucodaon	DD	North	--	--
Crocidura pergrisea	EN	North	Restricted distribution	B1, 2c
Crocidura pullata	DD	North	--	--
Cuon alpinus adjustes	CR	Northeast	Population estimates	C2b
Cuon alpinus primaevus	VU	East, north, northeast	Restricted population	D1
Cynopterus brachyotis	LR-lc	Southwest, Andaman & Nicobar	--	--
Cynopterus sphinx	LR-lc	India	--	--
Daenomys millardi	VU	East, northeast	Restricted population	D2
Delphinus delphis	LR-nt		--	--
Dicerorhinus sumatrensis	CR	Northeast	Restricted population	D
Diomys crumpi	EN	Northeast	Restricted distribution	B1, 2c
Dremomys lokriah	LR-nt	East, northeast	--	--
Dugong dugon	CR	Coastal waters	Population reduction Restricted distribution	A1a, 1c, 1d; D
Elephas maximus	VU	Central, north, northeast, south	Population reduction	A1a, 1c, 1d
Eonycteris spelaea	VU	Southwest, Northeast, Andaman & Nicobar	Restricted population	D2

Species	IUCN	Distribution in India	Threatened due to	Criteria
Eothenomys melanogastor	DD	Northeast	--	--
Eptesicus pachyotis	DD	Northeast	--	--
Eptesicus serotinus	DD	North	--	--
Equus kiang	VU	East, north	Restricted distribution Restricted population	B1, 2c; D2
Eubalaena glacialis	EN	Coastal waters	Population estimates	C1, C2b
Eupetaurus cinereus	LR-nt	North, east	--	--
Felis chaus	LR-nt	India	--	--
Felis silvestris ornata	LR-nt	Central, west	--	--
Feroculus feroculus	VU	South	Restricted distribution Restricted population	B1, 2c; D2
Funambulus layardi	DD	Western Ghats	--	--
Funambulus palmarum	LR-lc	Peninsular India	--	--
Funambulus pennantii	LR-lc	India	--	--
Funambulus sublineatus	DD	Western Ghats	--	--
Gazella bennettii	LR-lc	India	--	--
Gerbillus gleadowi	LR-lc	West	--	--
Gerbillus nanus	LR-nt	West	--	--
Globicephala macrorhynchus	LR-nt	Coastal waters	--	--
Gohunda ellioti	LR-lc	Throughout India	--	--
Grampus griseus	LR-nt	Indian waters	--	--
Hadromys humei	DD	Unknown	--	--
Helarctos malayanus	DD	Northeast	--	--
Hemiechinus collaris	LR-lc	Northwest, west	--	--
Hemitragus jemlahicus	LR-nt	Indian Himalaya	--	--
Herpestes endwardsii	LR-lc	Himalayan foothills	--	--
Herpestes javanicus	LR-lc	East, north, northeast	--	--
Herpestes smithii smithii	LR-lc	Peninsular India	--	--
Herpestes urva	VU	Northeast	Restricted distribution	B1, 2a, 2c
Herpestes vitticollis	LR-nt	Western Ghats	--	--
Hesperoptenus tickelli	DD	India	--	--
Hipposideros armiger	LR-nt	Northeast	--	--
Hipposideros ater	LR-nt	India	--	--
Hipposideros cineraceus	DD	Central, north	--	--
Hipposideros fulvus	LR-nt	India	--	--
Hipposideros galeritus	DD	India	--	--
Hipposideros lankadiva	VU	India	Restricted distribution	B1, 2c
Hipposideros larvatus	DD	Northeast	--	--
Hipposideros pomona	DD	South, east, northeast	--	--
Hipposideros speoris	LR-nt	Central, north, south	--	--
Hyaena hyaena	LR-nt	India	--	--
Hylobates hoolock	EN	Northeast	Population estimates	C2a
Hylopetes alboniger	VU	East, northeast	Restricted distribution	B1, 2a, 2b, 2c
Hylopetes barberi	DD	Unknown	--	--
Hylopetes fimbriatus	LR-nt	North	--	--
Hyperacrius fertilis	DD	North	--	--
Hyperacrius wynnei	VU	North	Restricted population	D2
Hystrix brachyura	VU	Central, northeast	Restricted distribution Restricted population	B1, 2b, 2d; D2
Hystrix indica	LR-lc	India	--	--
Ia io	EN	Northeast	Restricted distribution	B1, 2c
Kerivoula papillosa	DD	Northeast	--	--
Kerivoula hardwickii	DD	India	--	--
Kerivoula picta	LR-nt	India	--	--
Kogia breviceps	LR-nt	Indian waters	--	--
Kogia simus	LR-nt	Indian waters	--	--
Leopoldamys edwardsi	DD	East, northeast	--	-
Lepus capensis	DD	Unknown	--	--
Lepus nigricollis	LR-lc	India	--	--
Lepus oiostolus	DD	North, east	--	--

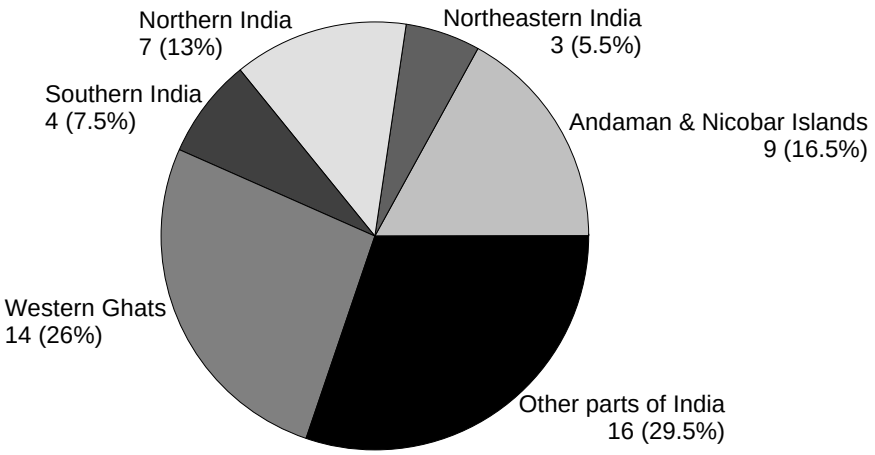
Species	IUCN	Distribution in India	Threatened due to	Criteria
Loris tradigradus	LR-nt	South	--	--
Lynx lynx	EN	North	Restricted distribution	B1, 2b, 2c
Macaca arctoides	LR-nt	Northeast	--	--
Macaca assamensis	LR-nt	Northeast	--	--
Macaca fascicularis umbrosa	CR	Andaman & Nicobar	Population estimates	C2a
Macaca mulatta	LR-lc	East, North	--	--
Macaca nemestrina	DD	Northeast	--	--
Manis crassicaudata	LR-nt	India	--	--
Manis pentadactyla	LR-nt	Northeast	--	--
Marcoglossus sobrinus	DD	Northeast	--	--
Marmota bobak	EN	North	Restricted distribution	B1, 2a, 2b, 2c & 3a, 3b
Marmota caudata	VU	North	Restricted distribution	B1, 2a, 2b, 2c
Martes flavigula	LR-lc	North, northeast	--	-
Martes foina	DD	East, north	--	--
Megaderma lyra	LR-lc	India	--	--
Megaderma spasma	DD	India	--	--
Megaptera novaeangliae	LR-nt	East, west coasts	--	--
Megarops niphanae	DD	Northeast	--	--
Mellivora capensis	LR-nt	India	--	--
Melogale moschata	EN	Northeast	Restricted distribution	B1, 2c
Melogale personata	VU	Northeast	Restricted distribution	B1, 2c
Melursus ursinus	VU	India	Population estimates	C2a
Meriones hurriane	LR-lc	West	--	--
Micromys minutus	VU	Northeast	Restricted population	D2
Microtus leusurus	DD	North	--	-
Microtus sikimensis	LR-lc	East	--	--
Millardia gleadowi	LR-nt	Northwest, west	--	--
Millardia meltada	LR-lc	Peninsular India, Punjab	--	--
Miniopterus pusillus	DD	South, Andaman & Nicobar	--	--
Miniopterus schreibersii	LR-lc	India	--	--
Moschola meminna	LR-nt	Peninsular India	--	--
Moschus chrysogaster	CR	Indian Himalaya	Population reduction	A1d
Muntiacus muntjak	LR-lc	Not known	--	--
Murina aurata	DD	Northeast	--	--
Murina cyclotis	DD	South, northeast	--	--
Murina huttoni	DD	Northwest, north	--	--
Murina leucogaster	DD	Northeast	--	--
Murina tubinaris	VU	North, northeast	Restricted distribution Restricted population	B1, 2c; D2
Mus booduga	LR-lc	Throughout India	--	--
Mus cervicolor	LR-lc	North, northeast, Andaman & Nicobar	--	--
Mus cookii	LR-nt	Northeast, south	--	--
Mus musculus	LR-lc	India	--	--
Mus pahari	DD	East, northeast	--	--
Mus saxicola	LR-lc	North, east, west, south	--	--
Mustela altaica	DD	Indian Himalaya	--	--
Mustela erminea ferghanae	DD	North	--	--
Mustela kathiah	DD	India	--	--
Mustela putorius larvatus	DD	North	--	--
Mustela sibirica	LR-nt	India	--	--
Mustela strigidorsa	DD	Northeast	--	--
Myotis annectans	DD	Northeast	--	--
Myotis blythi	DD	North, west	--	--
Myotis daubentoni	DD	Northeast	--	--
Myotis formosus	LR-nt	North, northeast	--	--
Myotis hasseltii	DD	Northeast	--	--

Species	IUCN	Distribution in India	Threatened due to	Criteria
Myotis horsfieldii	LR-nt	Central, south, Andaman & Nicobar	--	--
Myotis longipes	EN	North, northeast	Restricted distribution	B1, 2c
Myotis montivagus	DD	South	--	--
Myotis muricola	DD	North	--	--
Myotis mystacinus	DD	North, northeast	--	--
Myotis sicarius	VU	East	Restricted population	D2
Myotis siligorensis	DD	North, northeast	--	--
Naemorhedus sumatraensis	VU	Northeast	Restricted population	D1
Nectogale elegans	VU	Northeast Himalaya, east	Restricted population	D2
Neofelis nebulosa	LR-nt	Northeast	--	--
Neophocaena phocaenoides	LR-nt	East, west coast, Andaman & Nicobar	--	--
Nesokia indica	LR-lc	East, northwest	--	--
Niviventer brahma	EN	North	Restricted distribution	B1, 2c
Niviventer eha	VU	East	Restricted distribution Restricted population	B1, 2c; D2
Niviventer fulvercens	LR-lc	Northeast	--	--
Niviventer langbianis	DD	Northeast	--	--
Niviventer niviventer	DD	Northeast	--	--
Niviventer tenaster	DD	Northeast	---	--
Nyctalus leisleri	DD	North	--	--
Nyctalus montanus	DD	North	--	--
Nyctalus noctula	DD	North	--	--
Nycticebus coucang	LR-nt	Northeast	--	--
Ochotona curzoniae	EN	East	Restricted distribution	B1, 2a, 2b
Ochotona forresti	LR-nt	Norteast Himalaya	--	--
Ochotona ladacensis	DD	Unknown	--	--
Ochotona macrotis	DD	North	--	--
Ochotona nubrica	DD	Unknown	--	--
Ochotona roylei	LR-nt	Northeast, east Indian Himalaya	--	--
Ochotona thibetana	LR-nt	Sikkim Himalaya	--	--
Orcaella brevirostris	EN	Northeastern Indian coast	Restricted distribution	B1, 2c
Orcinus orca	LR-nt	Coastal waters of India	--	--
Otonycteris hemprichii	VU	North	Restricted population	D2
Ovis ammon	CR	Northeast, east	Population estimates	C2a
Ovis orientalis	EN	North	Restricted distribution	B1, 2c
Paguma larvata	LR-lc	Central, east, west, northeast, Andaman & Nicobar	--	--
Panthera pardus	VU	India	Population estimates	C2a
Panthera tigris	EN	India	Population estimates	C2a
Pantholops hodgsoni	CR	North	Population estimates	C2b
Paradoxurus hermaphroditus	LR-lc	Peninsular India	--	--
Paraechinus micropus	LR-lc	Northwest, west	--	--
Pardofelis marmorata	LR-nt	Northeast	--	--
Peponocephala electra	LR-nt	Indian waters	--	--
Petaurista philippensis	LR-nt	Peninsular India	--	--
Physeter catodon	LR-nt	East, west coast	--	--
Pipistrellus affinis	DD	India	--	--
Pipistrellus cadornae	DD	Northeast	--	--
Pipistrellus ceylonicus	LR-lc	India	--	--
Pipistrellus coromandra	LR-nt	India	--	--
Pipistrellus dormeri	LR-nt	India	--	--
Pipistrellus kuhlii	DD	North	--	--
Pipistrellus paterculus	LR-nt	Northeast	--	--
Pipistrellus pipistrellus	VU	North	Restricted population	D2
Pipistrellus savii	DD	North	--	--
Pipistrellus tenuis	LR-lc	India	--	--

Species	IUCN	Distribution in India	Threatened due to	Criteria
Platanista gangetica	CR	Peninsular India	Population reduction Population estimates	A1a, 1c, 1d; C1, C2a
Plecotus austriacus	DD	North	--	--
Plecotus auritus	DD	North, northeast	--	--
Prionailurus bengalensis	LR-nt	India	--	--
Prionailurus rubiginosus rubiginosus	LR-nt	Peninsular India	--	--
Prionailurus viverrinus	VU	East, north, northeast, south	Restricted distribution	B1, 2a, 2b, 2c
Prionodon pardicolor	VU	East, northeast	Restricted distribution	B2, 2a, 2c
Procapra picticaudata picticaudata	CR	North, east	Restricted population	D
Pseudois nayaur	LR-lc	Indian Himalaya	--	--
Psuedorca crassidens	LR-nt	Indian waters	--	--
Pteropus giganteus giganteus	LR-nt	India	--	--
Pteropus melanotus	DD	Andaman & Nicobar	--	--
Pteropus vampyrus	DD	Andaman & Nicobar	--	--
Rattus nitidus	DD	North, northeast	--	--
Rattus norvegicus	LR-lc	Throughout India	--	--
Rattus rattus	LR-lc	Throughout India	--	--
Rattus sikkimensis	DD	East, northeast	--	--
Rattus tiomanicus	VU	Andaman & Nicobar	Restricted population	D2
Rattus turkestanicus	DD	Indian Himalaya	--	--
Ratufa bicolor gigantea	VU	East, northeast	Population reduction	A1c
Ratufa macroura dandolena	EN	Southern Western Ghats	Restricted distribution Population estimates	B1, 2c; C1
Rhinoceros sondaicus	EX	--	--	--
Rhinocerous unicornis	EN	East, north, northeast	Restricted distribution	B1, 2d
Rhinolophus affinis	LR-nt	Northeast, Andaman & Nicobar	--	--
Rhinolophus ferrumequinum	VU	North, east	Restricted distribution Restricted population	B1, 2c; D2
Rhinolophus hipposideros	VU	North	Restricted population	D2
Rhinolophus lepidus	LR-nt	India	--	--
Rhinolophus pearsonii	LR-nt	Northeast	--	--
Rhinolophus pusillus	LR-nt	East, northeast	--	--
Rhinolophus rouxi	LR-nt	India	--	--
Rhinolophus subbadius	CR	Northeast	Restricted distribution	B1, 2c
Rhinolophus trifoliatus	DD	Northeast	--	--
Rhinolophus yunanensis	DD	Northeast	--	--
Rhinolopus luctus	DD	India	--	--
Rhinopoma hardwickii	LR-nt	India	--	--
Rhinopoma microphyllum	LR-nt	Central, northwest, north	--	--
Rhizomys pruinosus	LR-nt	Northeast	--	--
Rousettus leschenaulti	LR-lc	India	--	--
Saccolaimus saccolaimus	DD	India	--	--
Scotoecus pallidus	LR-nt	East, north	--	--
Scotomanes ornatus	DD	Northeast	--	--
Scotophilus heathi	LR-lc	India	--	--
Scotophilus kuhlii	LR-nt	India	--	--
Semnopithecus entellus	LR-lc	India	--	--
Sicista concolor	DD	North	--	--
Sorex caudatus	VU	North, east, northeast	Restricted distribution	B1, 2c
Sorex minutus	VU	North	Restricted population	D2
Soriculus leucops	VU	Northeast	Restricted distribution Restricted population	B1, 2c; D2
Soriculus macrurus	VU	East	Restricted distribution Restricted population	B1, 2c; D2
Soriculus nigrescens	VU	Indian Himalaya	Restricted distribution	B1, 2c
Sousa chinensis	EN	Indian waters	Population reduction	A1a, 1c, 1d, 2b
Sphaerias blanfordi	DD	North, east	--	--

Species	IUCN	Distribution in India	Threatened due to	Criteria
Stenella longirostris	LR-nt	Coastal waters of India	--	--
Suncus etruscus	LR-lc	Western Ghats	--	--
Suncus montanus	VU	Western Ghats	Restricted distribution	B1, 2b
Suncus murinus	LR-lc	India	--	--
Suncus stoliczkanus	LR-lc	Peninsular India	--	--
Sus salvanius	CR	Northeast	Population estimates	C2a
Sus scrofa	LR-lc	India	--	--
Tadarida aegyptiaca	LR-nt	India	--	--
Tadarida teniotis	DD	Northeast	--	--
Talpa leucura	VU	Northeast	Restricted distribution	B1, 2c
Talpa micrura	LR-lc	East, northeast	--	--
Tamiops macclellandi	LR-nt	North, northeast	--	--
Taphozous longimanus	LR-lc	Peninsular India	--	--
Taphozous melanopogan	LR-nt	Peninsular India, Andaman & Nicobar	--	--
Taphozous nudiventris	LR-nt	India	--	--
Taphozous perforatus	LR-nt	West	--	--
Taphozous theobaldi	DD	Central	--	--
Tatera indica	LR-lc	India except east	--	--
Tetracerus quadricornis	LR-nt	India	--	--
Trachypithecus geei	CR	Northeast	Population estimates	C2a
Trachypithecus phayrei	EN	Northeast	Population estimates	C1, 2a
Trachypithecus piletaus	LR-nt	Northeast	--	--
Tupaia belangeri	LR-lc	Northeast, East Himalaya	--	--
Tursiops truncatus	LR-nt	Coastal waters of India	--	--
Tylonycteri spachypus	LR-nt	east, south, north	--	--
Uncia uncia	EN	Indian Himalaya	Population estimates	C2a
Ursus arctos	LR-nt	Indian Himalaya	--	--
Ursus thibetanus	LR-lc	Indian Himalaya	--	--
Vandeleuria oleracea	LR-lc	Throughout India	--	--
Viverra zibetha	VU	Northeast	Population reduction	A1c
Viverricula indica	LR-nt	India	--	--
Vulpes bengalensis	LR-nt	India	--	--
Vulpes vulpes montanna	LR-nt	Indian Himalaya	--	--
Vulpes vulpes pusilla	LR-nt	West	--	--
Ziphius cavirostris	LR-nt	Indian waters	--	--

Distribution of endemic mammals in India



Number of Indian endemics = 54
Extinct endemic taxon = 1

Endemic mammals constitute 14.5% (54 taxa) of the total mammalian fauna of India while non-endemics make up the other 85.5% (318 taxa). Western Ghats, the richest biogeographic region has 26% of the endemic mammals in India. Northeastern India, though rich with mammalian fauna, does not have many endemics because of the political limits of the country cutting through the eastern Himalayan biogeographic zone. Only 3 taxa are found within the Indian political limits in this region. Andaman and Nicobar Islands have 9 mammals restricted to the region. Seven mammals are endemic to northern India, while 4 are restricted within southern India. The figure below illustrates the distribution of endemic taxa assessed in India. Sixteen taxa are restricted to different parts of the country like northern, eastern, western, central, or a combination of any of those regions in the country.

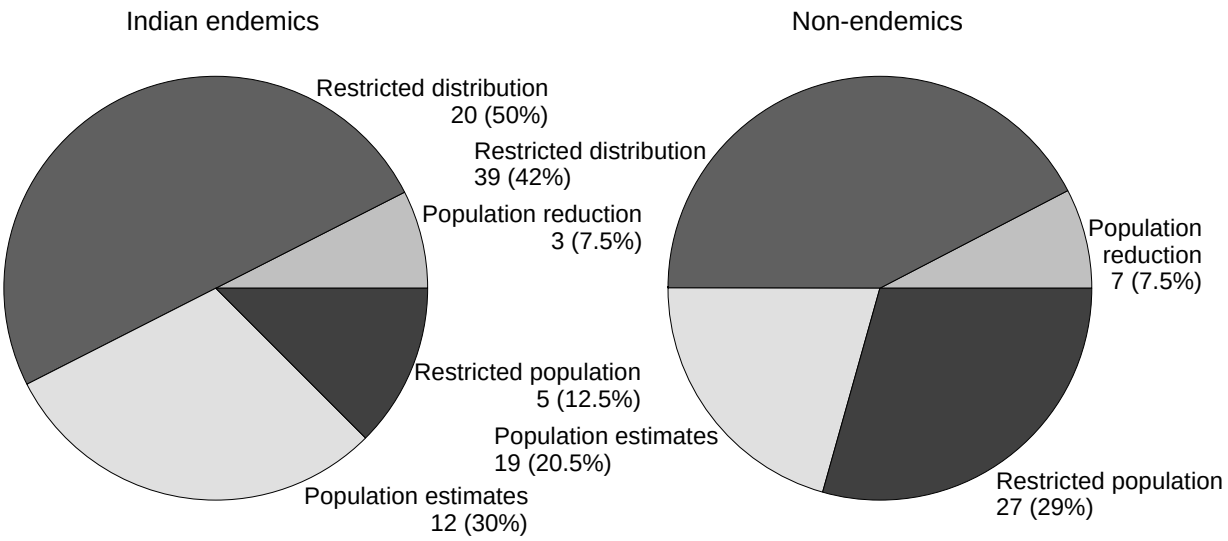
Criteria for threat

Totally 118 taxa (31.7% of all Indian mammals) are threatened in India. Of this number, 35 are endemic (65%) and 83 non-endemic (26%).

Most of the endemic mammals in India that are threatened are so because of restricted distribution. Forty-five endemics are found in less than 10 locations with 16 of those occuring in a single location. This high percentage (83%) of limited locations to which taxa are confined is the reason for a majority of the threatened endemic taxa to qualify for “Criterion B”, for restricted distribution.

The same is observed even for non-endemics as 39 taxa (42%) qualify for criterion B. Twenty-one non-endemic mammals are found only in 1 location in India.

Criteria used for threat assessment



Number of endemics assessed = 54
Number of endemics threatened = 35

Number of non-endemics assessed = 318
Number of non-endemics threatened = 83

Because of limited locations in both endemic and non-endemic taxa, one-fourth of the threatened taxa are so categorised due to population restriction, “Criterion D”. This criterion applies only to the category of Vulnerable where an assessed taxa is limited to either less than 5 locations or less than 100 square kilometres in area of occupancy. Five endemic and 27 non-endemic taxa are categorised as threatened because of restricted population.

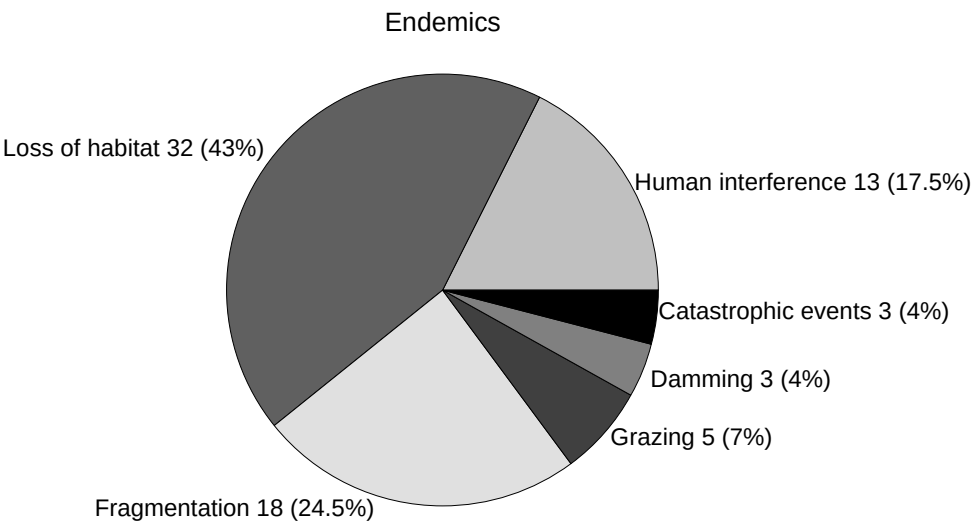
A negligible number of taxa are assessed as threatened based on population reduction (Criterion A) since population trends are least understood for mammals.

Population estimation (Criterion C), on the other hand has been the basis for categorising 31 taxa of mammals (12 endemics and 19 non-endemics). This criterion takes into account both population numbers and fluctuation along with restricted distribution.

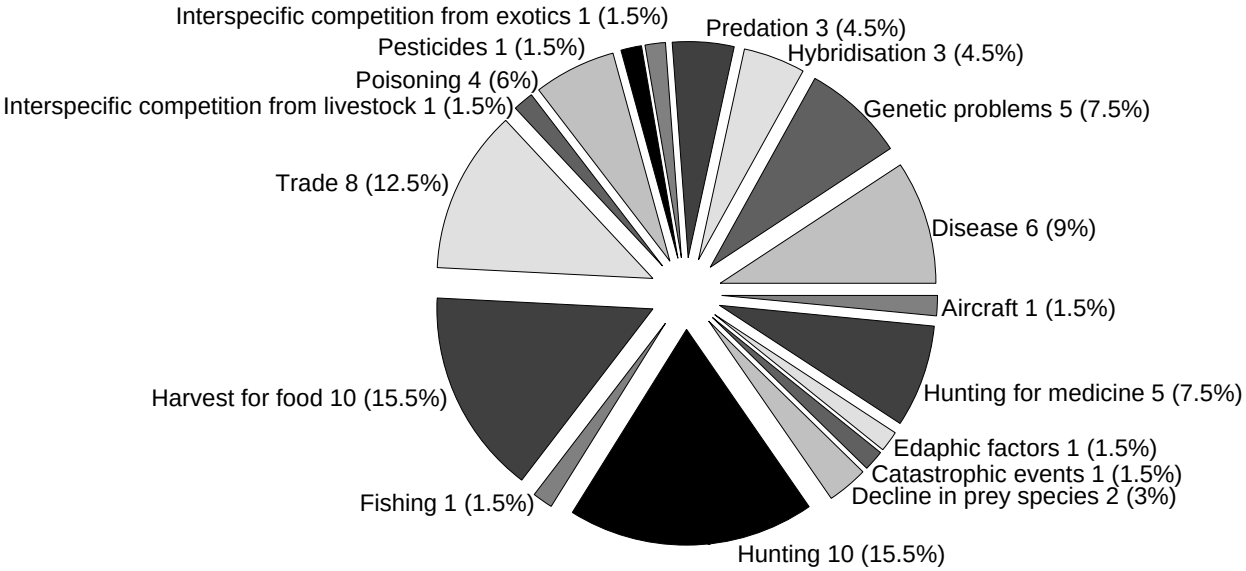
Threats

Loss of habitat and human interference are the two most common threats facing mammals in India with fragmentation of habitat also a significant factor. Lack of consistent studies on population dynamics for most of the species preclude confident statements or even inference of reduction in population. Therefore, population reduction criterion (Criterion A) has been used to determine status only for 11 taxa. For the most part, assessments have been made on the state of the habitat currently and knowledge of the habitat over years with respect to species distribution. Reduction in the extent of occurrence, area of occupancy or quality of habitat has been easier to determine because of the threats to the taxa. Hence, threats combined with limited locations for various taxa have been based on this.

Threats to habitat

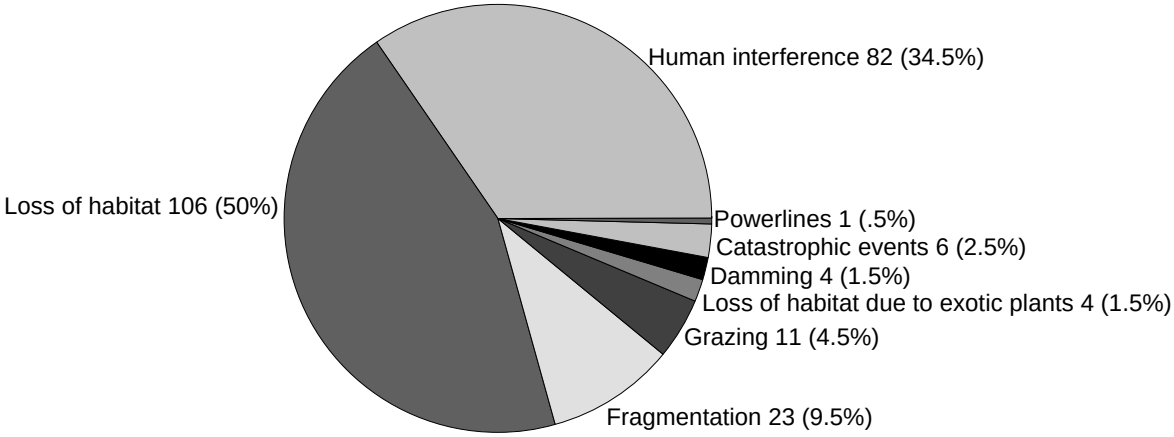


Threats to population

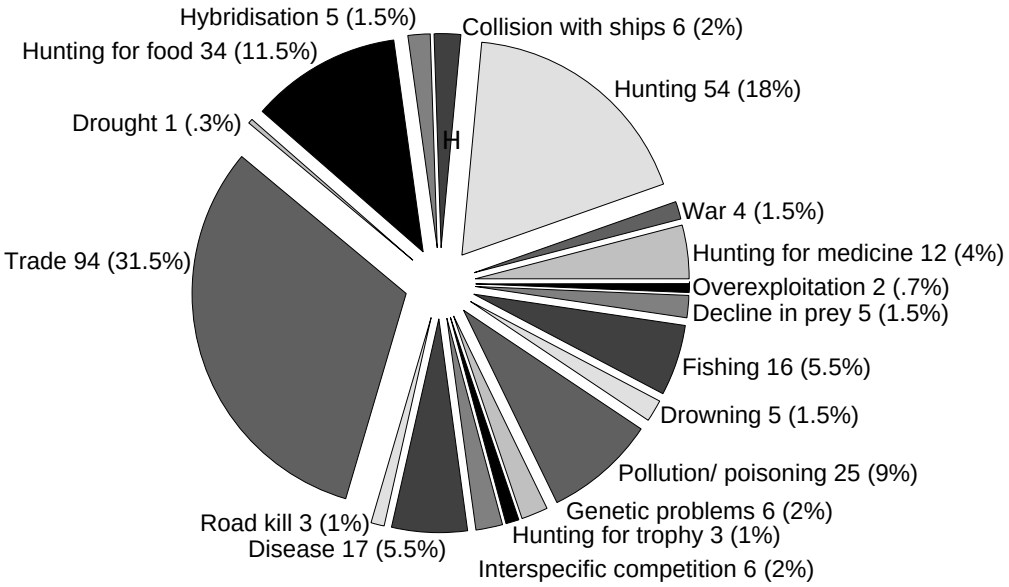


Threats to habitat

Non-endemics



Threats to population



Human interference (man-made fires, lopping, grazing, etc.) has taken a large toll of mammal populations. Dramatic losses of habitat have taken place, which has led to reduction in areas of occupancy, distributional ranges and habitat structure. Pesticides and pollution are thought to be of concern to mammal survival but the effects are not yet well studied or documented. Threats to mammals are varied depending on the habit and habitat of the taxon. For example marine mammals are threatened with collision with ships and sound pollution, two threats that would not cause much harm to other mammals.

Table 3. Threats to mammals of India

Species	Threats	IUCN
INDIAN ENDEMICS		
Alticola albicauda	Unknown	DD
Anathana ellioti	Loss of habitat, Fragmentation	LR-nt
Atherurus macrourus assamensis	Loss of habitat	EN

Species	Threats	IUCN
Biswamoyopterus biswasi	Human interference, Loss of habitat	CR
Bubalus arnee	Cattle grazing, Disease, Genetic problem, Hybridization	EN
Cervus duvaucelli branderi	Disease, Genetic problem, Interspecific competition from exotics, Predation	CR
Cervus elaphus hanglu	Cattle grazing, Disease, Fire, Genetic problem, Human interference, Hunting for food, Loss of habitat, Pesticides, Poisoning, Interspecific competition with domestic livestock	CR
Cervus eldi eldi	Cattle grazing, Damming, Fishing, Genetic problem, Human interference, Hunting, Loss of habitat, Siltation	CR
Cremnomys cutchicus	No	LR-lc
Cremnomys elvira	No	VU
Crocidura andamanensis	No	DD
Crocidura hispida	Fragmentation	EN
Crocidura jenkinsi	Unknown	DD
Crocidura nicobarica	No	DD
Cuon alpinus dekhanensis	Disease, Decline in prey species, Human interference, Hybridization, Loss of habitat, Fragmentation, Poisoning	LR-nt
Cuon alpinus laniger	Disease, Decline in prey species, Hybridization, Loss of habitat, Poisoning	CR
Eptesicus nilssoni	Unknown	DD
Eptesicus tatei	Unknown	DD
Funambulus tristriatus	Hunting, Hunting for food, Loss of habitat	LR-nt
Harpiocephalus harpia	Unknown	DD
Hemitragus hylocrius	Human interference, Hunting, Hunting for food, Loss of habitat	EN
Herpestes fuscus fuscus	Loss of habitat, Fragmentation	VU
Herpestes palustris	Catastrophic events, Edaphic factors, Human interference, Loss of habitat, Fragmentation	EN
Hipposideros schistaceus	Unknown	DD
Latidens salimalii	Loss of habitat, Fragmentation	EN
Macaca radiata	Loss of habitat, Predation	LR-lc
Macaca silenus	Loss of habitat, Hunting, Hunting for food, Hunting for medicine, Trade (Local)	EN
Martes gwatkinsi	Human interference, Hunting, Loss of habitat, Fragmentation	VU
Millardia kondana	Unknown	VU
Murina grisea	Unknown	VU
Mus famulus	Loss of habitat, Fragmentation, Human interference	EN
Mus phillipsi	Drowning, Fragmentation, Poisoning	LR-lc
Mus platythrix	No	LR-lc
Otomops wroughtoni	Human interference, Loss of habitat	CR
Ovis vignei vignei	Aircraft, Cattle grazing, Damming, Human interference, Hunting, Loss of habitat,	EN
Panthera leo persica	Cattle grazing, Disease, Genetic problem, Human interference, Loss of habitat	CR
Paradoxurus jerdoni	Hunting for food, Loss of habitat, Fragmentation	VU
Paraechinus micropus nudirentris	Loss of habitat, Fragmentation	VU
Petinomys fuscocapillus fuscocapillus	Loss of habitat, Fragmentation	VU
Plantacanthomys lasiurus	Loss of habitat, Human interference	LR-lc
Pteropus faunulus	Loss of habitat	VU
Rattus palmarum	Unknown	DD
Rattus ranjiniae	Unknown	VU
Rattus stoicus	Unknown	VU
Ratufa indica centralis	Hunting, Hunting for food, Hunting for medicine,, Loss of habitat, Fragmentation, Trade (Domestic, Commercial), Trade for parts,	VU
Ratufa indica dealbata	Human interference, Hunting, Hunting for food, Hunting for medicine, Loss of habitat, Fragmentation	EX
Ratufa indica indica	Hunting, Hunting for food, Hunting for medicine,, Loss of habitat, Fragmentation, Trade (Domestic, Commercial), Trade for parts	VU

Species	Threats	IUCN
Ratufa indica maxima	Damming, Hunting, Hunting for food, Loss of habitat, Fragmentation, Trade for parts	VU
Rhinolophus cognatus	Unknown	DD
Rhinolophus mitratus	Unknown	VU
Suncus dayi	Loss of habitat	VU
Trachypithecus johnii	Hunting for medicine,, Hunting, Hunting for food, Loss of habitat, Trade for parts, Trade (Local, Domestic)	VU
Tupaia nicobarica	Loss of habitat, Fragmentation	EN
Viverra civettina	Hunting, Loss of habitat, Fragmentation, Predation,	CR
NON-ENDEMICS		
Acinonyx jubatus venaticus	No	EX
Ailurus fulgens fulgens	Hunting, Loss of habitat, Fragmentation, Trade (International, Commercial)	VU
Alticola montosa	No	DD
Alticola roylei	Unknown	DD
Alticola stoliczkanus	Unknown	DD
Anourosorex squamipes	Loss of habitat, Human interference, Fragmentation	VU
Antilope cervicapra	Hunting, Loss of habitat	LR-lc
Apodemus draco	Unknown	VU
Apodemus sylvaticus	Unknown	DD
Arctictis binturong albifrons	Hunting, Loss of habitat, Fragmentation, Trade (International)	DD
Arctogalidia trivirgata	Human interference, Loss of habitat	VU
Arctonyx collaris		DD
Axis axis	Cattle grazing, Disease, Human interference, Hunting for food, Loss of habitat due to exotic plants	LR-lc
Axis porcinus	Hunting for food, Loss of habitat	LR-nt
Balaenoptera acutorostrata	Colliasion with shipping, Pollution, Fishing, Trade (International)	LR-nt
Balaenoptera borealis	Hunting, Colliasion with shipping, Pollution, Trade (International)	LR-nt
Balaenoptera edeni	Hunting, Colliasion with shipping, Pollution	LR-nt
Balaenoptera musculus	Hunting, Pollution, Trade (International)	CR
Balaenoptera physalus	Hunting, Colliasion with shipping, Pollution	LR-nt
Bandicota bengalensis	No	LR-lc
Bandicota indica	Interspecific competition, Loss of habitat, Pesticides	LR-nt
Barbastella leucomelas	Unknown	DD
Belomys pearsonii	Disease, Human interference, Hunting, Loss of habitatandslide, Loss of habitat, Fragmentation	LR-nt
Berylmys bowersi	Human interference	EN
Berylmys mackenziei	No	LR-lc
Berylmys manipulus	Unknown	DD
Bos gaurus	Cattle grazing, Disease, Drowning, Human interference, Hunting, Hunting for food, Loss of habitat, Loss of habitat due to exoitc plants, Fragmentation, Trade (Domestic)	VU
Bos grunniens	Disease, Genetic problem, Hybridization	CR
Boselaphus tragocamelus	Disease, Hunting for food, Loss of habitat, Trade (Local, Domestic)	LR-lc
Callosciurus erythraeus	Hunting, Hunting for food, Loss of habitat	LR-nt
Callosciurus pygerythus	Hunting, Hunting for food, Loss of habitat	LR-nt
Canis aureus	Hunting, Poisoning, Trade for parts,	LR-lc
Canis lupus palipus	Human interference, Hunting, Hybridization, Loss of habitat, Poisoning, Trade for parts, Trade (Commercial, International)	LR-nt
Cannomys badius	Loss of habitat	LR-lc
Capra falconeri falconeri	Disease, Hunting	CR
Capra falconeri kashmeriensis	Disease, Hunting	CR
Capra ibex	Cattle grazing, Damming, Human interference, Hunting, Hunting for food, Interspecific competition from exotics, Loss of habitat, War	VU
Caracal caracal	Human interference, Loss of habitat, Fragmentation, Trade (Domestic, Commercial, Local)	LR-nt

Species	Threats	IUCN
Cervus duvaucelli duvaucelii	Cattle grazing, Disease, Hunting, Loss of habitat	EN
Cervus unicolor	Cattle grazing, Disease, Human interference, Hunting for food, Loss of habitat, Trade (Domestic, Commercial, International)	LR-lc
Chaerephon plicata	Unknown	DD
Chimarrogale himalayica	Loss of habitat, Fragmentation	LR-nt
Chiropodomys gliroides	Unknown	VU
Coelops frithi	Unknown	DD
Cremnomys blanfordi	Human interference, Loss of habitat	LR-nt
Cricetulus alticola	Human interference	VU
Cricetulus migratorius	Human interference	EN
Crocidura attenuata	No	LR-lc
Crocidura fuliginosa	No	DD
Crocidura horsfieldi	No	DD
Crocidura leucodaon	Unknown	DD
Crocidura pergrisea	Loss of habitat, Fragmentation	EN
Crocidura pullata	Unknown	DD
Cuon alpinus adjustes	Disease, Decline in prey species, Hybridization, Loss of habitat, Poisoning	CR
Cuon alpinus primaevus	Disease, Decline in prey species, Hybridization, Loss of habitat, Poisoning	VU
Cynopterus brachyotis	No	LR-lc
Cynopterus sphinx	No	LR-lc
Daenomys millardi	Unknown	VU
Delphinus delphis	Fishing, Pollution	LR-nt
Dicerorhinus sumatrensis	Unknown	CR
Diomys crumpi	Human interference	EN
Dremomys lokriah	Hunting, Loss of habitat	LR-nt
Dugong dugon	Dynamite and destructive fishing, Fishing, Human interference, Huricane, Loss of habitat, Over exploitationer exploitation, Trade (Local)	CR
Elephas maximus	Disease, Drought, Genetic problem, Human interference, Hunting, Loss of habitat, Loss of habitat due to exoitc plants, Fragmentation, Powerlines, Road kills, Trade for parts, Trade (Domestic, International)	VU
Eonycteris spelaea	No	VU
Eothenomys melanogastor	Unknown	DD
Eptesicus pachyotis	Unknown	DD
Eptesicus serotinus	Unknown	DD
Equus kiang	Human interference	VU
Eubalaena glacialis	Hunting, Colliasion with shipping, Pollution, Fishing, Trade (International)	EN
Eupetaurus cinereus	Cattle grazing, Trade for parts, Trade (Domestic)	LR-nt
Felis chaus	Human interference, Hunting for food, Trade (International, Commercial)	LR-nt
Felis silvestris ornata	Hybridization, Loss of habitat, Loss of habitat due to exoitc plants, Trade for parts, Trade (International, Commercial)	LR-nt
Feroculus feroculus	Fragmentation	VU
Funambulus layardi	Unknown	DD
Funambulus palmarum	Trade (Domestic, Commercial)	LR-lc
Funambulus pennantii	Trade (Domestic, Commercial)	LR-lc
Funambulus sublineatus	No	DD
Gazella bennettii	Hunting for food	LR-lc
Gerbillus gleadowi	Human interference, Loss of habitat	LR-lc
Gerbillus nanus	Loss of habitat	LR-nt
Globicephala macrorhynchus	Fishing	LR-nt
Gohunda ellioti	No	LR-lc
Grampus griseus	Fishing	LR-nt
Hadromys humei	Unknown	DD
Helarctos malayanus	Hunting, Hunting for medicine, Loss of habitat, Trade (Local)	DD

Species	Threats	IUCN
Hemiechinus collaris	No	LR-lc
Hemitragus jemlahicus	Human interference, Hunting for food, Loss of habitat, Trade (Local)	LR-nt
Herpestes endwardsii	Hunting trophies, Hunting for food, Hunting for medicine, Trade (Local, Domestic), Trade for parts,	LR-lc
Herpestes javanicus	Hunting trophies, Hunting for food, Pesticides, Road kills, Trade for parts, Trade (Domestic, Commercial, International)	LR-lc
Herpestes smithii smithii	Loss of habitat, Fragmentation, Trade for parts, Trade (Local, Commercial, Domestic)	LR-lc
Herpestes urva	Loss of habitat, Poisoning	VU
Herpestes vitticollis	Loss of habitat, Fragmentation	LR-nt
Hesperoptenus tickelli	Unknown	DD
Hipposideros armiger	Human interference, Loss of habitat	LR-nt
Hipposideros ater	Human interference, Loss of habitat	LR-nt
Hipposideros cineraceus	Unknown	DD
Hipposideros fulvus	Human interference, Loss of habitat	LR-nt
Hipposideros galeritus	Unknown	DD
Hipposideros lankadiva	Human interference, Loss of habitat	VU
Hipposideros larvatus	Unknown	DD
Hipposideros pomona	Unknown	DD
Hipposideros speoris	Human interference, Loss of habitat	LR-nt
Hyaena hyaena	Poisoning, Road kills, Trade (Local, Domestic, International)	LR-nt
Hylobates hoolock	Hunting, Hunting for food, Hunting for medicine,, Loss of habitat, Fragmentation, Trade for parts, Trade (Local, Domestic)	EN
Hylopetes alboniger	Human interference, Loss of habitat	VU
Hylopetes barberi	Unknown	DD
Hylopetes fimbriatus	Human interference, Loss of habitat	LR-nt
Hyperacrius fertilis		DD
Hyperacrius wynnei	No	VU
Hystrix brachyura	Loss of habitat, Fragmentation	VU
Hystrix indica	Hunting for food, Trade for parts, Trade (Domestic)	LR-lc
Ia io	Human interference	EN
Kerivoula papillosa	Unknown	DD
Kerivoula hardwickii	Unknown	DD
Kerivoula picta	Human interference	LR-nt
Kogia breviceps	Fishing	LR-nt
Kogia simus	Fishing	LR-nt
Leopoldamys edwardsi	Unknown	DD
Lepus capensis	Unknown	DD
Lepus nigricollis	Hunting, Loss of habitat, Pesticides, Poisoning	LR-lc
Lepus oiostolus	Unknown	DD
Loris tradigradus	Hunting, Hunting for medicine, Trade (Local, Commercial)	LR-nt
Lynx lynx	Loss of habitat, Fragmentation	EN
Macaca arctoides	Hunting, Loss of habitat, Trade (Domestic)	LR-nt
Macaca assamensis	Human interference, Hunting for food, Loss of habitat	LR-nt
Macaca fascicularis umbrosa	Human interference, Loss of habitat, Predation	CR
Macaca mulatta	Trade (Domestic, Commercial)	LR-lc
Macaca nemestrina	Unknown	DD
Manis crassicaudata	Human interference, Hunting, Hunting for medicine, Trade for parts, Trade (Local, Domestic)	LR-nt
Manis pentadactyla	Human interference, Loss of habitat	LR-nt
Marcoglossus sobrinus	Unknown	DD
Marmota bobak	Human interference, Loss of habitat, War	EN
Marmota caudata	Human interference, Hunting, Hunting for food, Loss of habitat, War	VU
Martes flavigula	Hunting, Trade for parts	LR-lc
Martes foina	Unknown	DD
Megaderma lyra	No	LR-lc
Megaderma spasma	Unknown	DD
Megaptera novaeangliae	Colliasion with shipping, Fishing	LR-nt
Megarops niphanae	No	DD
Mellivora capensis	Human interference, Loss of habitat	LR-nt
Melogale moschata	Hunting for food, Loss of habitat, Trade (Local)	EN

Species	Threats	IUCN
Melogale personata	Loss of habitat	VU
Melursus ursinus	Hunting, Fragmentation, Poisoning, Trade for parts, Trade (Commercial, International)	VU
Meriones hurriane	Loss of habitat, Pesticides	LR-lc
Micromys minutus	Unknown	VU
Microtus leusurus	Unknown	DD
Microtus sikimensis	No	LR-lc
Millardia gleadowi	Loss of habitat	LR-nt
Millardia meltada	Interspecific competition, Pesticides, Poisoning	LR-lc
Miniopterus pusillus	Unknown	DD
Miniopterus schreibersii	No	LR-lc
Moschola meminna	Hunting, Hunting for food	LR-nt
Moschus chrysogaster	Hunting, Trade for parts, Trade (Commercial, International)	CR
Muntiacus muntjak	Hunting food	LR-lc
Murina aurata	Unknown	DD
Murina cyclotis	Unknown	DD
Murina huttoni	Unknown	DD
Murina leucogaster	Unknown	DD
Murina tubinaris	Human interference	VU
Mus booduga	Drowning, Pesticides, Poisoning,	LR-lc
Mus cervicolor	No	LR-lc
Mus cookii	Loss of habitat, Fragmentation	LR-nt
Mus musculus	Unknown	LR-lc
Mus pahari	Unknown	DD
Mus saxicola	Drowning, Poisoning	LR-lc
Mustela altaica	Unknown	DD
Mustela erminea ferghanae	Unknown	DD
Mustela kathiah	Unknown	DD
Mustela putorius larvatus	Unknown	DD
Mustela sibirica	Human interference, Fragmentation	LR-nt
Mustela strigidorsa	Unknown	DD
Myotis annectans	Unknown	DD
Myotis blythi	Unknown	DD
Myotis daubentoni	Unknown	DD
Myotis formosus	Human interference, Loss of habitat	LR-nt
Myotis hasseltii	Unknown	DD
Myotis horsfieldii	Human interference	LR-nt
Myotis longipes	Human interference	EN
Myotis montivagus	Unknown	DD
Myotis muricola	Unknown	DD
Myotis mystacinus	Unknown	DD
Myotis sicarius	Unknown	VU
Myotis siligorensis	Unknown	DD
Naemorhedus sumatraensis	Human interference, Hunting for food, Loss of habitat, Trade (Local)	VU
Nectogale elegans	Loss of habitat, Human interference	VU
Neofelis nebulosa	Decline in prey species, Hunting trophies, Hunting, Loss of habitat, Trade for parts, Trade (Commercial, International)	LR-nt
Neophocaena phocaenoides	Fishing	LR-nt
Nesokia indica	Drowning	LR-lc
Niviventer brahma	Human interference, Loss of habitat	EN
Niviventer eha	Human interference, Loss of habitat	VU
Niviventer fulvercens	No	LR-lc
Niviventer langbianis	Unknown	DD
Niviventer niviventer	Unknown	DD
Niviventer tenaster	Unknown	DD
Nyctalus leisleri	Unknown	DD
Nyctalus montanus	Unknown	DD
Nyctalus noctula	Unknown	DD

Species	Threats	IUCN
Nycticebus coucang	Hunting for medicine, Loss of habitat, Fragmentation, Trade (Commercial, International)	LR-nt
Ochotona curzoniae	Human interference, Loss of habitat, War	EN
Ochotona forresti	Human interference, Loss of habitat, Siltation	LR-nt
Ochotona ladacensis	Unknown	DD
Ochotona macrotis	Unknown	DD
Ochotona nubrica	Unknown	DD
Ochotona roylei	Human interference, Loss of habitat, War	LR-nt
Ochotona thibetana	Human interference, Loss of habitat	LR-nt
Orcaella brevirostris	Fishing, Siltation	EN
Orcinus orca	Fishing	LR-nt
Otonycteris hemprichii	Unknown	VU
Ovis ammon	Interspecific competition, Cattle grazing, Disease, Hunting, Hunting for food, Predation	CR
Ovis orientalis	Cattle grazing, Damming, Hunting	EN
Paguma larvata	Hunting, Loss of habitat, Trade (Local, International)	LR-lc
Panthera pardus	Hunting, Loss of habitat, Over exploitationer exploitation, Poisoning, Trade (Commercial, International)	VU
Panthera tigris	Decline in prey species, Hunting for medicine, Fragmentation, Poisoning, Trade for parts, Trade (Commercial, International)	EN
Pantholops hodgsoni	Disease, Hunting, Hunting for food, Trade for parts, Trade (Commercial, International)	CR
Paradoxurus hermaphroditus	Hunting, Hunting for food, Road kills, Trade for parts, Trade (Commercial, International)	LR-lc
Paraechinus micropus	Predation	LR-lc
Pardofelis marmorata	Hunting, Trade for parts, Trade (Commercial, International)	LR-nt
Peponocephala electra	Fishing	LR-nt
Petaurista philippensis	Human interference, Hunting, Hunting for food, Loss of habitat, Fragmentation, Trade (Domestic)	LR-nt
Physeter catodon	Hunting, Trade (Local)	LR-nt
Pipistrellus affinis	Unknown	DD
Pipistrellus cadornae	Unknown	DD
Pipistrellus ceylonicus	No	LR-lc
Pipistrellus coromandra	Human interference, Loss of habitat	LR-nt
Pipistrellus dormeri	Human interference, Loss of habitat	LR-nt
Pipistrellus kuhlii	Unknown	DD
Pipistrellus paterculus	Human interference, Loss of habitat	LR-nt
Pipistrellus pipistrellus	Unknown	VU
Pipistrellus savii	Unknown	DD
Pipistrellus tenuis	No	LR-lc
Platanista gangetica	Decline in prey species, Dynamite and destructive fishing, Fishing, Hunting for food, Loss of habitat, Fragmentation, Pollution, Siltation, Trade for parts, Trade (Domestic)	CR
Plecotus austriacus	Unknown	DD
Plecotus auritus	Unknown	DD
Prionailurus bengalensis	Human interference, Loss of habitat, Trade (Commercial, Loss of habitatocal)	LR-nt
Prionailurus rubiginosus rubiginosus	Hybridization, Road kills	LR-nt
Prionailurus viverrinus	Dynamite and destructive fishing, Human interference, Loss of habitat, Trade for parts, Trade (International, Commercial)	VU
Prionodon pardicolor	Hunting, Loss of habitat	VU
Procapra picticaudata picticaudata	Loss of habitat, Human interference	CR
Pseudois nayaur	Cattle grazing, Disease, Hunting	LR-lc
Psuedorca crassidens	Fishing	LR-nt
Pteropus giganteus giganteus	Human interference, Hunting, Hunting for food, Hunting for medicine, Loss of habitat	LR-nt
Pteropus melanotus	Unknown	DD
Pteropus vampyrus	Unknown	DD
Rattus nitidus	Unknown	DD
Rattus norvegicus	Interspecific competition	LR-lc
Rattus rattus	Interspecific competition	LR-lc

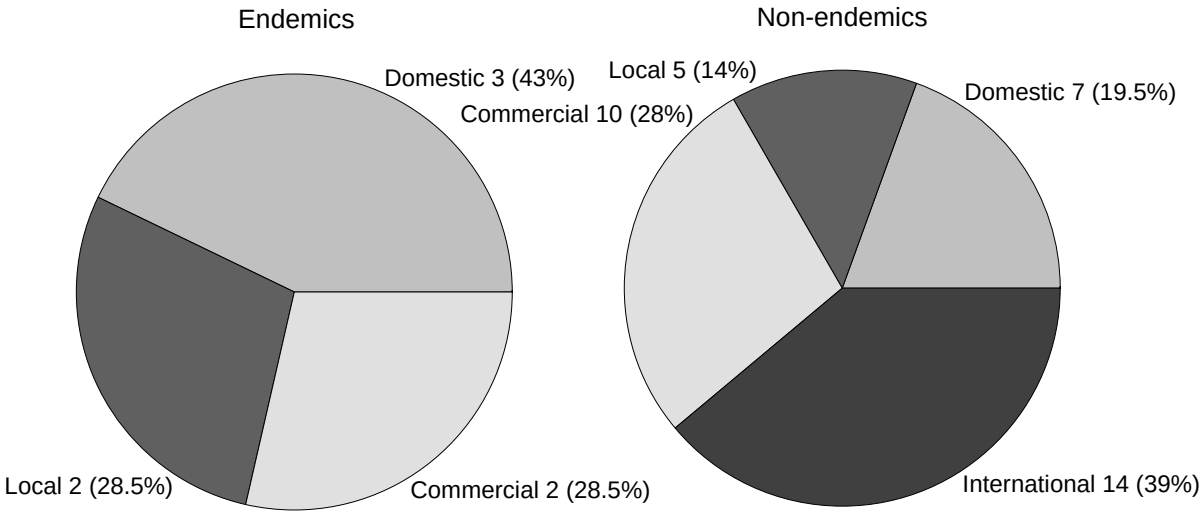
Species	Threats	IUCN
Rattus sikkimensis	Loss of habitat	DD
Rattus tiomanicus	No	VU
Rattus turkestanicus	Unknown	DD
Ratufa bicolor gigantea	Hunting, Hunting for food, Hunting for medicine,, Loss of habitat, Fragmentation, Trade (Domestic, Commercial, International), Trade for parts	VU
Ratufa macroura dandolena	Damming, Siltation, Genetic problem, Hunting, Hunting for food, Loss of habitat, Fragmentation	EN
Rhinoceros sondaicus	Loss of habitat	EX
Rhinocerous unicornis	Cattle grazing, Disease, Drowning, E, Genetic problem, Hunting, Loss of habitat, Loss of habitat due to exoitc plants, Powerlines, Trade for parts, Interspecific competition with domestic livestock, Trade (Commercial, International)	EN
Rhinolophus affinis	Human interference, Loss of habitat	LR-nt
Rhinolophus ferrumeuinum	Loss of habitat, Human interference	VU
Rhinolophus hipposideros	Unknown	VU
Rhinolophus lepidus	Human interference, Loss of habitat	LR-nt
Rhinolophus pearsonii	Human interference, Loss of habitat	LR-nt
Rhinolophus pusillus	Human interference	LR-nt
Rhinolophus rouxi	Human interference, Loss of habitat	LR-nt
Rhinolophus subbadius	Human interference	CR
Rhinolophus trifoliatus	No	DD
Rhinolophus yunanensis	Unknown	DD
Rhinolopus luctus	Unknown	DD
Rhinopoma hardwickii	Genetic problem, Human interference, Loss of habitat	LR-nt
Rhinopoma microphyllum	Genetic problem, Human interference, Loss of habitat	LR-nt
Rhizomys pruinosus	Hunting for food, Loss of habitat	LR-nt
Rousettus leschenaulti	No	LR-lc
Saccolaimus saccolaimus	Unknown	DD
Scotoecus pallidus	Human interence	LR-nt
Scotomanes ornatus	Unknown	DD
Scotophilus heathi	No	LR-lc
Scotophilus kuhlii	Human interence	LR-nt
Semnopithecus entellus	No	LR-lc
Sicista concolor	Unknown	DD
Sorex caudatus	Loss of habitat, Human interence	VU
Sorex minutus	No	VU
Soriculus leucops	Loss of habitat, Fragmentation	VU
Soriculus macrurus	Loss of habitat, Fragmentation	VU
Soriculus nigrescens	Loss of habitat, Human interence	VU
Sousa chinensis	Siltation, Fishing	EN
Sphaerias blanfordi	Unknown	DD
Stenella longirostris	Fishing, Trade (Local)	LR-nt
Suncus etruscus	No	LR-lc
Suncus montanus	Human interference, Loss of habitat	VU
Suncus murinus	No	LR-lc
Suncus stoliczkanus	Unknown	LR-lc
Sus salvanius	Hunting for food, Loss of habitat	CR
Sus scrofa	Damming	LR-lc
Tadarida aegyptiaca	Human interence	LR-nt
Tadarida teniotis	Unknown	DD
Talpa leucura	Fragmentation	VU
Talpa micrura	No	LR-lc
Tamiops macclellandi	Loss of habitat	LR-nt
Taphozous longimanus	No	LR-lc
Taphozous melanopogan	Human interference, Hunting	LR-nt
Taphozous nudiventris	Human interence	LR-nt

Species	Threats	IUCN
Taphozous perforatus	Human interference, Loss of habitat	LR-nt
Taphozous theobaldi	Unknown	DD
Tatera indica	Pesticides	LR-lc
Tetracerus quadricornis	Cattle grazing, Hunting, Loss of habitat, Trade (Domestic)	LR-nt
Trachypithecus geei	Hunting, Trade (Local, Domestic)	CR
Trachypithecus phayrei	Human interference, Interspecific competition from exotics, Loss of habitat,	EN
Trachypithecus piletaus	Hunting, Loss of habitat, Trade for parts, Trade (Domestic, Commercial, International)	LR-nt
Tupaia belangeri	Hunting for food, Predation	LR-lc
Tursiops truncatus	Fishing	LR-nt
Tylonycteri spachypus	Human interference, Loss of habitat,	LR-nt
Uncia uncia	Trade for parts, Trade (Commercial, International)	EN
Ursus arctos	Decline in prey species, Hunting, Hunting for medicine,, Trade for parts, Trade (Commercial, International)	LR-nt
Ursus thibetanus	Human interference, Trade for parts, Trade (Commercial, International)	LR-lc
Vandeleuria oleracea	No	LR-lc
Viverra zibetha	Hunting, Hunting for food, Hunting for medicine,, Loss of habitat, Trade for parts, Human interference, Trade (Domestic, International)	VU
Viverricula indica	Human interference, Hunting, Hunting for medicine,, Loss of habitat, Trade for parts, Trade (Local, Commercial)	LR-nt
Vulpes bengalensis	Human interference, Hunting, Trade for parts, Poisoning, Trade (Commercial, International)	LR-nt
Vulpes vulpes montanna	Human interference, Trade for parts, Trade (Commercial, International, Domestic)	LR-nt
Vulpes vulpes pusilla	Human interference, Hunting for food, Trade for parts, Trade (Commercial, International)	LR-nt
Ziphius cavirostris	Fishing	LR-nt

Trade

Quite a few mammals are in trade: they are hunted for food, medicine or for parts. Of the assessed taxa, 4 endemics are in trade while 61 of the non-endemics are in trade of some form. Trade is carried out at different levels, namely, local (community, village or localised area), domestic (between communities, villages or close by areas), commercial (wider regional or national) and international (between countries). Much of this trade is illegal.

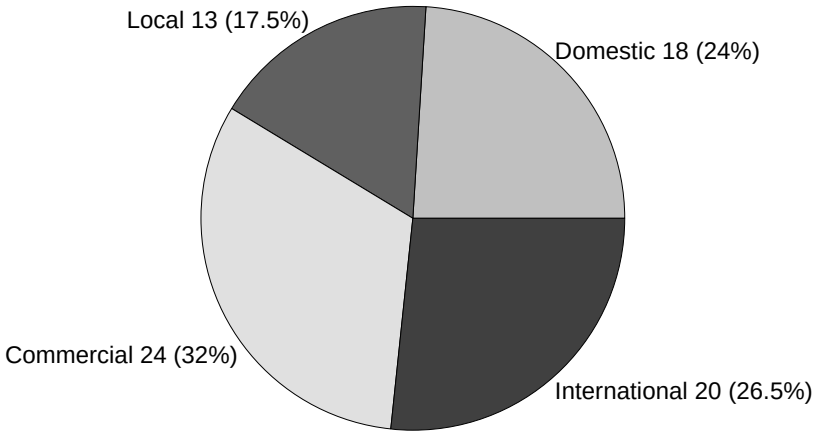
Trade in threatened mammals



Number of threatened endemics in trade = 4

Number of threatened non-endemics in trade = 19

Trade in non-threatened mammals



Number of non-threatened mammals in trade = 42

The Indian Wildlife Protection Act of 1972 (amended 1991) bans the trade of 76 species and 1 family of mammals for commercial purposes. A total of 123 species and 9 families of mammals are listed under the various schedules of the Act. However, since there is a lack of strong enforcement of anti-wildlife trade and since much of the trade is at the local and domestic level, trade in mammals or their parts is extremely difficult to curb. Combined with the various other factors affecting the wild populations of mammals, trade assumes significant importance as a threat to mammals in India.

Three groups of mammals, viz. rats, bats and mice are included in Schedule V, which means they are classified as vermin. However, as the CAMP results show, 10 rats, 14 bats and 4 mice are threatened in the wild, while less than 10 of a total of 149 taxa are known to be pests. This therefore calls for a revision of the schedules of the Wildlife Protection Act.

Data quality

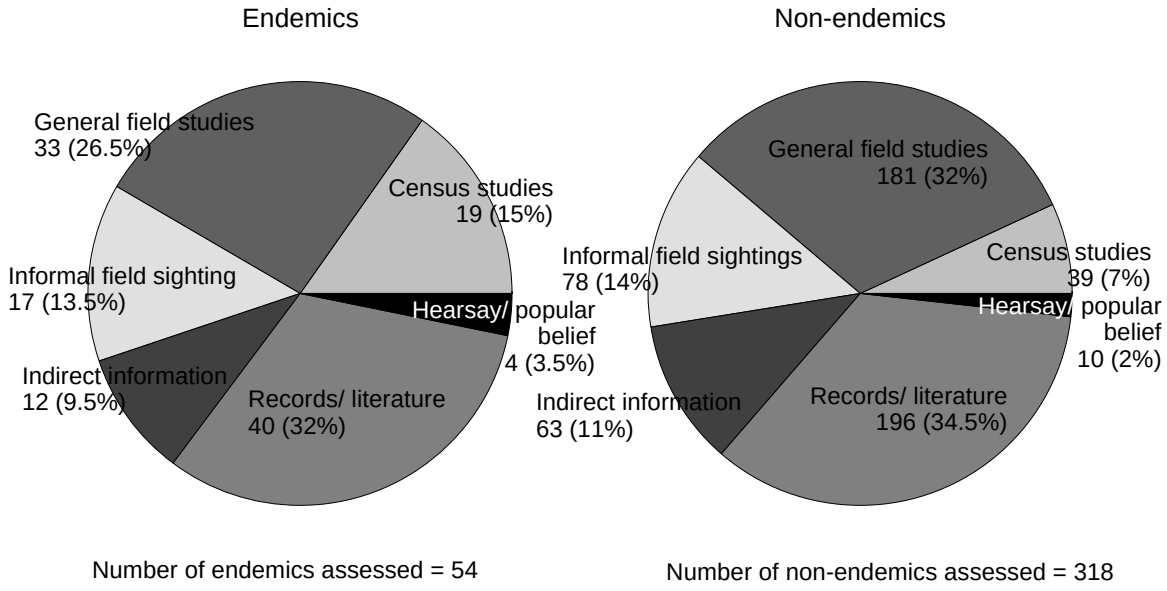
There is a tendency among scientists to be very conservative in their approach unless a very systematic study has been done and the results published. Initially, it was feared that it would not be possible to assess many of the Indian mammals as a result. It was felt that not much was known on smaller Indian mammals because of lack of extensive monitoring or field studies. However, most of the assessments could be based primarily on the habitat structure and enough information was available. This was due to studies conducted in those areas either for mammals or for other taxa. Therefore, participants based 26% of assessments for endemics and 32% for non-endemics on General field studies. Informal field sightings contributed to the assessments in 13.5% of the endemics and 14% of the non-endemics.

In almost all of the remaining assessments for mammals, particularly where no records of the species were available after its first description or was last sighted many years back, information was obtained from records and literature (32% for endemics and 34.5% for non-endemics).

The IUCN guidelines for assessment clearly suggest a “conservative” approach in favour of the taxa, e.g. “ . . . the absence of high quality data should not deter attempts at applying the criteria, as methods involving estimation, inference and projection are emphasized to be acceptable throughout. Inference and projection may be based on extrapolation of current or potential threats into the future (including dependence on other taxa), so factors related to population abundance or distribution (including dependence on other taxa), so long as these can reasonably be supported. Suspected or inferred patterns in either the recent past, present or near future can be based on any of a series of related factors, and these factors should be specified. Taxa at risk from threats posed by future events of low probability but with severe consequences (catastrophes) should be identified by the criteria (e.g. small distribution, few locations). Some threats need to be identified particularly early, and appropriate actions taken, because their effects may be irreversible, or nearly so (pathogens, invasive organisms, hybridization).”

An exercise to determine the status of any taxon, particularly in the first instant, should not be hindered by lack of hard information. Thorough, all-encompassing hard data is almost impossible to gather for even a single taxon. The time required to gather such detailed information could in fact delay conservation measures for

Data Quality



threatened taxa. For many groups of organisms there is not even a complete checklist, so any effort to put together what is known by ALL people studying these groups is a valid starting point from which other, more complete and accurate, exercises can be planned.

The combination of elements which make up a CAMP workshop such as group effort of researchers and associated specialists, a neutral environment, objective facilitation, good faith and good intentions can provide informed advice for conservation action planning. The results of this workshop are the outcomes of such an exercise.

Conservation action and recommendations

The previous section dealt with the different values for assessing the IUCN categories for the taxa. This section concerns conservation action to insure the survival of the taxa in the long term, as well as their habitat. Conservation action can take many forms, of which keeping the habitat inviolate may be the best way of insuring survival of taxa. However, for some species habitat protection alone may not be sufficient. Constant pressure on habitat and individual taxa has forced many taxa into small, isolated or fragmented populations, which can result in a steady decline in numbers, genetic viability and general fitness, or what is called an "extinction vortex". To overcome these complications and avoid extinction, corrective actions need to be taken up intensively and aggresively.

Table 4 summarises the various conservation actions recommended for mammal taxa evaluated in the BCPP CAMP Workshop.

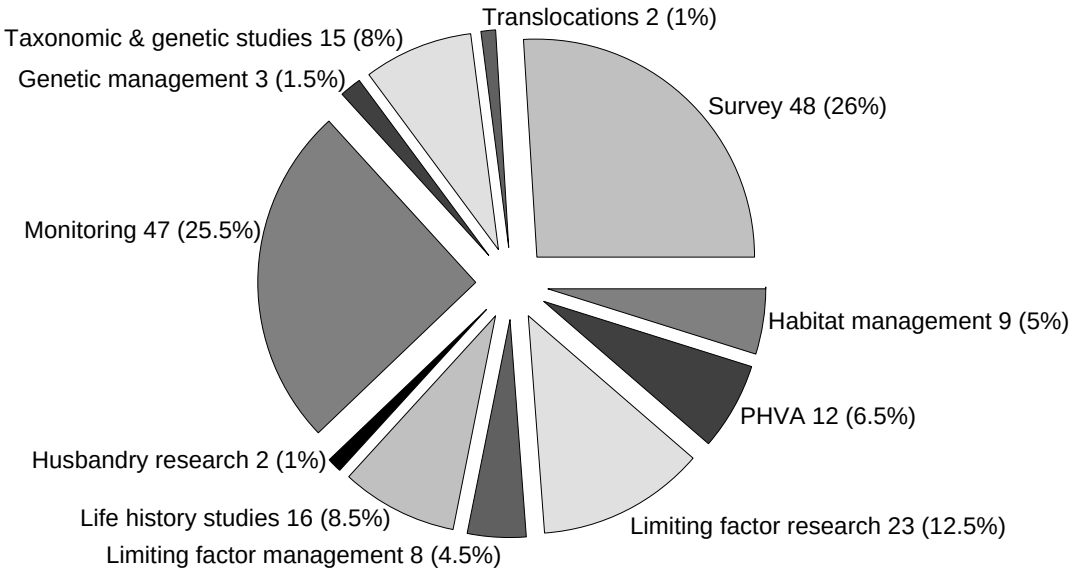
Field surveys -- for specific mammal taxa was recommended by participants more than any other conservation action – for 83 % of all the mammals assessed in the workshop. Participants felt that current knowledge of species distribution is not adequate and more studies are required. With respect to the taxa for which extent of occurrence far exceeded the area of occupancy, participants recommended more surveys within the range as to identify other possible areas of distribution.

Monitoring -- of populations was also strongly recommended by participants. Detailed population studies are required to evaluate trends in mammal populations and provide a basis for monitoring. For many taxa such studies had not been done at all and for too many others, only recently or sketchily.

Taxonomic and genetic studies are required and were recommended for 14.5% of mammalian taxa. Confusion and inconsistency in taxonomy and identification prevails among mammalian biologists for several species. Moreover, many taxa have not been recorded since their initial discovery years before (even decades or a century), and there are not proper types available for comparative studies.

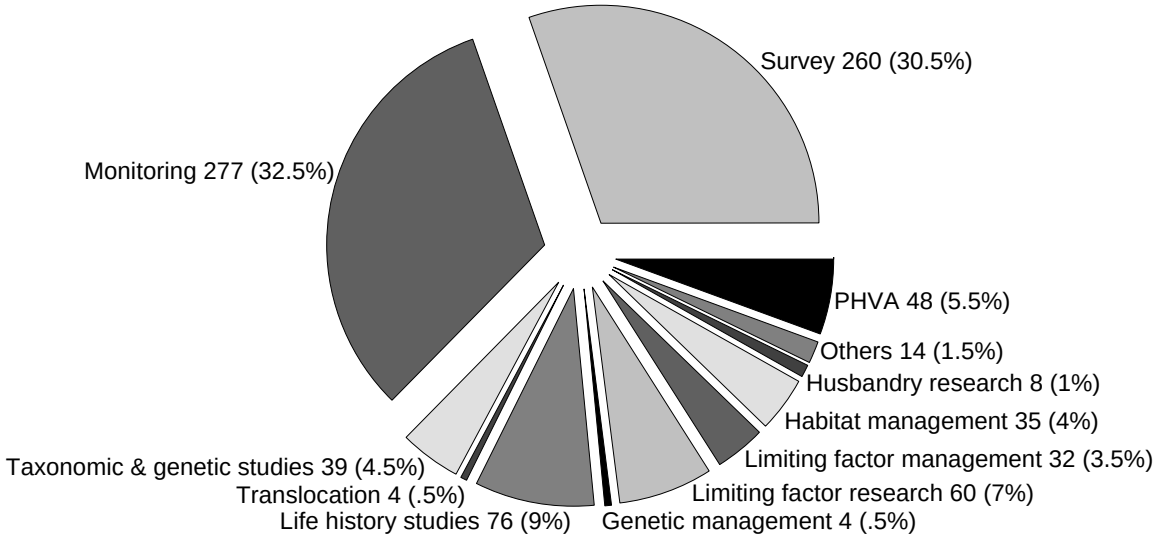
Other conservation actions recommended were habitat management, limited factor research, life history studies, genetic management, husbandry research and population and habitat viability assessment studies.

Research and management recommendations for endemic mammals



Number of endemics assessed = 54

Research and management recommendations for non-endemic mammals



Number of non-endemic mammals assessed = 318

Table 4. Research recommendations as suggested for the assessed mammalian taxa

	T	Tl	S	M	G	H	Hm	Lm	Lr	Lh	P	O
INDIAN ENDEMICS												
CR	1	1	6	7	2	0	4	1	7	1	5	0
EN	4	1	9	9	1	2	1	3	5	4	2	0
VU	2	0	15	17	0	0	3	4	7	8	3	0
LR-nt	1	0	2	3	0	0	1	0	3	2	1	0
LR-lc	7	0	10	7	0	0	0	0	0	1	1	0
DD	0	0	5	4	0	0	0	0	1	0	0	0
EX	0	0	1	0	0	0	0	0	0	0	0	0
NON-ENDEMICS												
CR	4	0	15	15	1	2	3	3	7	6	13	1
EN	4	2	17	22	1	1	7	8	10	5	7	1
VU	8	0	41	43	1	2	8	6	9	14	9	4
LR-nt	6	0	68	84	0	3	14	12	25	32	11	4
LR-lc	5	2	35	41	1	0	3	3	9	12	0	4
DD	12	0	84	72	0	0	0	0	0	7	8	0

Captive breeding and the level of difficulty

Most of the more than 300 zoos in India maintain mammals, in fact mammals are the most abundantly represented animal group in Indian zoos. The percentage of mammals in Indian zoos which are of genuine conservation value (that is, which could be used in conservation programmes), however, is very small. There are many reasons for this, the most important of them being:

1. Conservation breeding is a complex discipline that requires knowledge and application of genetic and demographic principles for every species taken up for such breeding in the initial stages. By and large Indian zoo personnel either do not have this knowledge of genetic and demographic principles, or are unable to apply it effectively for reasons that are quite beyond their control. These reasons are administrative, political and even – in some instances – personal, and as such have proved almost completely impervious to change.

Breeding technology, husbandry and health technology are very much within the purvue of abilities or learning of Indian zoo personnel. It is of no value whatsoever to conservation, however, unless the problems affecting the ability of Indian zoos to participate in the coordinated and cooperative programmes required for genetic and demographic management of captive wild animals can be solved.

2. Indian zoos are over-run with common and hybrid species, the keeping and care of which use up zoo space and resources which might be utilised for breeding endangered species. The Table and Chart below illustrates the very high percentage of Lower risk species, which are kept in zoos and the relatively low percentage of threatened species.

Moreover, these common species continue to proliferate because the zoos, for a variety of reasons, have not applied population control measures to these species.

Further, Indian zoos are burdened by unwanted animals from confiscations, substandard zoo enclosures, unwanted “gifts”, etc. Many of these animals which come to a zoo in this fashion are ill, unfit (both psychologically and physically), old, unbreedable, of uncertain genetic makeup, etc. In order to have an effective conservation breeding programme, zoos need the freedom and flexibility to plan their breeding strategy and acquire animals which fit their conservation policy and mission statement.

3. Indian zoos are, or believe themselves to be, at the mercy of the public, politicians and uninformed policy makers. They are, or believe themselves to be, constrained to exhibit popular, large-bodied animals of varying conservation potential, rather than concentrate on animals which are of lesser attractiveness but far higher feasibility for meaningful conservation action, such as threatened small mammals, for example.

4. Indian wildlife experts and enthusiasts connected to zoos become unduly fascinated with spectacular or unusual mammal forms, such as white tigers, black leopards, albino sloth bears, etc. Ironically, coordinated

scientific breeding technology with careful observation of genetic (if not demographic) factors has been brought to a successful conclusion only in the instance of the white tiger after years of inbreeding threatened to wipe them out in captivity itself, whereas it has not been taken seriously with any other species. White tigers had enormous economic and exhibition value, which may have been factors in this success. Fascination with these kinds of anomalies in the animal world detracts from a focus towards species specific projects of genuine conservation value.

5. The Indian conservation community, both official and non-official, has a contentious attitude towards zoos and captive breeding. Knowledgeable and experienced representatives from the zoo community are infrequently consulted (and that too often at a much later stage than is optimal for conservation projects involving captive born stock (example, Indian rhinoceros, Manipur brow-antlered deer, Barasingha reintroduction programmes). The entire process of reintroduction or supplementation to strengthen or supplement wild populations or to introduce endangered species to an alternative habitat is very poorly understood and, as a result, condemned to making mistakes which would doom the project to failure.

Thus, while it is on paper that zoos are an integral part of the country's conservation scenario, in reality the subject is not taken seriously in any sense by the wildlife community, or even, from a genuine conservation perspective, by themselves.

6. Zoos have not prioritised their animals according to any systematic methodology. It is hoped that this CAMP Workshop output will provide a guide for prioritisation of species relative to captive breeding.

It is unfortunate that captive breeding is so poorly known and misunderstood. As illustrated by earlier discussions, most Indian mammals are small and, for the most part, completely harmless to man. Some of the small mammals are easy or relatively easy to maintain and breed in captivity and are inexpensive as well. They are a group of organisms for which reintroduction could be a real possibility without most of the problems which confront some of the large mammals such as carnivores. Considering the rapidity and scope of small mammal decline and the percentage of threatened bats, squirrels, rats and shrews, captive breeding could provide a degree of security with minimal cost and danger, either to animal or man.

Captive breeding recommendations are at 5 levels, Level 1, 2, 3, 4 and 5 (see detailed definition in the Appendices at the end of this report). Level 1 is for taxa to be interactively managed *in situ* and *ex situ* so as to retain 90% genetic diversity for 100 years. Level 2 is for *ex situ* populations to be infused with fresh genetic material from the wild so as to retain sufficient diversity. Level 3 is not meant for immediate conservation action but only for husbandry, research (development of breeding technique, etc.) and education to be implemented at some later time for conservation if the taxon declines and has to be taken to a higher threat category. Level 4 is for commercial and sustainable utilisation. Level 5 and sub-levels apply to management in order to limit or reduce captive stocks.

In this CAMP Workshop a different strategy for dealing with the subject of captive breeding was employed. Participants did not have much experience or knowledge of captive collections. Also time was a constraint in the five-day workshop to assess 400 species of mammals. Participants agreed that Workshop Facilitators would fill in the captive breeding information with recent data from the Central Zoo Authority Mammal Inventory, 1997 and records of the world's zoos from the International Species Information System. This has been done and many species for which it was thought there were none in captivity have a reasonable population, either in Indian zoos or in abroad zoos or both.

Regarding recommendations in the Captive Breeding Section, a uniform standard has been applied according to a scientific format and by consulting the IUCN Policy Statement on Captive Breeding. The essence of the Policy Statement which guided recommendations for captive breeding is "Habitat protection alone is not sufficient if the expressed goal of the World Conservation Strategy, the maintenance of biotic diversity, is to be achieved. Establishment of self-sustaining captive populations and other supportive intervention will be needed to avoid the loss of many species, especially those at high risk in greatly reduced, highly fragmented, and disturbed habitats. Captive breeding programmes need to be established before species are reduced to critically low numbers, and thereafter need to be coordinated according to sound biological principles, with a view to the maintaining or re-establishment of viable populations in the wild." (IUCN, 1987)

The Policy Statement also includes this comment: "The vulnerability of small populations has been consistently under-estimated. This has erroneously shifted the timing of establishment of captive populations to the last moment, when the crisis is enormous and when extinction is probable. Therefore, timely recognition of such situations is critical, and is dependent on information on wild population status." The CAMP workshop reported here provides the necessary information on wild mammal populations for zoos to prioritise species and begin effective conservation breeding.

The standard used for captive breeding recommendation is:
- Threatened species (CR, EN, VU) have been (with exception of whales) recommended for captive breeding. Most of these have been recommended for Level 1 captive breeding which involves genetic and demographic management to retain 90% genetic diversity for 100 years so that taxa can be interactively managed to

strengthen or supplement wild populations. Only a few special cases have been recommended for Level 2 in which captive populations are to be infused with fresh genetic material from the wild so as to retain sufficient diversity for future use if required at Level 1. This is in keeping with the IUCN Policy Statement: "Conservation over the long term will require management to reduce risk, including *ex situ* populations which could support and interact demographically and genetically with wild populations."

- Lower risk-near threatened (LR-nt) species all have been recommended for captive breeding at Level 3 or for education, husbandry and research. This is in keeping with the IUCN recommendation that "Management to best reduce the risk of extinction requires the establishment of supporting captive populations much earlier, preferably when the wild population is still in the thousands."

- Lower risk-least concern (LR-lc) species have been given a "No" captive breeding recommendation without exception. Some participants had suggested that these species also be recommended for education, husbandry and research. It is a certainty that they will continue to be kept regardless of recommendations, due to cultural and administrative reasons. A recommendation based on scientific principles rather than on sentiment or convenience should go on record. The table below illustrates how certain common species are proliferating without limit in zoos. The World Zoo Conservation Strategy comments on the issue of common species: "(Zoo) space is very limited and careful choice of species for *ex situ* conservation support is required. ... the conservation community should determine which species would benefit most from support by *ex situ* programmes."

Further, we have created an additional Level 5 which recommends that specific measures be taken to *reduce* growth of certain captive populations and even reduce current numbers by some means. Indian zoos are overwhelmed with common species which take up space and resources which could be devoted to breeding endangered species more systematically and scientifically. There are, for example, more than 6000 spotted deer in Indian zoos while certain Critically Endangered species are so few that they do even make up pairs in zoos, much less viable breeding populations. Indian zoo managers may derive some moral and political support from the workshop recommending that they reduce the number of common species in their zoo. This has been and is a major problem for zoo managers.

Data deficient species and Not evaluated species have all been given a "Pending" recommendation as no decision can be made until the category is known.

Table 5. Captive breeding recommendations for mammals

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 5.1	Level 5.2	Pend.	No
INDIAN ENDEMICS									
CR	7	2	0	0	0	0	0	0	0
EN	10	0	0	0	0	0	0	0	0
VU	15	0	1	0	0	0	0	1	0
LRnt	0	0	3	0	0	0	0	0	0
LRlc	0	0	0	0	0	0	1	0	4
DD	0	0	0	0	0	0	0	10	0
Ex	0	0	0	0	0	0	0	0	0
NON-ENDEMICS									
CR	13	2	0	0	0	0	0	1	0
EN	19	0	0	0	0	0	0	1	1
VU	30	1	7	0	0	0	0	4	0
LRnt	4	0	64	0	0	0	0	17	3
LRlc	1	0	2	0	2	1	4	0	48
DD	1	0	0	0	0	0	0	85	4
EX	1	0	0	0	0	0	0	0	0

Table 6. Level of difficulty in breeding mammals in captivity

Level of difficulty	Level 1	Level 2	Level 3	Unknown
INDIAN ENDEMICS				
CR	4	1	0	3
EN	1	1	0	8
VU	1	2	0	14
LRnt	0	1	0	2
LRlc	1	0	0	4
DD	0	0	0	10
EX	0	0	0	1
NON-ENDEMICS				
CR	2	6	5	3
EN	2	1	7	11
VU	3	5	2	11
LRnt	10	7	19	33
LRlc	12	3	1	56
DD	1	1	1	42
EX	0	1	0	86

This subject of species prioritisation for captive breeding is not simple. Many species, which have been recommended in this document according to their conservation status alone, could not be maintained at the present level of zoo management in this country and, in the case of some delicate and difficult species such as bats, in any country. In this regard it is the act of stating that a Critically Endangered species requires man management which is important in a scenario where captive breeding is neither completely understood or given the importance it deserves.

Of the threatened taxa, a total of 115 taxa (36 endemic taxa and 79 non-endemic taxa) were recommended for conservation breeding. Conservation breeding was recommended for 59% of endemic species as compared with 21.5% of taxa not endemic to India. For the latter (non-endemic species) there were more recommendations for keeping them for education, research and husbandry. No taxon was recommended for sustainable or commercial harvest. Twenty-five percent of mammals which are currently kept in Indian zoos were recommended for population control or phasing out of the captive population.

Participants could identify only 37 (7 endemic and 30 non-endemic) out of 372 taxa for which captive breeding technology was well known. Of these 37, some of the knowledge exists outside the country and has never been successfully assimilated and applied in India.

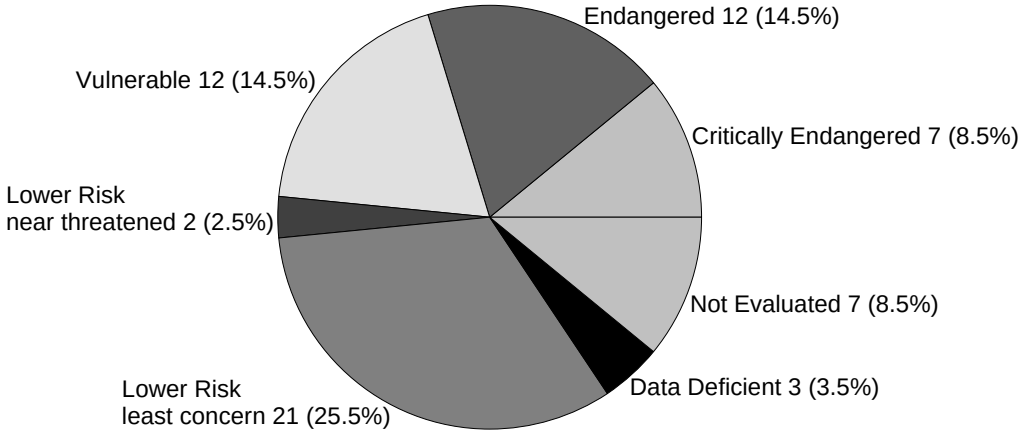
Table 7. ABC List of Indian Mammals held in Indian zoos as per Central Zoo Authority

Common name	Scientific name	IUCN	No. of Zoos	No. of pairs	M. F. Unk	Total
Antelope, Four horned	*Tetracerus quadricornis*	LR-nt	20	7	30.34.21	85
Badger, Chinese ferret-	*Melogale moschata*	EN	1	1	1.1.0	2
Badger, Honey; Ratel	*Mellivora capensis*	LR-nt	11	4	15.5.3	23
Bear, Himalalyan black	*Ursus thibetanus*	LR-lc	39	30	73.67.10	150
Bear, Himalayan brown	*Ursus arctos*	LR-nt	5	2	6.2.0	8
Bear, Sloth	*Melursus ursinus*	VU	48	29	68.55.16	139
Bear, Sun	*Helarctos malayanus*	DD	3	0	0.2.3	5
Binturong	*Arctictis binturong albifrons*	DD	8	1	5.6.0	11
Black buck	*Antilope cervicapra*	LR-lc	78	49	262.30.290	854
Boar, Wild	*Sus scrofa*	LR-lc	23	18	73.139.118	330
Cat, Fishing	*Prionailurus viverrinus*	VU	5	2	6.5.0	11
Cat, Goldent	*Catopuma temmincki*	NE	2	0	2.0.0	2
Cat, Jungle	*Felis chaus*	LR-nt	24	5	20.10.10	40
Cat, Leopard	*Prionailurus bengalensis*	LR-nt	20	11	36.45.9	90

Common name	Scientific name	IUCN	No. of Zoos	No. of pairs	M. F. Unk	Total
Civet, Common palm	*Paradoxurus hermaphroditus*	LR-lc	34	18	48.33.15	96
Civet, Himalayan palm	*Paguma larvata*	LR-lc	4	2	2.3.1	6
Civet, Large Indian	*Viverra zibetha*	VU	2	0	1.0.1	2
Civet, Small Indian	*Viverricula indica*	LR-nt	19	2	12.9.16	37
Deer, Barking	*Muntiacus muntjak*	LR-lc	54	33	115.154	424
Deer, hog	*Axis porcinus*	LR-nt	36	25	106.123.36	265
Deer, Manipur ; Sangai	*Cervus eldi eldi*	CR	14	9	41.76.7	124
Deer, Mouse	*Moschiola meminna*	LR-nt	4	1	4.1.1.	6
Deer, Musk	*Moschus chrysogaster*	CR	3	2	12.9.0	21
Deer, Sambar	*Cervus unicolor*	LR-lc	88	55	438.554.228	1220
Deer, Spotted	*Axis axis*	LR-lc	161	95	1793.2277.2294	6364
Deer, Swamp	*Cervus duvauceli duvauceli*	EN	8	6	33.45.2	80
Deer,Indian Red; Hangul	*Cervus elaphus hanglu*	CR	1	0	1.0.0	1
Dhole, Wild dog	*Cuon alpinus*	LR-nt	4	3	2.8.9	19
Elephant, Asian	*Elephas maximus*	VU	26	14	28.56.0	84
Flying fox	*Pteropus giganteus giganteus*	LR-nt	2	0	0.0.22	22
Fox, Common	*Vulpes bengalensis*	LR-nt	19	7	14.16.11	41
Gaur	*Bos gaurus*	VU	5	2	8.7.0	15
Gazelle, Indian; Chinkara	*Gazella bennettii*	LR-lc	24	13	48.69.40	154
Gibbon, Hoolock	*Hylobates hoolock*	EN	9	1	5.5.0	10
Goral	*Naemorhedus goral*	NE	7	4	13.11.7	31
Hare	*Lepus nigricollis*	LR-lc	7	5	29.28.47	104
Hedgehog, Long-eared	*Hemiechinus collaris*	LR-lc	2	1	1.2.4	4
Hyaena, Striped	*Hyaena hyaena*	LR-nt	45	32	61.59.21	141
Jackal	*Canis aureus*	LR-lc	44	22	64.56.33	1153
Langur, Capped	*Trachypithecus pileatus*	LR-nt	15	4	12.14.0	26
Langur, Golden	*Trachypithecus geei*	CR	10	4	9.8.0	17
Langur, Hanuman	*Semnopithecus entellus*	LR-lc	36	25	78.56.19	153
Langur, Nilgiri	*Trachypithecus johnii*	VU	9	4	13.9.4	26
Leopard, Clouded	*Neofelis nebulosa*	LR-nt	7	3	9.4.0	13
Leopard, Snow	*Uncia uncia*	EN	1	1	4.4.0	8
Lion, Asiatic	*Panthera leo persica*	CR	14	9	33.68.0	101
Loris, Slender	*Loris tardigradus*	LR-nt	3	1	1.5.3	9
Loris, Slow	*Nycticebus coucang*	LR-nt	11	6	16.13.3	32
Lynx	*Lynx lynx isabelina*	EN	1	0	2.0.0	2
Macaque, Assamese	*Macaca assamensis*	LR-nt	17	7	44.24.6	74
Macaque, Bonnet	*Macaca radiata*	LR-lc	44	32	152.94.186	432
Macaque, Crab - eating	*Macaca fascicularis umbrosa*	CR	1	1	10.7.0	17
Macaque, Lion tailed	*Macaca silenus*	EN	22	13	34.34.6	74
Macaque, Pig tailed	*Macaca nemestrina*	DD	9	5	9.1.0	10
Macaque, Rhesus	*Macaca mulatta*	LR-lc	76	48	204.176.83	463
Macaque, Stump tailed	*Macaca arctoides*	LR-nt	14	8	23.18.0	41
Martin, Yellow throated	*Martes flavigula*	LR-lc	1	1	1.0.0	2
Mongoose, Common	*Herpestes edwardsii*	LR-lc	9	6	30.37.7	74
Mongoose, Crab eating	*Herpestes urva*	VU	1	0	1.0.0	1
Nilgai	*Boselaphus tragocamelus*	LR-lc	57	39	199.240.92	531
Otter, Common	*Lutra lutra*	NE	13	5	17.10.4	31
Otter, Smooth Indian	*Lutrogale perspicillata*	NE	3	1	4.2.0	6
Panda, Red	*Ailurus fulgens fulgens*	VU	2	1	5.6.0	11
Pangoline, Indian	*Manis crassicaudata*	LR-nt	6	0	3.3.16	22
Panther	*Panthera pardus*	VU	58	43	152.13.28	310
Porcupine	*Hystrix indica*	LR-lc	53	30	73.73.105	251
Porcupine, Brush tailed	*Atherurus macrourus*	EN	2	1	2.1.0	3
Rhino, Indian	*Rhinoceros unicornis*	EN	12	6	23.12.0	35
Serow	*Naemoredus sumatrensis*	VU	1	1	1.2.0	3
Sheep, Blue	*Pseudois nayaur*	LR-lc	1	0	1.0.0	1
Squirrel, 5-striped palm	*Funambulus pennantii*	LR-lc	2	1	2.1.0	3
Squirrel, Grizzled giant	*Ratufa macroura dandolena*	EN	6	1	3.5.2	10
Squirrel, Indian giant	*Ratufa indica indica*	VU	7	3	8.4.1	13
Squirrel, Malayan giant	*Ratufa bicolor gigantea*	VU	3	2	3.2.1	7

Common name	Scientific name	IUCN	No. of Zoos	No. of pairs	M. F. Unk	Total
Tahr, Himalayan	*Hemitragus jemlahicus*	LR-nt	1	0	1.1.0	2
Tahr, Nilgiri	*Hemitragus hylocrius*	EN	1	0	2.0.0	2
Takin	*Budorcas taxicolor*	EN	1	0	1.0.0	1
Takin	*Budorcas taxicolor*	NE	1	0	1.0.0	1
Tiger, Bengal	*Panthera tigris*	EN	31	26	94.105.10	209
Wild ass, Indian	*Equus hemionus khur*	NE	5	1	4.7.0	11
Wolf, Indian	*Canis lupus pallipes*	LR-nt	16	7	21.20.11	52
Wolf, Tibetan	*Canis lupus chanco*	NE	1	1	10.5.0	15
Yak, wild	*Bos grunniens*	CR	5	1	4.2.0	6

Indian mammals in Indian zoos according to conservation status



Number of Indian mammal taxa in Indian zoos = 83

Special issue working groups

Special working groups were formed at the workshop to discuss issues of importance in the context of assessing and conserving mammals. Four groups were formed fthe following subjects 1. Marine mammals, 2. Indian Wildlife Protection Act, 3. Data Deficient species and 4. IUCN Red List criteria. At the end of the workshop, participants agreed to work towards mammal conservation by making personal commitments. The working group reports and the commitments are presented below.

Marine Mammal Working Group
Members: Lal Mohan and P.O. Nameer

A. Taxon sheets
a. Instead of elevation, depth would be better
b. For range and area occupied - the limits need to be increased
c. Latitude and longitude need to be included
d. Number of locations can be made only from strandings and sightings

B. IUCN criteria (revised)
a. No modifications need to be made for cetaceans.
b. Threats to be added
    Collision with ships need to be included
    Noise / sound pollution (low frequency sound) and underwater explosion
    Stranding / washed ashore may be included
    Capture for entertainment

Indian Wildlife Protection Act Working Group
Members: S. Paulraj, G. Marimuthu, G. Ramaswamy, P. Padmanaban

A. Objectives

1. To find out the species of mammals not found in the Indian Wildlife Protection Act (1972, 1991)
2. To reassess the status of a few species of mammals listed in the Act with reference to workshop categories

B. Group discussion

The following groups of mammals are to be included in the Indian Wildlife (Protection) Act

1. Much concern are the 90 - odd microchiropterans of which Otomops (137 spp) is categorised Critically endangered and and 2 species as Endangered.
2. Shrews (25) and tree shrews (3)
3. Out of the 3 species of hedge hog, 2 species are to be listed.
4. Both the 2 species of moles are to be listed
5. Generally fruit bats are listed under Schedule V as vermin. Since 12 species are present the category should be species specific.
6. A few squirrel species are to find a place. The Namdapha flying squirrel, which is assessed as Critically Endangered in the workshop, should be kept in Schedule I.
7. (Lower risk) Other category in family level
8. Data Deficient species to be treated with caution as it is not known whether they are common or critically endangered.
9. A copy of the workshop IUCN categorisation can be forwarded to the Government for information and appropriate action.
10. A copy of the Workshop identified IUCN categorisation can be forwarded to the Government for us while revising the Indian Wildlife Protection Act so that due attention is to be given to them.

Data Deficient Working Group

Members: Lal Mohan, S. Chakraborthy, M.S. Pradhan, M. Muni, K.A. Subramanian

A. Recommendations

1. Identify the Data deficient species
2. Identify specialists which have studied similar species
3. Publish in leading journals and wildlife magazines, college departments, etc. calling for information on various Data Deficient species.
4. Send data sheets to the specialists.
5. Find common and local names of the Data deficient species
6. Set up a task force for the work and provide funds for postage and office assistance
7. Keep a time limit for the information
8. Prepare a proforma for information required (attached - part B)
9. Reward the informer by sending some useful pamphlets or poster.
10. Review the status of the Data deficient species periodically and update the information
11. If the need is felt and no sufficient information is available the NGO's or government departments should be asked to develop expertise on this particular group.
12. Based on available data on the status of knowledge, the Data deficient species and the area of their occurance should be prioritised and the NGO's research organisation and interested individual should be informed and activated for the survey.
13. A data base should be developed for the Data deficient fauna
14. A list of prioritised Data deficient species should be provided to the government funding agencies to encourage or support work on DD species.
15. A short term training programme should be arranged with the held of specialists from Government and NGO's and experts (unattached). This could be done by the B.C.P.P.
16. A CAMP workshop could be organised on the Data deficient species when it is felt that sufficient additional work had been done to warrant an exercise.

B. Suggested Proforma

1. Specimen name (scientific name and common name)
2. Local name (vernacular names)
3. Specimens available (Museum, captivity, zoos)
4. Population number
5. Locality
6. Limit/ extent of area km^2)
7. Maximum length / weight
8. Food habit
9. Brood strength
10. Number of brood
11. Threats (hunting, habitat loss)
12. Information on habit and habitat
13. Trade information
14. Any other information

IUCN Red List Criteria Working Group
Members: J.C. Daniel, D.K. Lahiri-Choudhary, S.W. Sunderaj, M.M. Mansoor, S.S. Ramchandran, R. Borges, Aramugam, G.K. Joseph, V. Menon, R. Sukumar, S. Chattopadhyay

1. Instead of considering generations of population data in the numerical (lacking in figures and status, many species in the Indian scenario, the criteria should consider recently available data for categorisation. Since previous population figures are completely lacking for many species.

2. For the category A of critically endangered (CR), there is no "bench mark" data to infer a reduction of 80% in the population. Therefore asking for such precise estimate is unrealistic.

3. The Category B for Critically Endangered (CR) does not apply for larger mammals. It may be applicable for smaller mammals.

4. The A1 category of Endangered (EN), an observed, estimated, inferred, or suspected reduction of at least 50% over the last 10 years or three generations is to precise a figure and requires a degree of knowledge which does not exist.

5. In the A 2 category of endangered (EN) the prophetic vision of seeing at least 50% reduction in next ten years is of little value and is not a useful criterion.

6. There is a requirement for a separate criteria which can be used to evaluate species having significant trade (commercial) in them.

7. Criteria for assessing each taxon group a regression / relationship is determined between body size and home range or population densities. Using this a correction factor could be obtained for the categories within extent of occurrence and area of occupancy, so that for each taxon group (e.g. small rodents) they upper and lower limits for each category can be scaled down or up accordingly.

8. the major threats like hunting, hunting for food, and habitat loss have got immediate and severe impact on the population. Therefore due weightage should be given to those threats and should also be considered as a criterion for categorisation.

Recommendations
1. Survey and monitoring of all species in Schedule I for population and existing habitats.
2. Survey and monitoring of all other species specifically Data deficient species
3. Families to be distributed between various research organisations
4. An annual survey fund to be established for survey and monitoring.
5. successive CAMP workshops on mammals are to be organised in order levels taking up a smaller number of species with more specialists in those orders, so that more realistic data inputs can be ensured and also that changes which occur in the status of the species can be monitored.

Comments on the IUCN criteria by J.C. Daniels
Care must be taken to assure that classification as Vulnerable does not affect status on Schedule of the Wildlife Protection Act.

Criteria for assinging species to CR, EN, VU are not applicable to indian species of mammals under existing status of knowledge
1. We do not have data for quantification
2. We do not have data to say that a species has had 80% reduction in population based on any of the qualifying clauses
3. No precise data exists on extent of distribution / occupancy
4. Population estimates do not exist for the majority of species and those which exist are suspect

Two major recommendations would be
1. Survey and monitoring of all species on Schedule I for population and existing habitats
2. Survey and monitoring of all other species specifically Data deficient species
3. Families to be distributed between various research organisations
4. A mammal survey fund to be established for this purpose

Comments by Renee Borges
Considering the paucity of data on the biology, particularly population biology, of most mammal species, a large proportion of species have been categorised into the IUCN criteria based on 1) extent of occurrence, and 2) area of occupancy.

The upper and lower limits of areas adequate to support viable populations or to indicate the degree of threat to the species, will vary between groups of taxa, e.g. insectivores v.s. primates v.s. elephants (mega herbivores).

It is suggested that for each taxon group, a regression / relationship is determined between body size and home range (based on all available data sets) or population densities. Using this, a correction factor could be obtained for the categories (km^2) within extent of occurrence, and area of occupancy, so that for each taxon group (e.g. small rodents), the upper and lower limits for each category (km^2) can be scaled down or up accordingly.

Additionally, this regression relationship will enable more accurate projections of population sizes, which can be back-calculated from the areas of occupancy.

Comments on the IUCN criteria by Vivek Menon
A major lacuna in the existing criteria is that it does not provide for trade data to be used in the absence of quantitative population estimates. In India, population data is rarely available for many, if not most, species and to estimate or infer a reduction of a fixed percentage would be erroneous. However, for many species, quantitative data is available on numbers is trade and / or poaching figures. This data cannot, however, be used unless population reduction is first inferred or estimated.

There is, therefore, a requirement for a separate criteria which can be used to evaluate species having significant trade in them. This is particularly important as commercial trade in any species can have cataclysmic effects on it that cannot be quantified by traditional monitoring of the species.

Comments on the IUCN criteria by Mir Mansoor
1. Under the categories of Critically endangered, Endangered and Vulnerable one more condition should be introduced, which will cover those species which are although in considerable numbers, but are commercially threatened, e.g. most of cats, musk deer, etc.

2. There has been a general feeling that this categorisation may come into conflict with Indian Wildlife Protection Act, 1972, especially with regard to those species which come under Schedule I and Schedule II, Part II of this Act but are defined as Lower Risk as per the IUCN categories as assessed by the workshop.

3. No consideration has been given to species, which are being exploited at an enormous rate for biomedical research.

Personal commitments by participants to conservation in context of the workshop
- Mir Mansoor -- give more attention to illegal trade in wildlife
- G. Ramaswamy -- duty bound commitment
- Armugam -- provide information on unknown taxa
- Ramachandran -- focus on DD species
- J. C. Daniel -- provide data base from BNHS collections
- Lal Mohan -- work for establishment of a wildlife sanctuary in Kanniakumari Dist., Tamilnadu (Kodayar Wildlife Sanctuary) and to establish a reiver dolphin sanctuary in Kilsi River,
- Brahmaputra, Assam to save river dolphins.in Kodayar sections of river's in river dolphins and sanctuaries
- Westley -- provide information on biodiversity in desert region
- Nameer -- devote study to lower mammals
- Chakraborty -- collection studies of ZSI
- Chatto -- love people who love nature
- Gigi -- study DD mammals
- Pradhan -- identification of questionable mammals
- Sinha -- Information about birds and mammals
- Padmanabhan -- complete wildlife protection projects in a better way
- Manoj Muni - CAMP workshop for bats only after some time; updation of data base
- Marimuthu - Study on fruit bats - vermin or not
- Renee -- inspire students to do research
- Ravikumar -- information on fauna / flora of Lakshadweep
- Riki Krishnan -- work for conservation of bats
- Praveen -- information on flora and fauna from CAMP
- Sanjay -- IUCN revision
- Sally -- ZP Pullout for bat specialist group; develop means of explaining IUCN categories with relation to WLP Act for clear understanding for government policy; organise workshop on facilitation skills
- Arun -- Maintaining traditional skills among tribals

Conclusion

The BCPP Conservation Assessment and Management Plan Workshop for all Indian mammals was a pioneering effort in several ways. For the first time in India, and perhaps anywhere, a systematic conservation workshop was held for most of the mammals of an entire country.

The workshop was a good exercise in the application of the IUCN Categories, which are meant for all living organisms except microorganisms. Problems participants had using the categories were communicated to the Review Working Group of the Species Survival Commission, which benefited by our testing the categories on mammals. Since the categories have undergone changes from their original mammal bias to encompassing all organisms, there are problems to be addressed. Perhaps more importantly with regard to the IUCN categories, workshop participants reported that they learned a great deal about conservation biology and population dynamics which would be reflected in the kind and quality of information they aspired to collect in future field studies.

Several problems of mammal systematics and research methodology were discussed during the assessments. These discussions proved very useful in bringing together and lending focus to the participants to discuss the difficulties in subjects such as taxonomy and field methodology.

Perhaps the most useful achievements of the workshop was that it provided a forum and occasion for many mammalian field biologists and taxonomists to get together and discuss status of mammalian taxa in India; some of the researchers being referred for their knowledge for the first time.

The BCPP Conservation Assessment workshop for Indian mammals has helped in understanding the urgent need to keep current studies going, to protect threatened taxa from extinction and to manage them in the near future. Some of these taxa may not survive if timely action is not taken, that is if they are not man-managed. Many of them, because of their small population size and restricted distribution, require intensive care and habitat management and may survive only with human support.

References

CBSG (1996). Conservation Assessment and Management Plan (CAMP) Workshop Process Reference Manual. S. Ellis & U.S. Seal (eds). 2nd Indian Edition (1997), CBSG India, Coimbatore.

CZA (Unpublished). Checklist of mammals in Indian zoos.

ISIS (1997). Mammal Abstract. International Species Information System, Apple Valley, Minnesota.

IUCN (1994). IUCN Red List Categories. IUCN, Gland, Switzerland,

IUCN (1996). 1996 IUCN Red List of threatened animals. IUCN, Gland, Switzerland and Cambridge, UK, 448 pp.

Nameer, P.O. (In press). Checklist of Indian mammals.

Walker, S. (In press). History of Asian zoos and Indian natural history.

ZSI (1994). The Red Data Book of Indian animals Part 1: Vertebrata (Mammalia, Aves, Reptilia and Amphibia)

The IUCN categories and definitions to the Taxon Data Sheet

The Final version of the IUCN Red List Categories (December 1994) has evolved from inputs from specialists in different groups of taxa all over the world. Red List Categories were first introduced in the early 70s and only in 1991 a revaluation of the categories was done by Georgina Mace and Russell Lande which was called Version 1. For the first time a quantitative approach was introduced in assessing mammalian taxa. Version 2 and later versions attempted the approach of quantification for assessment for all groups of taxa except microorganisms. Non-threatened categories were also introduced during that iteration of the IUCN categories. The present version has been distinctly classified into threatened categories and non-threatened categories and a set of guidelines and criteria help in assessing the threat status of any taxa. The structure of the categories is given in Figure 1 of the Report.

The IUCN categories also give the option of assigning a taxon that is not endangered to a non-threatened category. The non-threatened categories are termed Lower Risk -near threatened, Lower Risk -least concern and Lower Risk -conservation dependent (see definitions of IUCN categories).

Definitions of the categories :
(These definitions are taken from the IUCN Guidelines for the Revised IUCN Red List Criteria but the examples have been added for this Report.)

EXTINCT (EX)
A taxon is Extinct when there is no reasonable doubt that its last individual has died. E.g. Indian cheetah

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 population) well outside the past range.

CRITICALLY ENDANGERED (CR)
A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future as defined by the criteria listed in Table 1. An example of a Critically Endangered bat from the present Report is *Biswamoyapterus biswasi,* which has been classified as such because it is restricted in its distribution in northeastern India, fragmented and declining due to change in its quality of habitat, area and extent of occurrence.

ENDANGERED (EN)
A taxon is Endangered when it is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future, as defined in the criteria listed in Table 1. The species *Macaca silenus* is Endangered and has been categorised as such because of its restricted distribution in the Western Ghats, fragmented and declining due to change in its quality of habitat, area and extent of occurrence. It is also Endangered because of restricted numbers in severely fragmented populations.

VULNERABLE (VU)
A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future, as defined by the criteria listed in Table 1. An example of a rat that is Vulnerable is *Rattus stoicus* due to population restricted to less than 5 locations in the Andaman and Nicobar islands.

LOWER RISK (LR) A taxon is Lower Risk when it has been evaluated and does not qualify for any of the above categories -- Critically Endangered, Endangered, Vulnerable -- and is not Data Deficient. There are to sub-categories for Lower Risk which will be explained below

LOWER RISK -conservation dependent (LRcd)
Taxa which do not currently qualify under any of the categories above may be classified as conservation dependent. To be considered conservation dependent, a taxon must be the focus of a continuing taxon-specific or habitat-specific conservation program which directly affects the taxon in question. The cessation of this program would result in the taxon qualifying for one of the threatened categories above. Tiger is a good example of this category because of its dependence on protection by the forest guards in the protected areas.

LOWER RISK -near threatened (LRnt)
A taxon is near threatened when it is not Critically Endangered, Endangered, or Vulnerable but is, none-the-less, felt to be facing a risk of being threatened. Species example: *Cuon alpinus dekkanensis.*

LOWER RISK -least concern (LRlc)
A taxon is considered of least concern when it is not threatened, conservation dependent or near threatened. An example of a primate classified as least concern is *Macaca radiata*.

DATA DEFICIENT (DD)
A taxon is Data Deficient when there is inadequate information for making a direct, or indirect, assessment of its risk of extinction based on its distribution and/ or population status. Example: *Alticola albicauda.*

NOT EVALUATED (NE) A taxon is Not Evaluated when it has not yet been assessed against the criteria for some reason. An example of a mammal that was categorised as Not Evaluated is *Lutra lutra*.

Application of the IUCN categories
The IUCN categories can be applied at three levels, viz. Global, Regional and National.

Global assessment: This term is used when applying the IUCN categories to a taxon in its entire distributional range. In this sense, "global" does not mean that the assessment is being made to a taxon with a "world-wide" or global distribution. For example, *Trachypithecus johnii* has a very limited distribution, found only in the southern Western Ghats, which is the "global distribution" of the species. Therefore, it has been assessed at the Global level in this workshop.

The IUCN categories work best at the Global level. This is tantamount to saying that the IUCN categories can be applied best to political endemics. Political endemics are endemics that do not have a distribution across political boundaries, that is, between nations. In this workshop all Indian endemic mammals (54 taxa) have been assessed globally.

National assessment: The term National Assessment means applying the IUCN categories to a taxon with respect to its distributional range throughout India. The present categories cannot be applied to taxa at the National level without undertaking many complex exercises. Factors such as distributional range in the neighbouring countries also needs to be known since the guidelines for categorisation at the National level takes into consideration migration of the taxon across political boundaries. Also, it is required to understand the life history of the taxa to be able to qualify for any of the criteria of Restricted Distribution, Population Estimates and Population Restriction. The exercise of a National Assessment can be undertaken only in the presence of experts with species knowledge from all the countries throughout which the taxon is distributed.

In this workshop, all non-endemic mammals (318 taxa) have been assigned IUCN categories based on National Assessment. This is because the taxa have been assessed for their complete distributional range in India and for a comprehensive National Action Plan, the assessment has been classified so.

Regional assessment: The term Regional Assessment means applying the IUCN categories to a taxon in part of its distributional range. A regional assessment, by deriving the status of the taxon for a region, which may differ from other regions in which it is found, thereby facilitates conservation activities, which can be implemented more appropriately over a smaller area. In this workshop, no mammalian taxon was assessed at the regional level.

The IUCN categories work best when applied to political endemics, as distribution range does not pose problems for assessment. Assessments for all endemics taxa (54) have been made at the Global level. The remaining non-endemic taxa (318) have been assessed Nationally. Nationally assessed taxa are denoted by the letter "N" following the IUCN category.

Criteria
The threatened categories of the IUCN Red List — Critically Endangered, Endangered and Vulnerable are derived based on 5 criteria (See Guidelines for Criteria for threat categories end of this report), viz:
A. Population reduction (PR)
B. Restricted distribution (either extent of occurence or area of occupancy) (RD)
C. Population number, restricted distribution and fluctuation (PE)
D. Adult population numbers (Mature individuals) or restricted population (RP)
E. Probability of extinction (PX)

The subcriteria within each of the above criteria vary to determine if a taxon is Critically Endangered, Endangered or Vulnerable. While assigning a threat category to a taxon, the criteria that the threat is based on is also given.

Population Reduction
Population reduction is not easy to estimate since it involves also estimation of loss of habitat and various threats affecting the population. Information from direct observation is the best source but in many cases there are no population monitoring studies and precise figures are difficult to derive. Therefore educated estimates with good reasoning is also encouraged to derive this information (See IUCN Guidelines under section Data Quality). For threatened categories, the minimum percent decline in population is 20% over 3 generations or 10 years whichever is longer. Depending on the rate of decline, the taxon is assigned a threat category (see IUCN categories chart before the Summary Data Table in the Executive Summary section).

Restricted Distribution
As per IUCN guidelines for Restricted Distribution (see definitions for Taxon Data Sheets) a taxon is assessed as threatened if it has a restricted distribution. To meet this criterion the taxa also has to qualify two of the three subcriteria (see IUCN categories chart end of this report). Restricted distribution as per IUCN is less than 20,000 sq.km. for the Extent of Occurrence and/ or less than 2,000 sq.km. for the Area of Occupancy of the taxa.

Number of locations
This subcriteria is important to know if the taxon is assessed according to the "Extent of occurrence" criteria. Any taxon distributed in less than 10 locations would qualify for a limited location distribution which would qualify it for the threatened subcriteria. Depending on the number of locations below 10, the taxon would qualify for one subcriteria under Vulnerable, Endangered or Critically Endangered categories (see IUCN guidelines end of report)

If for any taxon, the number of locations is more than ten, then the question of whether the locations are fragmented or not becomes important. According to the guidelines, a population is fragmented from the other if there is no movement of genetic material between the populations. In most cases for plants it is difficult to assess what would be the critical distance for fragmentation. Information of number of locations is purely on the participants' judgement and their view of the soil invertebrate biology and migration capability. In certain cases the concept of fragmentation is very clear while not so in others.

Number of Mature Individuals
As per IUCN guidelines for the Number of Mature Individuals (see definitions for Taxon Data Sheets) a taxon is assessed as threatened if it has less than 1,000 mature individuals. Depending on the number, the degree of threat will be assigned.

It is always very difficult to estimate the number of mature individuals especially if the taxon is small and has a short generation time. In this CAMP no invertebrate was assessed based on the number of mature individuals

Data Quality
Assessments cannot be relied upon if there is no proper methodology or facts. It is therefore important to provide an authenticated account with the results. Data Quality is of six types, viz.
a) Reliable census or monitoring
b) General field study
c) Informal field sighting
d) Indirect information (from trade, local experts, practitioners, etc)
e) Herbarium/ museum/ literature/ collection records
f) Hearsay/ popular beliefs

Research recommendations
Research recommendations for most of the taxa are made based on the amount of information available and the need for understanding and managing the taxa in the wild. This is part of the conservation action plan that the group derives after the assessment of every taxon. The recommendations are:
a) Survey (S)
b) Monitoring (M)
c) Taxonomic and morphological genetic studies (T)
d) Genetic management (G)
e) Husbandry research (H)
f) Habitat management (Hm)
g) Limiting factor research (Lr)
h) Limiting factor management (Lm)
i) Life history studies (Lh) and
j) Other taxon specific recommendations (O)
k) Population and Habitat Viability Assessment

Captive breeding recommendations
The explanation (given below) for how this part of the information sheet is filled is extracted from the CAMP Manual, which is provided to each participant . This explanation has minor revisions and explanations to enhance the relevance and comprehension for the purpose of this report. In a Workshop, short code letters are used to fill the Taxon Data Sheet to save valuable participant time of writing out textual explanations. These codes are expanded in the Report when it is produced by the Editors.

Captive breeding of animals Programme Recommendations are to be made on different levels, depending on the conservation needs of the species as reflected in the IUCN category and other information gathered at the workshop:

1. Level one recommendation

A captive population is recommended as a component of a conservation programme. This programme has a tentative goal of developing and managing a population sufficient to preserve 90% of the genetic diversity of a population for 100 years (90%/l00). The program should be further defined with a species management plan encompassing the wild and captive populations and implemented immediately with . . .

a. available stock in captivity.

If the current stock is insufficient to meet program goals, a species management plan should be developed to specify the need for . . .

b. additional founder stock either from the wild or from unrelated individuals held in facilities outside India.

If no stock is present in captivity then the program should be developed collaboratively with appropriate wildlife agencies and specialist institutions to provide . . .

c. initial founder stock either from the wild or from unrelated individuals held in facilities outside India.

2. Level two recommendations

Similar to the above except a species management plan would include periodic reinforcement of captive population with new genetic material from the wild. The levels and amount of genetic exchange needed should be defined in terms of the program goals, a population model, and species management plan. It is anticipated that periodic supplementation with new genetic material will allow management of a smaller captive/ cultivated population. The time period for implementation of a Level 2 program will depend on recommendations made at the CAMP.

3. Level three recommendations

A captive breeding programme is not currently recommended as a demographic or genetic contribution to the conservation of the species/ subspecies but is recommended for education, research, or husbandry.

4. Level four recommendations

A captive breeding programme is required for either Levels 1, 2, 3 and for sustainable utilisation to promote only captive or cultivated taxa in any form of legal trade.

5. Level five recommendations

A programme to downsize existing stock far in excess of requirement in the zoos is recommended as spatial and economic contribution to the wider zoo community. This downsizing can be done by approved methods of sterilisation or of culling if allowed and appropriate to the culture of the country in which the taxon exists.

Level 5.1 -- Depending on the species and circumstances, a nucleus stock of individuals carefully selected for genetic diversity may be maintained to insure that it is not necessary to take animals from the wild.

Level 5.2 -- If the species is of Lower risk- least concern in the wild, and individually are periodically added to the zoo population by confiscation, injury, etc. then the existing stock can be bred to extinction and only newly added animals kept for systematic breeding.

Not recommended

A captive or cultivation programme is not currently recommended as a demographic or genetic contribution to the conservation of the species / subspecies.

Pending

A decision on a captive breeding programme will depend upon further data either from a PHVA, a survey, or existing identified sources to be queried.

Level of difficulty

What is the level of difficulty in maintaining and breeding the taxon in captivity

1. Least difficult - Techniques are in place for capture or collection maintenance, and propagation of similar taxa in captivity, which ostensibly could be applied to the taxon.

2. Moderate difficulty - Techniques are only partially in place for capture or collection maintenance and propagation of similar taxa in captivity, and many techniques still need refinement.

3. Very difficult - Techniques are not in place for capture or collection, maintenance, and propagation of similar taxa in captivity and techniques still need to be developed.

Existing captive population

Number of individuals in captivity or cultivation according to the International Species Information System, Central Zoo Authority of India, or similar listing.

Mammals of India

Taxon Data Sheets

TAXON DATA SHEETS

1. ***Acinonyx jubatus venaticus*** **(Pocock ,1939a, Ellerman and Morrisson - Scott, 1951) — EX —** (Asiatic cheetah). **Family:** Felidae. **Taxonomic status:** Sub-species. **Habit:** Diurnal/open country. **Habitat:** Not known. **Global Distribution:** Algeria, Iran (past**:** Arabia, South west Asia, India). **Current Regional Distribution:** Does not occur in India now. **-Elevation:** Not applicable. **-Range (Sq**. **Km):** Not applicable. **-Area Occupied (Sq**. **Km):** Not applicable. **-Number of location:** Not applicable. **Population Trends - % change: -% Decline:** Not applicable. **-Time / Rate (Yrs or gens):** Not applicable. **-No of Mature Individuals:** Not applicable. **Global Population:** Not known. **Regional Population:** Completely extirpated. **Data Quality:** Records, literature. .**Recent Field Studies:** Not known. **Threats:** Not applicable. **Trade:** Not applicable. **Other Comments:** It is thought that Indian Cheetah may be the same as Iranian Cheetah. If a carcas or trophy can be located of genuine Indian Cheetah, DNA finger printing can be done to see if they are same. If so, possiblely a recovery programme exists. **Status: -IUCN: EXTINCT**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Extinct. **-RDB, International (1996):** Critically endangered. **Recommendations: -Research management:** DNA fingerprinting of trophies or carcas of Indian Cheetah. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1 . **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** Suitable habitat for reintroduction should be located. None in Indian zoos. Some said to be in Iranian zoos. African subspeices is breeding well in foreign zoos and techniques are well established but have not done well in Indian zoos. Indian zoos should practise on African Sub-species so that if and.when Iranian (Asian Sub-species) becomes available a full reintroduction programme may be considered. **-Name of facilities:** —. **Sources (Refer Appendix):** 243, 221. **Compilers:** N.V.K. Ashraf, G. Christopher, J.C. Daniel, R. Borges.

2. ***Ailurus fulgens fulgens*** **Cuvier, 1825 — VU/N (B1, 2a, 2b, 2c)** — (Lesser panda). **Family:** Ailuridae. **Taxonomic status:** Sub-species. **Habit:** Arboreal. **Habitat:** Mixed forest with dense bamboo undergrowth. **Global Distribution:** Nepal, Bhutan, India, Myanmar (26^0-28^0 N, 95^0 -98^0 E). **Current Regional Distribution:** Eastern Indian Himalaya . **-Elevation:** 1500-4000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** Many; Fragmented/patchy (Arunachal Pradesh, Sikkim, North Bengal, Garo Hills in Meghalaya) . **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General Field study; Informal study; Indirect information. **Recent Field Studies:** K. Kashmera, 1996 in Arunachal Pradesh; S. Pradhan ongoing in Singhalila National Park. **Threats:** Hunting; Loss of habitat Loss of habitat because of fragmentation; Trade. **Trade:** International; Commercial. **Other Comments:** Live animals used to be captured for captivity and pet trade. Probably an introduced population in Garo Hills; Sikkim -Kanchejunga NP, Lachun Lachun & Yunthong in N.Sikkim; Darjeeling - Singhalila beyond Kumbanj range. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2a, 2b, 2c** (Restricted distribution, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and quality of habitat) . **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring; Habitat management; Taxonomic and morphological .genetic studies; Life history studies. **-PHVA:** Yes, after more detailed studies. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 5.6.0 =11 in Indian zoos and 90.116.16 =222 in Zoos abroad. There is a well-monitored international programme in place with an International Red Panda Group initiating, sponsoring and conducting naming and education. Darjeeling zoo is very much part of these activities and has a plan for other Himalayan zoos to participate when captive born animals become available. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 112. **Compilers:** D. Mudappa, G. Christopher, N.V.K. Ashraf, R. Borges.

3. ***Alticola albicauda*** **(True) — DD** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Steep rocky areas near cultivation. **Global Distribution:** ENDEMIC to India . **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 3350 m. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/reords. **Recent Field Studies:** None. **Threats:** Not known.**Trade:** No. **Other Comments:** Taxonomic of the species is not clear (Ellerman, 1961). **Status: -IUCN: DATA DEFICIENT** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk -near threatened. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 99, 214. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

4. ***Alticola montosa*** **(True) — DD/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Rocky uplands covered with coarse grass. **Global Distribution:** India, Pakisthan and Afghanistan. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 3350 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 99, 258. **Compilers:** .S. Chakraborthy, M.S. Pradhan, M. Muni, K.A. Subramanian.

5. ***Alticola roylei*** **(Royle's vole)— DD/N**— **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Open uplands and rocky grounds covered with coarse grass and also near human habitation. **Global Distribution:** India, China, Afghanistan, Turkistan. **Current Regional Distribution:** Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh. **-Elevation:** about 3800 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 44, 99, 258 . **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

6. ***Alticola stoliczkanus*** **(Blanford) —DD/N** — (Stoliczka's vole). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Boulders in extremly high altitudes, preferably close to streams. **Global Distribution:** India, China and Nepal. **Current Regional Distribution:** Jammu & Kashmir, Sikkim. **-Elevation:** 5000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 5 (specific locations). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** Also includes information of *Alticola stoliczkanus stracheyi* which is considered a sub-species of *A. stoliczkanus*. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 44, 99, 214. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

7. ***Amblonyx cinereus*** **Illiger, 1815 — NE/N** — (Small clawed otter). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Diurnal, Aquatic. **Habitat:** Himalayan foot hills and higher elevation of hill ranged in Western Ghats, streams, rivers, tanks, flooded paddy fields. **Global Distribution:** India, Myanmar, China and Malay countries. **Current Regional Distribution:** From Kulu eastwards to northwest Bengal, Northeastern India, South central, western Ghats. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies (Srikumar Chattopadhyay, 1985 in Mizoram). **Recent Field Studies:** Not known. **Threats:** Trade. **Trade:** Local. **Other Comments:** This taxon was referred to Hussain for more information by the group. But information was not provided. **Status: -IUCN: NOT EVALUATED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Least difficult. **Existing Captive Population:** in India but 109.110.42 = 261 in 56 zoo abroad. **-Name of facilities:** . **Sources (Refer Appendix): —**. **Compilers:** N.V.K. Ashraf, D. Mudappa, G. Christopher, S. Chattopadhyay**.**

8. ***Anathana ellioti*** **— LRnt** — (Indian tree shrew). **Family:** Tupaiidae . **Taxonomic status:** Species. **Habit:** Terrestrial, arboreal and diurnal. **Habitat:** Scrub jungle, dry and moist deciduous forests and shola forests. **Global Distribution:** ENDEMIC to Peninsular India, south of Ganges. **Current Regional Distribution:** Gujarat, Maharashtra, Madhya Pradesh, Orissa, Bihar, Andhra Pradesh, Karnataka, Tamil Nadu, Kerala. **-Elevation:** 1500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 15 (Isolated populations); Fragmented. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Many. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Museum/collection/records. **Recent Field Studies:** S. Chakraborty in Andhra Pradesh; M.S. Pradhan, 1993-96 in Melghat Tiger Project; M.S. Pradhan, 1994-97 in Tadoba Tiger Reserve; R. Arumugam, 1997 in Avalanchi Guest House Shola in Nilgiris; S. Paulraj, 1997 in Salem District, Tamil Nadu. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** No. **Other Comments:** — . **Status: -IUCN: LOWER RISK - NEAR THREATENED** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Taxonomic and morphological genetic studies; Life history studies; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 84, 98, 261. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

9. ***Anourosorex squamipes*** **Milne-Edwards — VU/N (B1, 2c)** — **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial, fossorial. **Habitat:** Mainly in forest, burrowing in leaf-litter and topsoil. **Global Distribution:** India, Bhutan, China, Taiwan, Thailand, Vietnam. **Current Regional Distribution:** Assam, Meghalaya, Arunachal Pradesh, Manipur. **-Elevation:** 300-000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 5; Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies, Indirect information. **Recent Field Studies:** Not known. **Threats:** Loss of Habitat; Human interference; Loss of habitat because of fragmentation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and

morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 89, 98,110,127, 206 . **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

10. ***Antilope cervicapra*** **— LRlc/N** — (Black buck). **Family:** Bovidae . **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Flat, open area mainly grasslands water dependant. **Global Distribution:** India, Pakistan and Nepal. **Current Regional Distribution:** Peninsula India. **-Elevation:** <1000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many (in 13 states). **Population Trends - % change: -% Decline:** Generally increasing. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** > 15,000. **Global Population:** Not known. **Regional Population:** About 50,000 individuals. **Data Quality:** General field study; Indirect Information. **Recent Field Studies:** Many. **Threats:** Hunting; Loss of habitat. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** . **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Translocations; Monitoring; Limiting factor management; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 5.2. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 262.302.290 =854 in 78 Indian zoos and 273.544.84 =901 in zoos abroad. Indian captive population highly inbred and diseased. Needs population control to some space, finance and other resources for endangered species. **-Name of facilities:** Refer Appendix. **Sources (Refer Appendix):** 279(ii). **Compilers:** J.C. Daniel, N. Sivaganesan, P.S. Easa, L. Choudhury, V. Menon, R.S. Lal Mohan, M. Mishra, S. Walker.

11. ***Apodemus draco*** **(Berrett-Hamilton) — VU/N (D2)** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** In and around human dwellings in tropical rain forests. **Global Distribution:** India, China, Myanmar. **Current Regional Distribution:** Arunachal Pradesh. **-Elevation:** 3000 m. **-Range (Sq**. **Km):** < 100. **-Area Occupied (Sq**. **Km):** < 10. **-Number of location:** 1 (Mishmi Hills). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to a single location and area less than 100 sq.km.) . **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 214 .**Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

12. ***Apodemus sylvaticus*** **(Linnaeus) — DD/N** — (Thomas wood mouse).Apodemus flavicollis rusiges, Miller .Macromys sylvaticus Wardi.Apodemus wardi. **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Near human dwellings and also jungle at high altitudes. **Global Distribution:** India, Nepal, Pakistan, Afghanistan to Western Paleartic region. **Current Regional Distribution:** Indian Himalaya. **-Elevation:** 4000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

13. ***Arctictis binturong*** **albifrons (Cuvier) — DD/N** — (Binturong). **Family:** Viverridae. **Taxonomic status:** Sub-species. **Habit:** Arboreal, Nocturnal. **Habitat:** Dense, Evergreen (Moist deciduous forest). **Global Distribution:** Nepal, India, Bhutan, Myanmar, Malaysia. **Current Regional Distribution:** Sikkim, Assam, Arunachal Pradesh. **-Elevation:** Up to 2300 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field sightings; Indirect Information; Museum/collection/records. **Recent Field Studies:** None. **Threats:** Hunting; Loss of habitat; Loss of habitat because of fragmentation; Trade. **Trade:** International . **Other Comments:** Habitat specialist, dependent on moist forests. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Life history studies, Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Moderate difficulty. **Existing Captive Population:** 5.6.0 =11 in 8 zoos in India and 100.82.7 = 189 in 51 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 242. **Compilers:** N.V.K. Ashraf, A.K. Chakravarthy, R. Borges, G. Christopher.

14. ***Arctogalidia trivirgata millsi*** **(Wroughton) — VU/N (B1, 2c; D2)** — (Small-toothed palm civet). **Family:** Viverridae . **Taxonomic status:** Sub-species. **Habit:** Arboreal, nocturnal. **Habitat:** Dense forests. **Global Distribution:** Myanmar, India, Laos, Malaya peninsular, Borneo. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 1 (Naga Hills, Assam). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records (Pocock, 1941). **Recent Field Studies:** None. **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** The species present distribution within Indian limits must be established through

surveys. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, single location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); **D2**(Population restricted to single location). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Taxonomic and morphological genetic studies; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 232. **Compilers:** N.V.K. Ashraf, G. Christopher, D. Mudappa, R. Borges.

15. ***Arctonyx collaris*** **F.G. Cuvier, 1825 — DD/N** — (Hog badger/Bear-pig). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Terrestrial, Nocturnal, Fossorial. **Habitat:** Rocky patches in forests. **Global Distribution:** Myanmar, Tibet, China, India,Thailand, Malaysia, Sumatra. **Current Regional Distribution:** Sikkim, Himalaya. **-Elevation:** Not known. **-Range (Sq. Km):** Not known. **-Area Occupied (Sq. Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records; literature. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None currently listed in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 232, 242. **Compilers:** N.V.K. Ashraf, G. Christopher, R. Borges.

16. ***Atherurus macrourus assamensis*** **Thomas — EN (B1, 2b, 2c, 2d)** — (Brush-tailed porcupine). **Family:** Hystricidae. **Taxonomic status:** Sub-species. **Habit:** Fossorial. **Habitat:** Rain forests in hilly region. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Meghalaya, Arunachal Pradesh. **-Elevation:** about 2600 m. **-Range (Sq. Km):** < 5,000. **-Area Occupied (Sq. Km):** < 500. **-Number of location:** 2 (Isolated) (Specific location). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** Dutta (1996) in Arunachal Pradesh; **Threats:** Loss of habitat (in Cherapunji). **Trade:** Not known. **Other Comments:** Considered as uncommon (Prater, 1980). Fauniestic survey in its habitats for last 30 years by the ZSI could not find single speciment except some quills. It appears that its population has declined to a great extent and as much should be considered as EN. **Status: -IUCN: ENDANGERED** . **-Criteria based on: B1, 2b, 2c, 2d** (Restricted distribution, limited location, continuing decline observed in extent of occurrence, area of occupancy and quality of habitat). **-CITES:** No. **-IWPA (1972;91):** Scheduel II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None currently. Previously kept and bred in Ahmedabad zoo. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 244. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

17. ***Axis axis*** **(Erhleben, 1777) — LRlc/N** — (Spotted deer, chital). **Family:** Cervidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** moist and dry decidous forests. **Global Distribution:** India, Sri Lanka. **Current Regional Distribution:** Throughout India. **-Elevation:** Upto 1000 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** 20 Yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Abundant (Kerala 16,000 - KFRI '95; Tamil Nadu 3,000 - Tamil Nadu Forest.Dept., 96; Mudumalai Wildlife Sanctuary 3,500). **Data Quality:** Reliable census; General field study. **Recent Field Studies:** Forest Dept. of Tamil Nadu - Census; Sankaraman & Sukumar, IISc, 1996 -97; K. Sankar, WII, 1988-90; Surendravarman & Sukumar, since 1988 in Mudumalai; Niohug, 1986-88. **Threats:** Cattle grazing; Disease; Human interference; Hunting for food; Loss of habitat because of exotic plants. **Trade:** Not known. **Other Comments:** Not in the Kerala forests from Periyar to Southern end Neyyar Wildlife Sanctuary). **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 5.2. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 1793.2277.2294 = 6364 in 95 indian zoos. Cervus axis axis 181.252.27 =460 .in 23 zoos, *Cervus axis axis* (no sub-species) 347.523.44 = 914 in 39 zoos .abroad/Indian zoo population needs management to reduce it drastically to make space and resources for endangered species. **-Name of facilities:** Refer Appendix. **Sources (Refer Appendix):** 207 (xviii). **Compilers:** J.C. Daniel, S.Sivaganesan, E.A. Jayson, A. Venkatraman, G. Ramaswamy,.V. Menon, S. Paulraj, R.S. Lal Mohan, M.M. Mansoor, S. Varman.

18. ***Axis porcinus*** **(Zimmermann, 1780) — LRnt/N** — (Hog deer). **Family:** Cervidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Alluvial grass plains of northern India, riverine. **Global Distribution:** India, Pakistan, Sri Lanka, Southeast Asia, China. **Current Regional Distribution:** Terai of Northern and northeastern India. **-Elevation:** < 100 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many . **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Common in Protected Areas (Mansoor Jal-500,Kazi-1000, Cor-1000). **Data Quality:** Reliable census; General field study. **Recent Field Studies:** Not known. **Threats:** Hunting for food; Loss of habitat. **Trade:** No. **Other Comments:** The species is mainly living in protected areas and is depending on conservation of grass lands. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule III. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Life history studies; Limiting factor research; Habitat management. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 106.123.36 =265 in 36 indian zoos and 94.96.22 =214 in 17 zoos abroad. Needs management in India. **-**

Name of facilities: Refer Appendix. **Sources (Refer Appendix):** 207 (xvii). **Compilers:** J.C. Daniel, S.Sivaganesan, E.A. Jayson, A. Venkatraman, G. Ramaswamy,.V. Menon, S. Paulraj, R.S. Lal Mohan, M.M. Mansoor.

19. ***Balaenoptera acutorostrata*** **Lace'pe'de, 1804 — LRnt/N** — (Minke Whale). **Family:** Balaenopteridae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic. **Global Distribution:** Tropical, Temperate and polar seas. **Current Regional Distribution:** East and west coasts of India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Indirect information. **Recent Field Studies:** None. **Threats:** Whaling; Collision with ships; Sound pollution; Trade. **Trade:** International. **Other Comments:** Recorded from carcases washed ashore; Generally uncommon in Indian waters. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower Risk near threatened. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 6, 133. **Compilers:** R.S. Lal Mohan, J.C. Daniel, S. Paulraj, G. Ramaswamy, R. Borges.

20. ***Balaenoptera edeni*** **Anderson, 1879 — LRnt/N** — (Bryde whale). **Family:** Balaenopteridae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic, Pelagic. **Global Distribution:** Circum equatorial in tropical and warm temperate waters between 40^0 N & 40^0 S. **Current Regional Distribution:** Along east and west coasts of India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Indirect information. **Recent Field Studies:** Reported from washed-ashore specimens and sightings in the wild .(Lal Mohan, personal observation); one skeleton collected and assembled in.CMFRI, Mandapam CAMP. **Threats:** Hunting; Collision with ships; Sound pollution. **Trade:** Not known. **Other Comments:** Generally uncommon in Indian waters. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Data deficient. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 133, 201. **Compilers:** R.S. Lal Mohan, R. Borges,J.C. Daniel, G. Ramaswamy, S. Paulraj

21. **Balaenoptera borealis Lesson, 1828 — LRnt/N** — (Sie whale). **Family:** Balaenopteridae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic, pelagic. **Global Distribution:** World wide, temperate, subtropical. **Current Regional Distribution:** East and west coasts of India. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Declining. Hunted in Antartic seas. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Indirect information. **Recent Field Studies:** None. **Threats:** Hunting (Collision with ships, Sound pollution); Trade. **Trade:** International. **Other Comments:** Indian ocean forms part of migratory pathway for the species which comes to tropical waters for calving. Naturally not very common in Indian territorial waters. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 6. **Compilers:** R.S. Lal Mohan, J.C. Daniel,G. Ramaswamy, S. Paulraj, R. Borges.

22. ***Balaenoptera musculus*** **(Linnaeus, 1758) — CR/N (A1b, 1d)** — (Blue Whale). **Family:** Balaenopteridae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic. **Global Distribution:** Temperate, Tropical, World wide. **Current Regional Distribution:** East and west coasts of India. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** 80% . **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** < 250. **Regional Population:** < 250. **Data Quality:** Informal field sightings; Indirect information; Records. **Recent Field Studies:** None. .**Threats:** Hunting; Sound pollution; Trade. **Trade:** International. **Other Comments:** Records from carcasses washed ashore, Generally uncommon in Indian waters. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: A1b, 1d** (Population reduction due to decline in abundance due to actual or potential levels of exploitation). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 168, 169. **Compilers:** R.S. Lal Mohan, J.C. Daniel,G. Ramaswamy, S. Paulraj, R. Borges.

23. ***Balaenoptera physalus*** **(Linnaeus, 1758) — LRnt/N** — (Fin whale). **Family:** Balaenopteridae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic. **Global Distribution:** Worldwide Tropical, Temperate. **Current Regional Distribution:** East and west coasts of India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Indirect information. **Recent Field Studies:** None. **Threats:** Hunting; Collision with ships; Sound pollution. **Trade:** Not known. **Other Comments:** Records known from carcasses washed ashore ocasionally. not very common along Indian coast. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International**

(1996): Endangered. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 168, 227. **Compilers:** R.S. Lal Mohan, J.C. Daniel, S. Paulraj, G. Ramaswamy, R. Borges.

24. ***Bandicota bengalensis*** **(Gray & Hardwicke) — LRlc/N** — (Lesser-Bandicoot rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Cultivated fields, wasteland, warehouses, mangrove swamps. **Global Distribution:** India, Pakistan, Nepal, Sri Lanka, Bangladesh, East to Myanmar, Vietnam, .Malaya, Sumatra. **Current Regional Distribution:** Almost throughout India. **-Elevation:** 3500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Increasing. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Museum/collection/records. **Recent Field Studies:** UAS, 1990-97 in Karnataka; PAU, 1990 -97 in Punjab; Pradhan, 1994 -97.in Western Ghats in Tadoba & melghat Tiger Reserve, Maharashtra. **Threats:** No. **Trade:** No. **Other Comments:** This species has replaced. *Rattus rattus* in urban areas during 20th Century (Prakash, 1977; Pradhan, 1975) Deoras (1966), Seal & Banerji (1965). **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Not known. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Not known. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** . **Sources (Refer Appendix):** 27, 28, 40, 84, 99, 233. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

25. ***Bandicota indica*** **(Bechstein, 1800) — LRnt/N** — (Bandicoot rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Cultivated fields, swampy areas, forest fringes, godowns, Open & closed drainage system in urban areas. **Global Distribution:** India, China, South Asian countries. **Current Regional Distribution:** Throughout India. **-Elevation:** 3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Museum/collection/records. **Recent Field Studies:** M.S. Pradhan, 1990 in Goa. **Threats:** Interspecific competition; Loss of habitat; Pesticides. **Trade:** No. **Other Comments:** Seal & Banerji (1965), Deoras (1966) have shown a clear and steady decline of more than 50% in cites like Calcutta and Bombay. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 41, 92, 233, 273, 299. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

26. ***Barbastella leucomelas*** **(Cretzschmar, 1830) — DD/N** — (Eastern barbastella). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Afghanistan, Pakistan, Nepal, China. **Current Regional Distribution:** Sikkim, Uttar Pradesh, Meghalaya, Assam, W. Bengal, Kashmir, Rajasthan. **-Elevation:** 1800 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records (BNHS, 1916 in Darjeeling; ZSI collections 1917, 1976, 1888 . **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** . **Compilers:** G. Marimuthu, A.K. Chakravarthy, Y.P. Sinha, P. Padmanabhan, P. O. Nameer, .M. Muni, R. Krishnan.

27. ***Belomys pearsoni*** **(Gray, 1842) — LRnt/N** — (Hairy footed flying squirrel). **Family:** Pteromyidae. **Taxonomic status:** Species. **Habit:** Nocturnal Arboreal. **Habitat:** Moist, montane, temperate forests . **Global Distribution:** Nepal, Myanmar, Thailand, Vietnam, Yunnan, Hainan, India, Taiwan. **Current Regional Distribution:** Northeastern India and Sikkim. **-Elevation:** 1500-4000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented (extremely). **Population Trends - % change: -% Decline:** 20%. **-Time / Rate (Yrs or gens):** 20 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Museum/collection/records. **Recent Field Studies:** ZSI, ongoing, NE India and Sikkim; Dutta, WII, 1995 ongoing in Arunachal Pradesh. **Threats:** Disease; Human interference; Hunting; Landslide; Loss of habitat; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** Cocidai infection, Mortality rate high. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower Risk near threatened. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 322, 336. **Compilers:** N.V.K. Ashraf, S. Chattopadhyay, W. Sunderraj, K.K. Ramachandran,.R. Borges, G.K. Joseph.

28. ***Berylmys bowersi*** **(Anderson, 1879) — EN/N (B1, 2c)** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial and also arboreal. **Habitat:** Rain forests in hilly region. **Global Distribution:** India, China, Indochina, Malaya, Sumatra and Vietnam. **Current Regional Distribution:** Meghalaya. **-Elevation:** 1800 m. **-Range (Sq**. **Km):** < 5,000. **-Area**

Occupied (Sq. Km): < 500. **-Number of location:** < 5. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** No. **Threats:** Human interference. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

29. ***Berylmys mackenziei*** **(Thomas, 1916) — LRlc/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial and also arboreal. **Habitat:** Rain forest in hilly region. **Global Distribution:** India, Myanmar, Vietnam. **Current Regional Distribution:** Nagaland, Manipur. **-Elevation:** 2000 m. **-Range (Sq. Km):** < 20,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** > 5 . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** No. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 260. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

30. ***Berylmys manipulus*** **(Thomas, 1916) — DD/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Hilly region with bamboo forest. **Global Distribution:** India, Myanmar, Yunan. **Current Regional Distribution:** Nagaland, Manipur. **-Elevation:** 2000 m. **-Range (Sq. Km):** < 20,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** > 5. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** Mondal, 1994-95 . **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 260. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

31. ***Biswamoyopterus biswasi*** **(Saha, 1981) — CR (B1, 2c)** — (Namdapha flying squirrel). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Arboreal, Nocturnal. **Habitat:** Tropical rain forests. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Namdapha, Arunachal Pradesh . **-Elevation:** 600-3000 m. **-Range (Sq. Km):** < 5,000. **-Area Occupied (Sq. Km):** < 10. **-Number of location:** 1 (Gaibbon's Land). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** General field studies (ZSI, 1980-84; Riplay, 1983). **Recent Field Studies:** None. **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** Stomach content - insect and mosses. This is a recently discovered species so special attention has to be given. Home range <10 sq km. Known from one Individual. **Status: -IUCN: CRITICALLY ENDANGERED** . **-Criteria based on: B1, 2c** (Restricted distribution, single location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** CR. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Life history studies (Camera traps). **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** . **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay, G.K. Joseph.

32. ***Bos gaurus*** **Smith, 1827 — VU/N (C2a)** — (Gaur). **Family:** Bovidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Tropical moist, Evergreen dry deciduous, Shola-grass lands & Scrub. **Global Distribution:** India, Mayanmar, Malay Peninsula, Thailand. **Current Regional Distribution:** Maharastra, Central India, Western Ghats, West Bengal eastwards, Bihar, Orissa. **-Elevation:** Upto 6000 (1800 m.). **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Minimum about 4000 - 6000 (Kerala 1600; Tamil Nadu 1800, Madhya Pradesh 500, West Bengal 200, Arunachal Pradesh 200, Karnataka 1000). **Data Quality:** General field study; Informal field sightings; Hearsay/popular belief. **Recent Field Studies:** G.B. Schaller, M. Krishnan; P.S. Easa, & S.M. Vairavel, 1993-96 in Parambikulam; P.S. Easa, 1992 -97 in Periyar Tiger Reserve; Pach, WII, 1995 -ongoing in Madhya Pradesh; A.V.C. , 1996 -97; Surendra Varman & Sukumar, 1988 -96 in Mudumalai Wildlife Sanctuary. **Threats:** Cattle grazing; Disease; Flooding; Human interference; Hunting; Hunting for food; Loss of habitat; Loss of habitat because of exotic plants; Loss of habitat because of fragmentation,Trade. **Trade:** Domestic. **Other Comments:** Hybridization is a threat in Northeastern India, reported to be crop raida in Coorg, Wynad & other forest divisions in Southern India. This may lead to human-Gaur confict attention should be given to solve the problem. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2a** (Limited number of mature individuals distributed in severely fragmented forest patches containing no more than 1000 mature individuals in each locations). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Habitat management; Limiting factor management; Limiting factor research; Other (Vaccination of domestic cattle in the periphery). **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:**

8.7.0 =15 in Indian zoos and 33.65.1 =99 in zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 49(i), 154, 207(i), 245, 297(xxxii), 319(i). **Compilers:** J.C. Daniel, L. Choudhury, R.S. Lal Mohan, P.S. Easa,N. Sivaganesan, .M.M. Mansoor, G. Ramaswamy, M. Mishra.

33. ***Bos grunniens*** **(Prze Walski, 1883) — EN/N** — (Yak).Bos mutus. **Family:** Bovidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Cold desert. **Global Distribution:** India, Tibet, China, Bhutan. **Current Regional Distribution:** Ladhak, Sikkim. **-Elevation:** 4270 -6100 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 2 . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** < 250. **Global Population:** Not known. **Regional Population:** < 250 mature individuals. **Data Quality:** General field study; Hearsay/popular belief. **Recent Field Studies:** Army reports, 1993 -95 in western Sikkim. **Threats:** Disease; Genetic problem; Hybridization. **Trade:** No. **Other Comments:** Sikkim population at 18000 ft needs to be verified. The IUCN criteria of 100 km^2 for this big animal is too rigid to categorise this animal. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2a** (Very few mature individuals in fragmanted locations containing no more than 250 mature individuals with continuing decline in numbers.). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Critical. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring; G. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficulty. **Existing Captive Population:** 4.2.0 =6 in 5 indian zoos. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 183, 243. **Compilers:** M.M. Mansoor, J.C. Daniel, L. Choudhury, P.S. Easa, G. Ramaswamy, N. Sivaganesan, R.S. Lal Mohan.

34. ***Boselaphus tragocamelus*** **(Pallas, 1766) — LRlc/N** — (Nilgai, Blue bull). **Family:** Bovidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Dry deciduous and Thorn forest. **Global Distribution:** India, Pakistan. **Current Regional Distribution:** North, northeastern, northwestern, central India upto Andhra Pradesh . **-Elevation:** < 600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Increasing . **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Many. **Data Quality:** General field studies; Informal field sightings. **Recent Field Studies:** BNHS, 1985-90 in Bharatpur; WII, 1988 -90 in Haryana,ZSI, 1990-1994 in Melghat Tiger Reserve and Taboda National Park in Maharashtra. **Threats:** Disease; Hunting for food; Loss of habitat; Trade. **Trade:** Local; Domestic . **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule III. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower Risk Conservation dependent. **Recommendations: -Research management:** Translocations; Habitat management. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 199.240.92 =531 in indian zoos and 144.272.1 = 417 in zoos abroad. Species.needs management to control population. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 279(iii). **Compilers:** M. Mishra, M.M. Mansoor, J.C. Daniel, N. Sivaganesan,G. Ramaswamy, .E.A. Jayson, S. Paulraj, W. Sunderraj, L. Choudhury; R.S. Lal Mohan.

35. ***Bubalus arnee*** **Kerr, 1792 — EN — (B1, 2c)** — (Wild water buffalo).(Bubalus bubalis) . **Family:** Bovidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Grass jungles and swamps. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Central and northeastern India. **-Elevation:** <500 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 4 (Assam, Bustar (MP), Megalaya (South of Palpathram), Arunachal); Fragmented. **Population Trends - % change: -% Decline:** declining. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** <1500. **Global Population:** 1200 mature individals. **Data Quality:** Reliable census; General field studies; Hearsay/popular belief. **Recent Field Studies:** Kaziranga census report; WII - Pragh Mullay, 1994. **Threats:** Cattle grazing; Disease; Genetic problem; Hybridization. **Trade:** No. **Other Comments:** WII Field study can be verified . **Status: -IUCN: ENDANGERED** . **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Genetic management; Husbandry research. **-PHVA:** Pending . **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 207(xxv). **Compilers:** C. Misra, M. Mansoor, J.C. Daniel, C. Sivaganesan, G. Ramaswamy, E.A. Jayon, S. Paulraj, W. Sunderraj, D.K. Lahiri Choudhury, R.S. Lal Mohan.

36. ***Callosciurus erythraeus*** **(Pallas, 1779) — LRnt/N** — (Pallas squirrel). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Arboreal and terrestrial. **Habitat:** Mixed moist deciduous to temperate forests. **Global Distribution:** India, Bhutan, Myanmar, Thailand, Malaysia, Hainan, Taiwan, China. **Current Regional Distribution:** Sikkim Himalaya, Assam, Arunachal Pradesh, Mizoram. **-Elevation:** 500-2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies; Informal field sightings; Indirect Information; Museum/collection/records. **Recent Field Studies:** Dutta, 1995 in Arunachal Pradesh; Shankar Raman, 1995 in Mizoram. **Threats:** Hunting; Hunting for food; Loss of habitat. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Habitat management; Limiting factor management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 95, 277. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay,G.K. Joseph, .W. Sunderraj.

37. ***Callosciurus pygerythrus*** **(Geoffroy St**. **Hilaire, 1831) — LRnt/N** — (Irrawaddy squirrel). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Arboreal and terrestrial. **Habitat:** Riverine, Subtropical, mixed moist deciduous

and temperate. **Global Distribution:** India, Nepal, Bhutan, Myanmar, Vietnam, Yunnan. **Current Regional Distribution:** Sikkim, Assam, Northern Bengal, Arunachal Pradesh, Mizoram, Tripura. **-Elevation:** 200-2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies; Informal field sightings; Indirect Information; Museum//collection/records. **Recent Field Studies:** Dutta, WII, 1995 in Arunachal Pradesh; Shankar Raman, WII, 1995 in .Mizoram. **Threats:** Hunting; Hunting for food; Loss of habitat. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Monitoring; Habitat management. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Least difficult. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 95, 277. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay,G.K. Joseph, W. Sunderraj.

38. ***Canis aureus*** **Linnaeus, 1758 (Jackal) — LRlc/N** — **Family:** Canidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Urban, semi-urban, forest all types. **Global Distribution:** India, Pakistan, Sri Lanka, Southeast Asia, Southeast Africa. **Current Regional Distribution:** Throughout India. **-Elevation:** Up to 3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Common/abundant. **Data Quality:** General field studies. **Recent Field Studies:** AVC in Point Calimere. **Threats:** Hunting; Poisoning; Trade for parts; Trade. **Trade:** Commercial; International. **Other Comments:** Urban population reduced. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Limiting factor research; Survey; Monitoring; Others (Interaction studies with other species). **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 64.56.33 =156 in zoos in India and 7.6.0 = 13 in 4 zoos aborad. Indian zoo population needs management to save zoo space for endangered species. **-Name of facilities:** Refer appendix . **Sources (Refer Appendix):** 207(xiv). **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor.

39. ***Canis lupus chanco*** **Gray, 1863 — NE/N** — (Tibetan wolf). **Family:** Canidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Barren uplands of Kashmir, Ladakh. **Global Distribution:** India, Tibet, China, Mangolia. **Current Regional Distribution:** Sikkim and Jammu & Kashmir. **-Elevation:** Up to 5000 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 2; Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** —. **Recent Field Studies:** None. **Threats:** No. **Trade:** Not known. **Other Comments:** This taxon was referred to Jala WII, Chundawat, Usha, L. and Bahuguna for more information by the group. But information was not provided. **Status: -IUCN: NOT EVALUATED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** No. **Recommendations: -Research management:** Not known. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 10.5.0 = 15 in one zoo in India and 3.4.0 = 7 in 3 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix): —**. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor.

40. ***Canis lupus palipus*** **Sykes, 1831 — LRnt/N** — (Indian wolf). **Family:** Canidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Dry open country and deserts. **Global Distribution:** India, Pakistan, Iran, Iraq . **Current Regional Distribution:** Throughout India except in Tamil Nadu, Kerala and Northeastern India. **-Elevation:** Up to 1 ,000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many . **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Not known. **Recent Field Studies:** Jhala Y.V.1995 - onwards in Gujarat; Uttar Pradesh; Bihar; Rajasthan; Satish Sharma on going Raghu Chundawat WII . **Threats:** Human interference; Hunting; Hybridization; Loss of habitat; Poisoning; Trade for parts; Trade. **Trade:** Commercial; International . **Other Comments:** . **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Limiting factor research; Others (Awarness programme). **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 21.20.11 =52 in 16 zoos in India and 21.10.1 =33 in 5 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 207(xiii). **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor.

41. ***Cannomys badius*** **(Hodgson, 1841) — LRlc/N** — (Bay/Lesser bamboo rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Grass covered ground, in and around forests . **Global Distribution:** India, Nepal, Myanmar, Bhutan, Bangladesh, China, Vietnam, Thailand. **Current Regional Distribution:** Northeastern India. **-Elevation:** 2500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Many years. **-No of Mature Individuals:** Many. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies; Museum/collection/records. **Recent Field Studies:** Mandal & Bhattacharya , 1993-95 in Manipur & Mizoram; Chakraborty.& Chatterjee, 1994 in Sikkim. **Threats:** Loss of habitat. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive**

Breeding Recommendations: -Captive breeding: No. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 84, 100, 163, 244. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

42. ***Capra falconeri falconeri*** **(Wagner, 1839) — CR/N (C2b)** — (Markhor). **Family:** Bovidae . **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Riverine, Sub-alpine. **Global Distribution:** India, Afghanistan, Pakistan. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 2000-3500 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 1 (Uri) . **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** < 250. **Global Population:** < 250. **Regional Population:** about 100. **Data Quality:** Indirect information; Hearsay/ popular belief. **Recent Field Studies:** None. **Threats:** Disease; Hunting. **Trade:** No. **Other Comments:** . **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2b** (Restricted population number in a single location and continuing decline observed). **-CITES:** Appendix I . **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor management; Limiting factor research; .Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** None in India but 26.39.2 =67 in 4 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 183, 276. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor.

43. ***Capra falconeri kashmeriensis*** **(Wagner, 1839) — CR/N (C2b)** — (Markhor). **Family:** Bovidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Riverine, sub-alpine. **Global Distribution:** India, Afghanistan, Pakistan. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 2000-3500 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 1 (Shapean) . **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** < 250. **Global Population:** < 250. **Regional Population:** c.a. 200. **Data Quality:** Indirect information; Hearsay/ popular belief. **Recent Field Studies:** None. **Threats:** Disease; Hunting. **Trade:** No. **Other Comments:** —. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2b** (Restricted population numbers in a single location and continuing decline observed). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor management; Limiting factor research; .Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India but 1.5.0 = 6 in zoos abroad. **-Name of facilities:** —. **Sources (Refer Appendix):** 183, 276. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor, S. Paulraj,.S. Varman, L. Choudhury.

44. ***Capra ibex*** **Linnaeus, 1758 — VU/N (B1, 2c)** — (Himalayan ibex/Asiatic ibex). **Family:** Bovidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Mountain ranges . **Global Distribution:** India, Pakistan, Afghanistan, former USSR, China, Mongolia. **Current Regional Distribution:** Jammu & Kashmir, Himachal Pradesh. **-Elevation:** 3000-5500 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 3 (Ladhakh, Himachal Pradesh). **Population Trends - % change: -% Decline:** No. **-Time / Rate (Yrs or gens):** 5 to 7 yrs. **-No of Mature Individuals:** Not known . **Global Population:** Not known. **Regional Population:** 15,000-20,000. **Data Quality:** Reliable census; General field studies (Gaston, 1981). **Recent Field Studies:** N. Manjrekar, R.S. Chundawat, Y.V. Bhatnagar, 1991 - 97.Fox *et a*l, 1991-92. **Threats:** Cattle grazing; Damming; Human interference; Hunting; Huntingfor food; Interspecific competition from exotics; Loss of habitat; War. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered . **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Taxonomic and morphological genetic studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India; Species of indeterminate Sub-species in foreign zoos. **-Name of facilities:** —. **Sources (Refer Appendix):** 25(i), 180a. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor, P.S. Easa.

45. ***Caprolagus hispidus*** **(Pearson, 1839) — NE** — (Hispid hare) (Assam rabit). **Family:** Leproidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** Not known. **Current Regional Distribution:** Not known. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** —. **Recent Field Studies:** Not known. **Threats:** Not known. **Trade:** Not known. **Other Comments:** Information requested from William Oliver, S. Debroy, P.S. Lahan, Madhusudan Kutti. **Status: -IUCN: NOT EVALUATED**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Critical. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Not known. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattapodhyay, G.K. Joseph, K. Mukherjee.

46. ***Caracal caracal*** **(Schreber, 1776) — LRnt/N** — (Caracal). **Family:** Felidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Humid forest zone, Semi arid woodlands, well vegetated or rocky areas except true deserts. **Global Distribution:** Africa, Iran, Iraq, Baluchistan, Russia, Afghanistan, Pakistan, India, Saudi Arabia. **Current Regional Distribution:** Punjab, Rajasthan, Uttar Pradesh, Central India, Gujarat. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-**

Area Occupied (Sq. Km): > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Decline infered. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known . **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies; Indirect information; popular belief/hearsay; Informal field sightings (Y.V. Jhala in Gujarat; Chief Conservator of Forest; Maharashtra Forest Department in Melghat Tiger reserve) . **Recent Field Studies:** Shomita Mukherjee, 1993-95 in Sariska Tiger Reserve, Rajasthan. **Threats:** Human interference; Loss of habitat; Loss of habitat due to fragmentation; Trade. **Trade:** Domestic; Commercial; International . **Other Comments:** Pelts have been seized in Kashmir. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies; Habitat management; Limiting factor research; Limiting factor management. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 180a, 221. **Compilers:** N.V.K. Ashraf, G. Chistopher, D. Mudappa, M.M. Mansoor.

47. ***Cervus duvaucelli branderi*** **— CR (C2b)** — (Hard ground swamp deer, Barasingha). **Family:** Cervidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Forest grasslands. **Global Distribution:** ENDEMIC to Central India . **Current Regional Distribution:** Madhya Pradesh and parts of Orissa. **-Elevation:** 200 m. **-Range (Sq. Km):** < 100. **-Area Occupied (Sq. Km):** < 100. **-Number of location:** 1 (Kanha National Park). **Population Trends - % change: -% Decline:** Slow increase. **-Time / Rate (Yrs or gens):** 20 yrs. **-No of Mature Individuals:** < 250 (About 50% of total population). **Global Population:** < 500 (total population). **Data Quality:** Reliable census; General field studies (L. Martin, 1970). **Recent Field Studies:** A. Gopal, 1996; kotwal, 1990; Q. Qureshi, 1990-95. **Threats:** Disease; Genetic proplem; Interspecific competition from exotics;Predation . **Trade:** No. **Other Comments:** None. **Status: -IUCN: CRITICALLY ENDANGERED** . **-Criteria based on: C2b** (Population restricted in number of mature individuals and observed declining in its single location). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable (Assessment at species level). **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Least difficult. **Existing Captive Population:** None in India but 3.1.0 = 4 in zoos abroad. **-Name of facilities:** Calcutta zoo held a breeding herd for several decades (since about 1940) which bred small no. from same animals without infusion of fresh genetic material until the group eventually diminished. **Sources (Refer Appendix):** 207(xxi),245b. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor.

48. ***Cervus duvaucelli duvaucelli*** **G. Cuvier, 1823 — EN/N (C2a)** — (Swamp deer, Barasingha). **Family:** Cervidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Marshy grasslands, swamps. **Global Distribution:** Nepal, India. **Current Regional Distribution:** Uttar Pradesh; West Bengal; Sikkim; Assam; Meghalaya; Arunachal Pradesh. **-Elevation:** < 100 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** 4 (Dudhwa, Kazi, Western Uttar Pradesh, Sonairupa Dhibang, Manas); Fragmented . **Population Trends - % change: -% Decline:** Gradual decline. **-Time / Rate (Yrs or gens):** 10 Yrs. **-No of Mature Individuals:** < 1500. **Global Population:** 1600 - 2100. **Regional Population:** 1500 - 2000 (<2000 Dud, Kazi, Dhibung, Manas). **Data Quality:** Reliable census; General field studies. **Recent Field Studies:** Ravishankar, 1994 in Dudhwa; Q. Quereshi, 1990-95 all locations; Forest Department census in Kaziranga. **Threats:** Cattle grazing; Disease; Hunting; Loss of habitat. **Trade:** No. **Other Comments:** Since land is constantly encroached the fate of this species is a big question mark. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2a** (Population restricted in numbers in severely fragmented locations and continuing decline observed). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable (Assessment of species level). **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Monitoring; Habitat management; Limiting factor research. **-PHVA:** Conducted in 1996. need follow up. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 33.45.2 =80 in 8 zoos in India and 57.87.6 =150 in zoos abroad. In 1995 a .PHVA was held at which a breeding plan was made and subsequently a few.animals moved. However, the plan requires serious consideration and adherence by zoos and state governments. Stud books should be kept up to date and animals moved which were recommended in plan. There is a project.to introduce Cervus duvauceli duvauceli to Jaldapara Wildlife Sanctuary using .captive bred animals from zoos. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 207(xx), 245b. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor, S. Paulraj.

49. ***Cervus elaphus hanglu*** **Linnaeus, 1758 — CR (B1, 2c, 3d; C2b)** — (Kashmir stag, Hangul). **Family:** Cervidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial with seasonal movements. **Habitat:** Riverine, broad leaved woodlands, coniferous forest to subalpine grasslands. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 2750-3700 m. **-Range (Sq. Km):** < 100. **-Area Occupied (Sq. Km):** < 100. **-Number of location:** 1 (Dachighan National Park). **Population Trends - % change: -% Decline:** > 50%. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** 160. **Global Population:** about 373 (1997); 120 (1992); 818 (1988) . **Data Quality:** Reliable census; General field studies (M. Mansoor, 1989-90; Mir Inayadullah, 1981; G.B. Schaller, 1977) . **Recent Field Studies:** Jammu & Kashmir Wildlife Census, 1996, 1997; . **Threats:** Cattle grazing; Disease; Fire; Genetic proplem; Human interference; Hunting for food; Loss of habitat; Pesticides; Poisoning; Interspecific competition with domestic livestock. **Trade:** No. **Other Comments:** This localised population is facing number of biotic problems. The population has drastically declined. The higher reaches where Hangul is supposed to spend its summer range is occupied by herds of livestock. **Status: -IUCN: CRITICALLY ENDANGERED** . **-Criteria based on: B1, 2c, 3d** (Restricted distribution, single location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat and extreme fluctuation in numbers of mature individuals); **C2b** (Population restricted to single location and continuing decline observed). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 1.0.0 = 1 in one Indian deer

park. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 131, 149, 182, 268. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor, S. Paulraj.

50. ***Cervus eldi eldi*** **M'c lelland, 1842 — CR (B1, 2c) —** (Manipur brown antlered deer, Sangai) . **Family:** Cervidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Marshy land. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Manipur. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 100. **-Area Occupied (Sq**. **Km):** < 10. **-Number of location:** 1 (Loktak Lake). **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 20 yrs. **-No of Mature Individuals:** < 100. **Global Population:** about.152. **Data Quality:** Reliable census . **Recent Field Studies:** Forest department census, 1994, 95, 96, 97. **Threats:** Cattle grazing; Damming; Disease; Fishing; Genetic problem; Human interference; Hunting; Loss of habitat; Siltation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: CRITICALLY ENDANGERED** . **-Criteria based on: B1, 2c** (Restricted distribution, single location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Critical. **-RDB, International (1996):** Critically Endangered. **Recommendations: -Research management:** Monitoring; Limiting factor research; Habitat management; Genetic management; Taxonomic and morphological genetic studies held in 1993. Another planned with Manipur Forest Dept.,. **-PHVA:** A PHVA was held in 1991. It is time to hold a 2nd exercise. **Captive Breeding Recommendations: -Captive breeding:** Level 2. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 41.76.7 = 124 in 14 Indian zoos. The captive population has been bred from a .maximum of 5 founders mostly in two separate lines such that the 2 calves of .the population each one descended from only 2 founders. Efforts to mix those 2 .lines have not resulted in success. New founders from the wild or genetic .materials in an All India programmes is urgently required. Multiple management problems - no marking and no genuine studbook. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 255, 321a. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor, S. Paulraj.

51. ***Cervus unicolor*** **Kerr, 1792 — LRlc/N** — (Sambar). **Family:** Cervidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Thickly wooded forest. **Global Distribution:** India, Ceylon, Southeast Asia. **Current Regional Distribution:** Throughout India. **-Elevation:** Sea level upto 2500m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** 20 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** 50, 000 (Mundanthurai-Kalakad TR 3000, Kerala 10,665 - KFRI 1993,.Mudumalai Forest Dept., 2000, Bandipur Natl. Park - 2,000 -2500). **Data Quality:** Reliable census; General field studies. **Recent Field Studies:** Surendravarman & Sukumar, IISc since 1988 -95 in Mudumalai; P.S. Easa, 1980 -90 AVC, 1992 -94 . **Threats:** Cattle grazing; Disease; Human interference; Hunting for food; Loss of habitat; Trade. **Trade:** Domestic; Commercial; International. **Other Comments:** Antlers in common and International trade (Peels out bark from rubber, sapota, cocoa and other fruit trees in Karnataka). **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule III. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Habitat management; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 5.2. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 438.554.228 = 1220 in 161 Indian zoos and 74.123.7 = 204 in zoos.abroad. There are far too many animals in captivity, particularly for common.species. Should be managed to reduce population. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 96, 207(xix), 253, 321. .**Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor, S. Paulraj,.S. Varman, A.K. Chakravarthy.

52. ***Chaerephon plicata*** **(Buchanan, 1800) — DD/N** — (Wrinkle - Lipped bat). **Family:** Molossidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Sri Lanka, Tibet, Southeast Asia. **Current Regional Distribution:** Throughout India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** . **Compilers:** M. Muni, P.O. Nameer, A.K. Chakravarthy, P. Padmanabhan, Y.P. Sinha, R. Krishnan, G. Marimuthu.

53. ***Chimarrogale himalayica*** **(Gray, 1842) — LRnt/N** (Himalayan water shrew).(Chimarrogale platycephala himalayica (Gray). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial, fossorial. **Habitat:** Lives near clear stroambets flowing through evergreen forests. **Global Distribution:** India, China, Myanmar, Laos, Vietnam, Taiwan. **Current Regional Distribution:** Punjab, Kashmir, Himachal Pradesh, Sikkim and West Bengal. **-Elevation:** 800-1500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** > 5 (Isolated). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 27, 28, 84, 98, 175, 332. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

54. ***Chiropodomys gliroides*** **(Blyth, 1856) — VU/N (D2)** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Primary and secondary forests, specially where there is bamboo. **Global Distribution:** India, China, Malaysia , Sumatra, Java, Bali, Borneo. **Current Regional Distribution:** Meghalaya. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** > 2 . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to less than 5 locations). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities: __**. **Sources (Refer Appendix):** 84, 99. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

55. ***Coelops frithi*** **Blyth, 1848 — DD/N** — (Tail-less leaf-nosed bat). **Family:** Hipposideridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, China, Southeast Asia. **Current Regional Distribution:** West Bengal and Meghalaya. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 2. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** Last Collection made in 1926. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** . **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, R. Krishnan.

56. ***Cremnomys blanfordi*** **(Thomas, 1881) — LRnt/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Dry or moist deciduous forests, Evergreen forests zones, sometimes among rocks and scrubs. **Global Distribution:** India, Sri Lanka. **Current Regional Distribution:** Peninsular India-North to Madhya Pradesh, East to Bihar and West Bengal. **-Elevation:** 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not lnown. **Data Quality:** General field studies; Museum/collection/records. **Recent Field Studies:** Padmanabhan, 1995 in Parambikulam, Achen kovil, Kerala; M.S. Pradan,.1995 in Tadoba Tiger Reserve, Maharashtra; 1994 in Melghat Tiger Reserve. S. Chakraborty, 1993 -96 in Andhra Pradesh. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 99, 160, 244. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

57. ***Cremnomys cutchicus*** **Wroughton, 1912 — LRlc** — (Cutch rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Rocky with particularly among time stones, and occassionally in crop field. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Northwest in Uttar Pradesh, Gujarat, Rajasthan, East in Bihar, Orissa, South Karnataka and Andhra Pradesh. **-Elevation:** 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field studies; Museum/collection/records. **Recent Field Studies:** I. Prakash, 1993 -95 in Rajasthan; S. Chakraborty, 1992 in Gujarat. **Threats:** No. **Trade:** Not known. **Other Comments:** It might occur in Pakistan which is to be checked with Roberts (1977). **Status: -IUCN: LOWER RISK - LEAST CONCERN**. **-Criteria based on:** — . **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 99, 122, 325. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

58. ***Cremnomys elvira*** **(Ellerman, 1946) — VU (D2)** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Semi arid with thorny scrub. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Tamil Nadu. **-Elevation:** . **-Range (Sq**. **Km):** < 100. **-Area Occupied (Sq**. **Km):** < 10. **-Number of location:** 1 (Kurumbapatti, Salem District). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** No. **Trade:** No. **Other Comments:** Reported only from type locality. **Status: -IUCN: VULNERABLE** . **-Criteria based on: D2** (Population restricted to single location and area less than 11 Sq. km. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 99. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian, M. Muni.

59. ***Cricetulus alticola*** **(Thomas, 1917) — VU/N (B1, 2c)** — (Ladakh hamster). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial/fossorial. **Habitat:** Cold rocky deserts at high altitude. **Global Distribution:** India, Tibet, China. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 4000 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** > 6 (Ladakh). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** Julka, 1992 -97 . **Threats:** Human interference. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** —. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 99. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian, M. Muni.

60. ***Cricetulus migratorius*** **(Pallas, 1773) — EN/N (B1, 2c)** — (Ladakh hamster). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Dry cultivated valley to arid montane steppe. **Global Distribution:** India, Pakistan, Afganistan, Iran, Turkistan, Europe and Israel. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 4100 m. **-Range (Sq. Km):** < 5,000. **-Area Occupied (Sq. Km):** < 500. **-Number of location:** > 1 . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Human interference. **Trade:** No. **Other Comments:** —. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, continuing decline observed in extent of occurrence, area occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower Risk near threatened. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 44, 84, 99, 258. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian, M. Muni.

61. ***Crocidura andamanensis*** **Miller, 1902 — DD** — (Andaman white toothed shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Andaman & Nicobar Islands. **-Elevation:** Not known. **-Range (Sq. Km):** Not known. **-Area Occupied (Sq. Km):** Not known. **-Number of location:** 1 (South Andaman Island). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** No. **Trade:** No. **Other Comments:** Description of the species is based only on one specimen. . **Status: -IUCN: DATA DEFICIENT** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 98. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

62. ***Crocidura attenuata*** **Milne-Edwards, 1872 — LRlc/N** — (Himalayan white toothed shrew, Grey shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial, Burrowing. **Habitat:** Lives in Humid forest areas. **Global Distribution:** India, China, Bhutan, Myanmar and Malaysia. **Current Regional Distribution:** Assam, Meghalaya, Arunachal Pradesh, Punjab, Uttar Pradesh, West Bengal, Jammu & Kashmir. **-Elevation:** 200-2900 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** No. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 27, 28, 84, 89, 98. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

63. ***Crocidura fuliginosa*** **(Blyth, 1856) — DD/N** — **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Not known. **Global Distribution:** China, India, Malaysia, Sumatra, Java, Borneo, Hong Kong, Vietnam, Thailand. **Current Regional Distribution:** Meghalaya, Assam. **-Elevation:** 3000 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** Not known. **-Number of location:** 2. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** No. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 89, 98. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

64. ***Crocidura hispida*** **Thomas, 1913 — EN (B1, 2c)** — (Andaman spiny shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Fossorial. **Global Distribution:** ENDEMIC to India. **Current**

Regional Distribution: Andaman & Nicobar Islands. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 1 (Middle Andaman Island). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Loss of habitat because of fragmentation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: ENDANGERED**. **-Criteria based on: B1, 2c** (Restricted distribution, sinle location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 84, 98. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

65. ***Crocidura horsfieldi*** **(Tomes, 1856) — DD/N** — (Sri Lankan white-toothed shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Under litter, grass heaps etc.,. **Global Distribution:** India, Sri Lanka, North Myanmar, Thailand, Vietnam, Nepal, Taiwan. **Current Regional Distribution:** Poorly known. **-Elevation:** 1000 m. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** No. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 98. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

66. ***Crocidura jenkinsi*** **Chakraborty, 1978 — DD** — **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Andaman & Nicobar Islands. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** South Andaman Island. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Critically endangered. **Recommendations: -Research management:** Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** S. Chakraborthy, M.S. Pradan, K.A. Subramanian.

67. ***Crocidura leucodon*** **(Hermann, 1780) — DD/N** — (Bicoloured white-toothed shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Europe to Caucasus. **Current Regional Distribution:** Jammu & Kashmir . **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Kashmir Valley. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** Please refer the sheet to Dr. Sujit Chakraborty, Sci-SE, ZSI, Calcutta. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** S. Chakraborthy, M.S. Pradhan, K.A. Subramanian.

68. ***Crocidura nicobarica*** **Miller, 1902 — DD** — (Nicobar white-tailed Shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Andaman & Nicobar Islands. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Great Nicobar Island. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** No. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 98. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

69. ***Crocidura pergrisea*** **Miller, 1913 — EN/N (B1, 2c)** . **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Drier parts of mountain and hilly tracts. **Global Distribution:** Asia Minor to India. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 100-3200 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 1 (Kashmir). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** Chakraborty in Kashmir. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, single location, continuing decline observed

in extent of occurrence, area of occupancy and/or quality of habitat. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 98, 258. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

70. ***Crocidura pullata*** **Miller, 1911 — DD/N** — (Crocidura russula pullata (Miller); Crocidura gueldenstaedtii (Pallas). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial, fossorial . **Habitat:** High altitude . **Global Distribution:** Caucasus and East Mediterranean to Afghanistan, Pakistan and India. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 2000-2900 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 1 (Kotihar). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Not known. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 98. **Compilers:** .S. Chakraborthy, M.S. Pradhan, K.A. Subramanian.

71. ***Cuon alpinus adjustes*** **(Pallas, 1811) — CR/N (C2b)** — (Dhole, Asiatic wild dog) . **Family:** Canidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Evergreen forest. **Global Distribution:** India, Myanmar. **Current Regional Distribution:** Arunachal Pradesh. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 1 (Namdapha Biosphere). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** 50-100. **Global Population:** Not known. **Regional Population:** 100 -300 individuals. **Data Quality:** General field study; Informal field sightings; Indirect information; Hearsay/popular belief. **Recent Field Studies:** A.J.T. Johnsingh in Nampadha. **Threats:** Disease; Decline in prey species; Hybridization; Loss of habitat; Poisoning. **Trade:** No. **Other Comments:** —. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2b** (Restricted numbers in a single location and continuing decline). **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. -RDB, International (latest edition)**:** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Habitat management. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 142. **Compilers:** J. C. Daniel, A. Venkatraman, S. Verman. V. Menon, W.F. Sunderraj, G. Ramaswamy, S. Paulraj, R.S. Lal Mohan, P.S. Easa, S. Sivaganesan.

72. ***Cuon alpinus dekhanensis*** **(Pallas, 1811) — LRnt** — (Asiatic wild dog/Dhole). **Family:** Canidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** All forested areas except mangroves. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** South of Ganges river. **-Elevation:** Up to 3500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Decline observed. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Continuing decline observed. About 20,000 individuals remaining. **Data Quality:** General field study; Informal field sightings; Indirect information; Hearsay/popular belief. **Recent Field Studies:** Pradhan, Field sightings in Vidharbha (M.S.) in 1991-1994; A. Venkatraman, 1990 onwards in Southern India. **Threats:** Disease; Decline in prey species; Human interference; Hybridization; Loss of habitat; Loss of habitat because of fragmentation; Poisoning. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - NEAR THREATENED** . **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. -RDB, International (latest edition)**:** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Habitat management. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 2.8.9 =19 in 4 Indian zoos and 17.20.0 =37 in 7 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 104, 141, 207(xii), 225. **Compilers:** J.C. Daniel, V. Menon, G. Ramaswamy, A. Venkatraman, P.S. Easa, S. Paulraj, R.S. Lal Mohan, W.F. Sunderraj, S. Sivaganesan, S. Verman.

73. ***Cuon alpinus laniger*** **(Pallas, 1811) — CR (C2b)** — (Ladakh dhole) . **Family:** Canidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Pine forest. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** > 3000 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 1 (Ladakh). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** 50-100. **Global Population:** 100 -200 individuals. **Regional Population:** . **Data Quality:** General field study; Informal field sighting; Indirect information; Hearsay/popular belief. **Recent Field Studies:** A.J.T. Johnsingh in Ladakh. **Threats:** Disease; Decline in prey species; Hybridization; Loss of habitat; Poisoning. **Trade:** No. **Other Comments:** Very rare. **Status: -IUCN: CRITICALLY ENDANGERED** . **-Criteria based on: C2b** (Restricted numbers and declining in a single location). **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. -RDB, International (latest edition)**:** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Habitat management. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 142. **Compilers:** J.C. Daniel, A. Venkatraman, S. Verman, V. Menon, W.F. Sunderraj, G. Ramaswamy, S. Paulraj, R.S. Lal Mohan, P.S. Easa, S. Sivaganesan. .

74. ***Cuon alpinus primaevus*** **— VU/N**. **Family:** Canidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Dry & moist deciduous forests. **Global Distribution:** India, Nepal, Bhutan. **Current Regional Distribution:** Uttar

Pradesh, Bihar, West Bengal, Assam. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known . **-Time / Rate (Yrs or gens):** Not known . **-No of Mature Individuals:** 500 -600. **Global Population:** Not known . **Regional Population:** 1000 individuals. **Data Quality:** General field study; Informal field sightings; Indirect information; Hearsay/popular belief. **Recent Field Studies:** A.J.T. Johnsingh. **Threats:** Disease; Decline in prey species; Hybridization; Loss of habitat; Poisoning. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D1** (Restricted population numbers). **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II. **-RDB, National (1994):** Not known . -RDB, International (latest edition)**:** Not known. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Habitat management. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 2. **-Level of difficulty:** Not known. **Existing Captive Population:** None in Indian zoos. **-Name of facilities:** —. **Sources (Refer Appendix):** 97(viii), 142, 207(xi). **Compilers:** J.C. Daniel, V. Menon, G. Ramaswamy, A. Venkataraman, P.S. Easa, S. Paulraj, R.S.Lal Mohan, W. Sunderraj, S. Sivaganesan.

75. ***Cynopterus brachyotis*** **(Muller, 1838) — LRlc/N** — (Less D-faced fruit bat). **Family:** Pteropodidae . **Taxonomic status:** Species. **Habit:** Arboreal, solitary and in small colonies. **Habitat:** Urban areas, Forests. **Global Distribution:** India and Southeast Asia. **Current Regional Distribution:** South western India, Nagaland, Andaman & Nicobar Islands. **-Elevation:** Upto 2000 m. (Plains). **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies; Museum/collection/records. **Recent Field Studies:** Y.P. Sinha, 1995 in Nagaland; M. Muni, 1993 in high wavy mountains .P.K. Das, 1980 in Silent Valley, M.S. Pradhan, 1991 in Western Ghats . **Threats:** No. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** No. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 88, 293, 297(iii). **Compilers:** G. Marimuthu, Y.P. Sinha, J.C. Daniel, P.O. Nameer, P. Padmanabhan, .R. Krishnan, M. Muni, A.K. Chakraborthy.

76. ***Cynopterus sphinx*** **Vahl, 1797 — LRlc/N** — **Family:** Pteropodidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Solitary small colonies and foilage roosts. **Global Distribution:** Indian sub-continent, Southeast Asia and China. **Current Regional Distribution:** India except northwestern India. **-Elevation:** Upto 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies (Sinha, 1976 in Gujarat; Sinha, 1976 in Dadar & Nagarhaveli); Museum/collection/records . **Recent Field Studies:** Bates et al., 1992 several locations; Y.B. Sinha, 1992, 1994 in.Nagaland; G. Marimuthy & Riki Krishnan, 1997 in Madurai; J. Balasingh,.*et al*., 1992 in Tirunelveli; G. Marimuthu et al., 1995 in Tirunelveli; P.A. Ramakrishnan, 1947 in Bangalore, M.S. Pradhan, 1989-1992 in Western Ghats, 1992, in Melghat Tiger Project . **Threats:** No. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, International (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** No. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 14, 15, 18, 23, 24, 190, 295, 297(iv), 313. **Compilers:** G. Marimuthu, Y.P. Sinha, J.C. Daniel, P.O. Nameer, P. Padmanabhan, .R. Krishnan, M. Muni, A.K. Chakraborthy.

77. ***Dacnomys millardi*** **(Thomas, 1916) — VU/N (D2)** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Forested tracts of Hilly region. **Global Distribution:** India, Nepal . **Current Regional Distribution:** West Bengal, Arunchal Pradesh. **-Elevation:** 2000 m. **-Range (Sq**. **Km)**< 20,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** > 2 (Darjeeling, Arunachal Pradesh). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to only 2 locations). **-CITES:** —. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations**. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99. **Compilers:** S. Chakraborthy, M.S. Pradhan, K.A. Subramanian.

78. ***Delphinus delphis*** **Linnaeus, 1758 — LRnt/N** — (Common dolphin). **Family:** Delphinidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Costal waters oceanic. **Global Distribution:** Circumtropical, Pacific, Atlantic, Indian Ocean. **Current Regional Distribution:** Along Indian coast (West and east) Andaman Sea. **-Elevation:** Not known. **-Range (Sq**. **Km)**> 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Personal observations. **Recent Field Studies:** R.S. Lal Mohan, 1975 -97 in South west coast of India. **Threats:** Fishing; Pollution. **Trade:** No. **Other Comments:** It is kept in dolphinarium all over the world, (Gillnet catch in south west coast about 100 in 3 yrs). **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Not evaluated. **Recommendations: -Research management:** Monitoring; Limiting factor management; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 134, 141, 203. **Compilers:** R.S. Lal Mohan, S. Paulraj, J.C. Daniel.

79. ***Dicerorhinus sumatrensis*** **lasiotis (G. Fischer, 1814) — CR/N (D)** — (Sumatran rhinoceros). **Family:** Rhinocerotidae. **Taxonomic status:** Sunspecies. **Habit:** Grassy, Marshy. **Habitat:** Not known. **Global Distribution:** Indonesia. Malaysia, Myanmar, India. **Current Regional Distribution:** Manipur and Nagaland. **-Elevation:** < 2,000 m. **-Range (Sq. Km):** < 20,000. **-Area Occupied (Sq. Km):** < 500. **-Number of location:** 2 (Anko range in Manipur and Turnsang Dist., in Nagaland). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** < 400. **Regional Population:** < 50 mature individuals (Stray individuals only). **Data Quality:** Informal field sightings; Indirect information; Museums/collection/records; Hearsay/popular belief. **Recent Field Studies:** A. Choudhury, 1996 in Manipur and Nagaland. **Threats:** No. **Trade:** No. **Other Comments:** This species is thought to be extinct in India until last year when A. Choudhury established its presence in Manipur and Nagaland as roving population from Myanmar. These few animals should be given the strictest protection. National parks should be established in Nagaland and in Manipur to protect them fully. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D** (Very few mature individuals). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Extinct. **Recommendations: -Research management:** Survey, Monitoring. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 2. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India but 6.12.0 in 7 zoos abroad. **-Name of facilities:** —. **Sources (Refer Appendix):** 77, 82. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor, S. Paulraj,.S. Varma.

80. ***Diomys crumpi*** **Thomas, 1917 — EN/N (B1, 2c)** — (Crump's rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Forest tracts in hilly region. **Global Distribution:** India, Nepal. **Current Regional Distribution:** Manipur. **-Elevation:** 2000 m. **-Range (Sq. Km):** < 5,000. **-Area Occupied (Sq. Km):** < 500. **-Number of location:** 1 . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Human interference. **Trade:** No. **Other Comments:** Type locality of this species is recorded as Bihar, however it appears that type locality was not correctly recorded. (Corbett & Hill, 1992). **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, single location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower Risk near threatened. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

81. ***Dremomys lokriah*** **(Hodgson, 1863) — LRnt/N** — (Orange bellied himalayan squirrel). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Temperate forests. **Global Distribution:** Nepal, Yunnan, Myanmar and India. **Current Regional Distribution:** Sikkim Himalaya, Arunachal Pradesh, Mizoram, Assam, Meghalaya. **-Elevation:** 2250 and above. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** General Decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies; Informal field sightings; Indirect Information; Museum/collection/records. **Recent Field Studies:** Dutta, 1995 in Andhra Pradesh (WII Survey); Shankar Raman, 1995 in Mizoram (WII Survey); ZSI survey ongoing in entire areas. **Threats:** Hunting; Loss of habitat. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Habitat management; Limiting factor management; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 95, 277, 336. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay, G.K. Joseph, .W. Sunderraj.

82. ***Dugong dugon*** **(Muller, 1776) — CR/N (A1a, 1c, 1d; D)** — (Dugong/Seacow). **Family:** Dugongidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Costal sea grass beds. **Global Distribution:** East coast of Africa, Red sea, Arabian coast, Gulf of Kutch, Gulf of Mannar, Palk Bay, Andaman sea, Australian coast. **Current Regional Distribution:** . **-Elevation:** Not known. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** 80%. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** < 5. **Global Population:** 20,000-25,000. **Regional Population:** < 50. **Data Quality:** General field studies (Personal observation). **Recent Field Studies:** R.S. Lal Mohan, 1986 in Gulf of Mannar & Palk Bay; Nammalwar et al., 1993 in Gulf of Mannar & Palk Bay; Dandapani, 1995 in Gulf of Mannar & Palk Bay. **Threats:** Dynamite and other destructive fishing; Fishing; Human interference; .Hurricane; Loss of habitat; Over exploitation; Trade. **Trade:** Local. **Other Comments:** Trawling has disturbed its feeding grounds, Gill also pose a threat to it, Meat is used for intestinal disorders & piles treatment. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: A1a, 1c, 1d** (Observed population Reduction due to decline in area of occupancy, extent of occurence and/or quality of habitat and actual or potential levels of exploitation); **D** (Very few mature individuals). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable . **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Monitoring; Husbandry research; Limiting factor research. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Least difficult. **Existing Captive Population:** . **-Name of facilities:** Central Marine Fisheries in Research Inst. can develop a facility or maintained .two Dugongs for almost 10 yrs from 1960 -70. The infrastructures should be upgraded and developed. **Sources (Refer Appendix):** 143, 145, 197, 199, 213. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor, S. Paulraj.

83. ***Elephas maximus*** **Linnaeus, 1758 — VU/N (A1a, 1c, 1d)** — (Indian elephant) . **Family:** Elephantidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Tropical dry and moist forests including Savannah grassland. Also sub tropical forest (seasonally). **Global Distribution:** South Asia and Southeast Asia (12 range countries). **Current Regional Distribution:** Southern, central, northern, northeastern India. **-Elevation:** Sea level to 2000-3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** More than 20 *fragmented* locations. **Population Trends - % change: -% Decline:** < 50%. **-Time / Rate (Yrs or gens):** 3 generation. **-No of Mature Individuals:** 40 - 45% of total population. Approximately 12,000 of 25,000. **Global Population:** 35,000 - 50,000. (Gradual decline). **Regional Population:** 21,000 - 25,000. **Data Quality:** Reliable census; General field studies; Informal field sightings. **Recent Field Studies:** Surendra Varman & Sukumar, since 1988 on population density studies in .Mudumalai wildlife Sanctuary; Sukumar *et al*., since 1994 on population .habitat survey in southern India; Since 1986, BNHS study at Mudumalai; A. Choudhury, since 1984 in Northeastern India. **Threats:** Disease; Drought; Genetic proplem; Human interference; Hunting; Loss of habitat; Loss of habitat because of exotic plants; Loss of habitat because of fragmentation; Powerlines; Road kills; Trade; Trade for parts. **Trade:** Domestic; Commercial; International. **Other Comments:** None. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: A1, 1c, 1d** (Population reduction observed due to decline in extent of occurrence, area occupancy and/or quality of habitat and actual or potential levels of exploitation). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Monitoring; Genetic management; Habitat management; Life history studies; Limiting factor management. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** There are about 1600 captive elephants in India. These elephants are in temples, elephant camps, circus and zoos. Many are breeding regularly with wild males in elephant camps. 28.56 = 84 in 26 Indian zoos and 53.26 =340 in 134 zoos outside India. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 13(ii), 55, 62, 63, 64, 65, 71, 82, 309(iii). **Compilers:** G. Ramaswamy, J.C. Daniel, N. Sivaganesan, P.S. Easa, R.S. Lal Mohan, M. Muni, M. Mishra.

84. ***Eonycteris spelaea*** **(Dobson, 1871) — VU/N (D2)** — **Family:** Pteropodidae. **Taxonomic status:** Species. **Habit:** Cave dweller, colonial/social. **Habitat:** Moist deciduous, Evergreen forests. **Global Distribution:** India, Southeast Asia, China. **Current Regional Distribution:** Southeast, northeastern India, Andaman & Nicobar Island. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 3; Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies; Museum/collection/records; Informal field sightings. **Recent Field Studies:** Sinha, 1990-95 in Garo Hills, Meghalaya, Nagaland, Manipur. **Threats:** No. **Trade:** Not known. **Other Comments:** At Sigu Cave, Garo Hills, Sinha has observed an increase in population. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to only 3 locations). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Husbandry research; Life history studies; Taxonomic and morphological genetic studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1 with great caution and genuine expertise. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 290, 295, 297(vi). **Compilers:** M. Muni, A.K. Chakravarthy, P. Padmanabhan, Y.P. Sinha, G. Marimuthu, .R. Krishnan, P.O. Nameer.

85. ***Eothenomys melanogastor*** **(Milne Edwards, 1871) — DD/N** — (Pere Davids' vole). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** China, Myanmar, India, Yunnan. **Current Regional Distribution:** Arunchal Pradesh. **-Elevation:** Up to 3000 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 3 . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known.**Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99. **Compilers:** S. Chakraborthy, M.S. Pradhan, M. Muni, K.A. Subramanian.

86. ***Eptesicus nilssoni*** **(Keyserling and Blasius, 1839) — DD** — **Family:** Verpertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Kashmir. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. .**Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** Taxonomic confirmation maybe necessary. A team of experts should conduct a survey in the area where the species was last seen or described. **Status: -IUCN: DATA DEFICIENT** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer.

87. ***Eptesicus pachyotis*** **Dobson, 1871 — DD/N** — (Thick-eared bat) . **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Myanmar and Thailand. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** 1. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):**

Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** A team of experts should conduct an expedition to see if the animal can be sighted recovered. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring . **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, R. Krishnan.

88. ***Eptesicus serotinus*** **(Scherber, 1774) — DD/N** — **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Pakistan, Thailand, China, West Europe. **Current Regional Distribution:** Northern India. **-Elevation:** 1500 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 1 . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** ZSI, Calcutta very old collection before the year 1900. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, P. Padmanabhan, R. Krishnan.

89. ***Eptesicus tatei*** **Ellerman and Morrison Scott, 1951 — DD** — **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** West Bengal. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 1 (Darjeeling). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records (ZSI, 1853, Old collection). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **STATUS: -IUCN: DATA DEFICIENT** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, R. Krishnan.

90. ***Equus hemionus khur*** **— NE** — (Indian wild ass). **Family:** Equidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Brackish marsh regions of Rann of Kutch. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Gujarat. **-Elevation:** < 100 MSL. **-Range (Sq**. **Km):** > 20, 000. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** < 1000. **Global Population:** < 1500. **Data Quality:** General field studies; Informal field sightings. **Recent Field Studies:** Not known. **Threats:** Human interference; Loss of habitat; Canal. **Trade:** Not known. **Other Comments:** This taxon was referred to S.P. Goel and Nita Shah for more information by the group. But information was not provided. **Status: -IUCN: NOT EVALUATED**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Monitoring. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 4.7.0 = 11 in 5 Zoos. Possibly a few in zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix): —**. **Compilers:** M.M. Mansoor, N. Sivaganesan, G. Ramaswamy, P.S. Easa, M.V. Ravikumar, Jayson, A. Udayan, R.S. Lal Mohan.

91. ***Equus kiang*** **Moorcroft, 1841 — VU/N (B1, 2c; D2)** — (Tibetan wild ass). **Family:** Equidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Cold desert. **Global Distribution:** India, China and Tibet. **Current Regional Distribution:** Sikkim and Jammu & Kashmir. **-Elevation:** 4,500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 2 (Sikkim and Ladakh); Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies; Informal field sightings. **Recent Field Studies:** J.M. Jhulka, 1993-97 in Ladakh; (ZSI, Solan). **Threats:** Human interference. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); **D2** (Population restricted to only 2 locations). **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor, S. Paulraj.

92. ***Eubalaena glacialis*** **(Muller, 1776)— EN/N (C1, C2b)** — (Right whale). **Family:** Balaenidae. **Taxonomic status:** Species. **Habit:** Marine . **Habitat:** Open ocean. **Global Distribution:** Indian, Pacific, Atlantic oceans, Antartic seas. **Current Regional Distribution:** . **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** 80%. **-Time / Rate (Yrs or gens):** 20 yrs. **-No of Mature Individuals:** Not known. **Global Population:** < 1000. **Regional Population:** < 100. **Data Quality:** Reliable census or

population monitoring; General field studies. **Recent Field Studies:** Reliable census; General field studies. **Threats:** Hunting; Collisions with ships; sound pollution; Whaling; Trade. **Trade:** International. **Other Comments:** It is protected by IWC International whaling commission. The stock is deputed by over fishing. It is a very rare species. Generally uncomon in Indian waters. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C1, C2b** (Restricted in numbers to a single location and declining). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Monitoring. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 134, 135. **Compilers:** R.S. Lal Mohan, S. Paulraj, J.C. Daniel.

93. ***Eupetaurus cinereus*** **Thomas, 1888 — LRnt/N** — (Woolly flying squirrel). **Family:** Scuiridae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Edges of coniferous to dwarf Rhododendron and Juniper forests. **Global Distribution:** India, Pakistan, Nepal ?, Bhutan ?. **Current Regional Distribution:** Sikkim Himalaya, Jammu & Kashmir . **-Elevation:** 2800 m. and above. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many (Sikkim and Pakistan occupied Kashmir). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field study; Indirect information; Museum/collection/records. **Recent Field Studies:** ZSI 1983 - Ongoing in Kashmir & Sikkim; Charles Woody Florida Museum (Gainesville) 1990 -1995 Kashmir POK. **Threats:** Cattle grazing; Trade for parts,Trade. **Trade:** Domestic . **Other Comments:** Sheep grazing in high altitude affects dwarf Rhododendron and Juniper forests, Survey to find population between Kashmir and Sikkim to assertain whether on population and disjucted. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** R. Borges, S. Chattopadhyay, G.K. Joseph, W. Sunderraj.

94. ***Felis chaus*** **Schreber, 1777 — LRnt/N** — (Jungle cat). **Family:** Felidae. **Taxonomic status:** Species. **Habit:** Terrestrial, crepescular, nocturnal. **Habitat:** Open forest, grass lands, scrub, dry deciduous and evergreen. **Global Distribution:** India, Africa, Southwest Asia, Sri Lanka, Myanmar, Indo-China and Vietnam. **Current Regional Distribution:** India. **-Elevation:** 0-2400 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field study; Indirect information; Museum/collection/records. **Recent Field Studies:** S. Mukherjee, 1992-95 in Sariska Tiger Reserve, Pradhan field sightings,in Western Ghats in 1980-1985; Melghat Tiger Reserve in Maharashtra 1990-1993 . **Threats:** Human interference; Hunting for food; Trade. **Trade:** International; Commercial . **Other Comments:** None. **Status: -IUCN: LOWER RISK- NEAR THREATNED (Nationally)**.**DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** 20.10.10 =40 in 24 Indian zoos and 25.24.2 = 51 in 16 zoos abroad. Although.many Indian zoos keep this species there are few breeding reports. Species.requires management studbook, coordination, etc.,. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 207(xxix), 221, 244. **Compilers:** N.V.K. Ashraf, G. Chrisopher, D. Mudappa.

95. ***Felis silvestris ornata*** **Schreber, 1715 — LRnt/N** — (Desert cat). **Family:** Felidae. **Taxonomic status:** Sub-species. **Habit:** Largely terrestrial. **Habitat:** Low lying forests and semi-arid habitats cultivated areas and water sources. **Global Distribution:** Africa, Middle-east Asia, India. **Current Regional Distribution:** Maharashtra, Madhya Pradesh, Rajasthan, Gujarat. **-Elevation:** 500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many . **Population Trends - % change: -% Decline:** Drastically declining. **-Time / Rate (Yrs or gens):** Last three decades. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census (I.K. Sharma, 1979 ; H.S. Panwar ; R. Gopal, 1984); .Record; Collection. **Recent Field Studies:** P.L. Kankane, 1997; P.L. Kankane, 1995; ZSI, WPS, Pune. **Threats:** Hybridization; Loss of habitat; Loss of habitat because of exotic plants,Trade for Parts, Trade. **Trade:** International, Commerical. **Other Comments:** According to WII (In Wild Cats 1976 p.101) 90% of its natural habitat has been lost. Most of the desert cats have shifted to living in close proximity of Villages. As a consequence interbreeding with pariah cats is so common it is difficult to identify pure genetic material. Desert cat fur is traded. **Status: -IUCN: LOWER RISK -NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** No. -RDB National (1993)**:** Endangered. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies; Habitat management; Taxonomic and.morphological genetic studies . **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** None in India. This species has been reproduced throughartificial insemination.in foreign zoos and research centres. **-Name of facilities:** —. **Sources (Refer Appendix):** 150, 151, 221, 224, 278 . . **Compilers:** N.V.K. Ashraf, G. Christopher, D. Mudappa, M.S. Pradhan, V. Menon.

96. ***Feroculus feroculus*** **(Kelaart, 1850) — VU/N (B1, 2c; D2)** — (Kelart's long clawed shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Montane swamps and marshes above 2000 m. **Global Distribution:** India, Sri Lanka. **Current Regional Distribution:** Nilgiri hills and further south in Western Ghats. **-Elevation:** 3000 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 4 (Isolated). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** M.S. Pradhan, 1994-96 in Eravikulam; K. Shankar, 1996 in Upper Bhavani. **Threats:** Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** Recorded in India for the first time.

Shrew originally described from Sri Lanka. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); **D2** (Population restricted to only four locations). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 84, 98, 170. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

97. ***Funambulus layardi*** **(Blyth, 1849) — DD/N** — (Layard's striped squirrel). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Diurnal, arboreal. **Habitat:** Hilly forest. **Global Distribution:** India and Sri Lanka . **Current Regional Distribution:** Western Ghats. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Appears to be an uncommon rodent. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationaly)**.**DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 241. **Compilers:** R. Borges, K.K. Ramachandran, M. Mishra, G.K. Joseph, A.K. Chakravarthy.

98. ***Funambulus palmarum*** **(Linnaeus, 1766) — LRlc/N** — (Tree-stripe palm squirrel). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Arboreal, diurnal, commensal of humans. **Habitat:** . **Global Distribution:** India, Sri Lanka . **Current Regional Distribution:** Peninsular India (includes southern Madhya Pradesh and Bihar). **-Elevation:** Sea level to 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Many years. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Informal field study; Indirect information; Museum/collection/records (M.S.Pradhan, 1988 from N.B.R). **Recent Field Studies:** S.K. Bhat, 1992, **;** A.K. Chakravarthy, 1992. in Western Ghats part of Karnataka . **Threats:** Trade. **Trade:** Domestic; Commercial. **Other Comments:** This species heavily damages cardamom in hill region of Karnataka where it is economically important. Nesting is recorded in October and November in tree holes and earthcuttings. It is a pest of cocoa, fruit trees. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Populations should be managed in fruit orchards and plantation crops as it minimise losses due to them. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 241. . **Compilers:** R. Borges, K.K. Ramachandran, M. Mishra, G.K. Joseph, A.K. Chakravarty.

99. ***Funambulus pennantii*** **(Wroughton, 1905) — LRlc/N** — (Five -striped palm squirrel). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Arboreal, nocturnal, commensal. **Habitat:** Throughout India including urban areas. **Global Distribution:** India, Nepal, Pakistan, Iran. **Current Regional Distribution:** Throughout India but more widespread in central and northern India. **-Elevation:** Sea level to 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Increasing in expanding irri-agriculture. **-Time / Rate (Yrs or gens):** Decreasing. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Informal field study; Indirect information ; Museum/collection/records,ZSI, WPS, Pune Collection from Western Ghats. **Recent Field Studies:** I. Prakash *et al*., 1992. **Threats:** Trade. **Trade:** Domestic, Commercial. **Other Comments:** Economically important species and it is a serious pest for fruit trees. Diseasing in forest areas due to falling of trees, no idea of the rate of decline . **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule IV . **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** No. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. Exisiting Captive Population**:** 2.1.0 = 3 in 2 Indian zoos and 3.3.0 = 6 in 1 zoo abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 241. **Compilers:** R. Borges, K.K. Ramachandran, M. Mishra, G.K. Joseph.

100. ***Funambulus sublineatus*** **(Waterhouse, 1838) — DD/N** — (Dusky striped squirrel). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Diurnal, arboreal. **Habitat:** Hilly forest. **Global Distribution:** India and Sri Lanka. **Current Regional Distribution:** Western Ghats from Coorg southwards. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None . **Threats:** Loss of habitat. **Trade:** Not known. **Other Comments:** Very little is known about this squirrel. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Not known. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 241. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay,G.K. Joseph, W. Sunderraj.

101. ***Funambulus tristriatus*** **(Waterhouse, 1837) — LRnt** — (Jungle striped squirrel/Western Ghats squirrel). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Semi evergreen, Moist deciduous, Evergreen forest, tea estates. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Western Ghats, North

to Bombay. **-Elevation:** Sea level-1500 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** < 20%. **-Time / Rate (Yrs or gens):** 10 years. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** General field study; Informal field study; Indirect information; Museum/collection/records; Reliable census. **Recent Field Studies:** M.S. Pradhan, ZSI in Mahrastra, Karnataka' Mudappa, 1996 - ongoing.in Kalakkad, Mundanthurai; D. Mudappa, 1995-96 in Anamalais; S.K. Bhat,.1992 . **Threats:** Hunting; Hunting for food; Loss of habitat. **Trade:** No. **Other Comments:** Can be a pest in cocoa plantation. Pest of (introduced) plantation crops like cashew cacoa. **Status: -IUCN: LOWER RISK - NEAR THREATENED** . .**-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 241.
Compilers: N.V.K. Ashraf, S. Chattopadhyay, R.Borges, K.K. Ramachandran, M. Mishra, G.K Goseph.

102. ***Gazella bennettii*** **(Sykes, 1831) — LRlc/N** — (Indian gazelle, chinkara). **Family:** Bovidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Dry deciduous, thorny and desert. **Global Distribution:** India, Pakistan,Iran . **Current Regional Distribution:** 11 states of India . **-Elevation:** Upto 1200 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many . **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** About 80,000. **Global Population:** Not known. **Regional Population:** 1,00,000 individuals. **Data Quality:** General field study. **Recent Field Studies:** A. Rahmani, 1997, M.S.Pradhan, 1985 in Dhulia Dist. and 1992 in Pune Dist. . **Threats:** Hunting for food. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** . **-CITES:** No. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Lower risk conservation dependent. **Recommendations: -Research management:** No. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Least difficult. Exisiting Captive Population**:** 48.69.40 =154 in 24 Indian zoos. Current population can be managed for .education and exhibition. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** . 248. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson, .W. Sunderraj, G. Ramaswamy, R.S. Lal Mohan, M.M. Mansoor, S. Paulraj.R.S. Lal Mohan, P.S. Easa.

103. ***Gerbillus gleadowi*** **Murray, 1886 — LRlc/N** — (Indian hairy footed gerbil). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Poor soil devoid of any cover except short grass and sand dunes. **Global Distribution:** India, Pakistan. **Current Regional Distribution:** Rajasthan and Gujarat. **-Elevation:** Almost plains. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** Chakraborty, 1993 in Gujarat; CAZRI, Jodhpur, 1992-97 in Rajasthan. **Threats:** Human interference; Loss of habitat (due to irrigation). **Trade:** No. **Other Comments:** . **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 177. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

104. ***Gerbillus nanus*** **Blanford (1875) — LRnt/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Rocky or stony ground with thorny scrub in arid country. **Global Distribution:** India, Pakistan, Afganistan, Iran, Israel, Africa. **Current Regional Distribution:** Rajasthan and Gujarat. **-Elevation:** Almost plains. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** > 5 . Not known . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** Chakraborty, 1993 in Gujarat. **Threats:** . **Trade:** No. **Other Comments:** Loss of habitat due to irrigation. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 177. . **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

105. ***Globicephala macrorhynchus*** **Gray, 1846 — LRnt/N** — (Long- finned pilot whale) . **Family:** Delphinidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Costal, Oceanic, Pelagic. **Global Distribution:** Circumtropical, warm temperate. **Current Regional Distribution:** Coastal waters of India. **-Elevation:** Not known. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known . **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study, Alagiriswamy, 1980 in Tuticorin. **Recent Field Studies:** None. **Threats:** Fishing (Gillnet). **Trade:** No. **Other Comments:** Kept in dolphinariums, Get stranded in large numbers. There were such strandings (about 150 Animals) in Tuticorin. **Status: -IUCN: LOWER RISK -NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globaly)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk conservation dependent . **Recommendations: -Research management:** Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 134. **Compilers:** R.S. Lal Mohan, J.C. Daniel,G. Ramaswamy, S. Paulraj.

106. ***Golunda ellioti*** **Gray, 1837 — LRlc/N** — (Indian bush rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial and Arboreal. **Habitat:** Bush, scrub jungle and nurseries in forests. **Global Distribution:** India, Iran, Nepal, Pakistan, Sri Lanka. **Current Regional Distribution:** Almost throughout India. **-Elevation:** 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Pradhan, 1985-90 in western Ghats); Museum/collection/records. **Recent Field Studies:** Chakraborty, 1992-97 in Himachal Pradesh, Bihar, Gujarat, Arunachal Pradesh . **Threats:** No. **Trade:** No. **Other Comments:** . **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 44, 84, 99. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

107. ***Grampus griseus*** **(G**. **Cuvier, 1812) — LRnt/N** — **Family:** Delphinidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic. **Global Distribution:** Circumtropical, world wide tropical and temperate seas. **Current Regional Distribution:** Indian waters. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field sightings. **Recent Field Studies:** R.S. Lal Mohan, 1996 in Calicut (one animal caught off Calicut). **Threats:** Fishing. **Trade:** Not known. **Other Comments:** Follow the squid shoals. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Data deficient. **Recommendations: -Research management:** Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 134. **Compilers:** R.S. Lal Mohan, J.C. Daniel, S. Paulraj.

108. ***Hadromys humei*** **(Thomas, 1886) — DD/N** — (Manipur's bush rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, China. **Current Regional Distribution:** Not known. **-Elevation:** 1300 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** > 5. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** . **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 260. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

109. ***Harpiocephalus harpia*** **Hodgson — DD** — (Hairy-winged bat) . **Family:** Vespertilionidae (Sub Family **:** Murininae). **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** West Bengal, Kerala, Sikkim, Tamil Nadu. **-Elevation:** 900 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** General field study (Das, 1986 in Silent Valley). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —. Compilers:** G. Marimuthu, Y.P. Sinha, A.K. Chakravarthy, P. Padmanabhan, P.O. Nameer, R. Krishnan.

110. ***Hemiechinus collaris*** **(Gray, 1830) — LRlc/N** — (Long -eared hedgehog) *Hemiechinus auritus collaris* (Gray) . **Family:** Erinaceidae. **Taxonomic status:** Species. **Habit:** Terrestrial and Fossorial. **Habitat:** In all types of habitats drier plains and desert areas except hilly terrains. **Global Distribution:** India and Pakistan. **Current Regional Distribution:** Northwestern and western India . **-Elevation:** 1000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** No. **Trade:** No. **Other Comments:** . **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** 1.1.2 = 4 in 2 Indian zoos and 19.135.5 = 235 in 10 zoos abroad. **-Name of facilities:** —. **Sources (Refer Appendix):** 28, 84, 98, 239, 244, 258. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

111. ***Helarctos malayanus*** **(Raffles, 1821) — DD/N** — (Sun bear). **Family:** Ursidae. **Taxonomic status:** Species. **Habit:** Terrestrial and arboreal, nocturnal crepuscular and diurnal. **Habitat:** Subtropical. **Global Distribution:** India, Bangladesh, Myanmar, Thailand, Vietnam and China. **Current Regional Distribution:** Assam, Mizoram, Arunachal Pradesh

(Namdapha). **-Elevation:** Up to 1000 m. **-Range (Sq. Km):** Not known. **-Area Occupied (Sq. Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study. **Recent Field Studies:** Kurup, 1968; S. Chatterjee in Mizoram; ZSI Field survey at Chintripuri District in1997. **Threats:** Hunting; Hunting for medicine; Loss of habitat; Trade. **Trade:** Local. **Other Comments:** Gall bladder trade should be studied and quantified. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Data deficient. **Recommendations: -Research management:** Not known. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Least difficult. Exisiting Captive Population**:** 0.2.3 =5 in Indian zoos and 40.65.0 =105 in zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix): —**. **Compilers:** J.C. Daniel, N. Sivaganesan, S. Paulraj, W. Sunderraj, G. Ramaswamy, .E.A. Jayson.

112. ***Hemitragus hylocrius*** **(Ogilby, 1838) — EN (B1, 2a, 2c, 2d; C2a)** — (Nilgiri tahr) . **Family:** Bovidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Grassy hills above 600-1800 m. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Western Ghats . **-Elevation:** 600-2900 m. **-Range (Sq. Km):** < 5,000. **-Area Occupied (Sq. Km):** < 500. **-Number of location:** 20(Tamil Nadu & Kerala); Fragmented . **Population Trends - % change: -% Decline:** Over all decline . **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** 70% of the total popu. (<1750). **Global Population:** 2500. **Data Quality:** Reliable census; General field study. **Recent Field Studies:** R. Stephen, 1992 onwards in Mukruthi National Park. Forest Department census Kerala, Tamil Nadu; S. Natarajan, 1990-92 in Sirvilliputur; A.J.T. Johnsingh & C. Misra, WII, 1994; Surendravarman, 1995 in Mukruthi National Park, ZSI Survey in Eravikulum National Park in 1990-1993. **Threats:** Human interference; Hunting; Hunting for food; Loss of habitat. **Trade:** No. **Other Comments:** The major viable population (2500) are confined to highly fragmented three locations. Some population are declining, small population found in Mangala devi area of Periyar Tiger Reserve. **Status: -IUCN: ENDANGERED**. **-Criteria based on: B1, 2a, 2c, 2d** (Restricted distribution, severely fragmented, continuing decline observed in area of occupancy and/or extent of occurrence and quality of habitat and in number of locations or subpopulations); **C2a** (Population restricted to very few mature individuals distributed in many locations that are severely fragmented). **-CITES:** No. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Monitoring; Translocations; Survey; Limiting factor management; Limiting factor research; Habitat management. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficult. Exisiting Captive Population**:** 2.0.0 =2 in 1 Indian zoo and 17.17.0 = 34 in 6 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 310.**Compilers:** J.C. Daniel, S. Sivaganesan, E.A. Jayson, A. Venkatraman, G. Ramaswamy, V. Menon, S. Paulraj, R.S. Lal Mohan, M.M. Mansoor, S. Varman.

113. ***Hemitragus jemlahicus*** **(H. Smith, 1826) — LRnt/N** — (Himalayan tahr). **Family:** Bovidae . **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Himalayan alpine meadows/open forests. **Global Distribution:** India, Sikkim, Bhutan, Nepal. **Current Regional Distribution:** Indian Himalaya. **-Elevation:** 2500-4400 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Overall decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field study. **Recent Field Studies:** Fox *et al.*, 1991; M.J.B. Green, 1987; S. Sathyakumar, 1994; M.J.B. Green, 1978 in Langtay Valley, Nepal. **Threats:** Human interference; Hunting for food; Loss of habitat; Trade. **Trade:** Local. **Other Comments:** —. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey, Monitoring, Habitat management. **-PHVA:** Not Known. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. Exisiting Captive Population**:** 1.1.0 =2 in 1 Indian zoo and 78.139.4 =221 in 22 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 25 (v), 116, 117. **Compilers:** J.C. Daniel, S. Sivaganesan, E.A. Jayson, A. Venkatraman, G. Ramaswamy, V. Menon, S. Paulraj, R.S. Lal Mohan, M.M. Mansoor, S. Varman.

114. ***Herpestes endwardsii*** **(Geoffroy Saint-Hilliare, 1818) — LRlc/N** — (Grey mongoose). **Family:** Herpestidae. **Taxonomic status:** Species. **Habit:** Terrestrial, diurnal/nocturnal. **Habitat:** Open scrub, cultivation, rocky patches, forest edges. **Global Distribution:** India, Iran, Iraq, Sri Lanka. **Current Regional Distribution:** Himalayan foothills to Cape Comorin except in moist forests & true desert. **-Elevation:** 0-1000 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field study; Indirect information; Museum/collection/records. **Recent Field Studies:** None. **Threats:** Hunting for trophies; Hunting for food; Hunting for medicine; Trade; Trade for parts. **Trade:** Local; Domestic. **Other Comments:** Very adaptable to disturbances. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Least difficult. Exisiting Captive Population**:** 30.37.7 =74 in 9 Indian zoos. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 207 (v), 243, 297 (xxxiii) . **Compilers:** N.V.K. Ashraf, G. Christopher, R. Borges.

115. ***Herpestes fuscus fuscus*** **Waterhouse, 1838 — VU (B1, 2a, 2b, 2c)** — (Brown mongoose). **Family:** Herpestidae. **Taxonomic status:** Sub-species . **Habit:** Terrestrial, largely nocturnal. **Habitat:** Moist forests. **Global Distribution:** ENDEMIC to Western Ghats . **Current Regional Distribution:** Western Ghats. **-Elevation:** 100-1800 m. **-Range (Sq. Km):** < 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many (Coorg, Nilgiris, Agasthyamalai (Kalakkad, Peppara), Palani Hills, High Wavy mountains); Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known.

Regional Population: Not known. **Data Quality:** General field study; Informal field study; Indirect information; Museum//collection/records. **Recent Field Studies:** D. Mudappa in Kalakkad ongoing; Ajith Kumar & Yoganand in Siruvani ongoing. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** Probably a habitat specialist. **Status: -IUCN: VULNERABLE** . **-Criteria based on: B1, 2a, 2b, 2c** (Restricted distribution, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and quality of habitat). **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Taxonomic and morphological genetic studies; Monitoring; Limiting factor research; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 232, 243. **Compilers:** R. Borges, N.V.K. Ashraf, G. Christopher.

116. *Herpestes javanicus* (E. Geoffroy Saint - Hilliare, 1818) — LRlc/N

— (Small Indian mongoose) .*H. auropunctatus* . **Family:** Herpestidae. **Taxonomic status:** Species. **Habit:** Fossorial, terrestrial, diurnal. **Habitat:** Bushes, hedges, cultivated fields and human habitations. **Global Distribution:** India, Pakistan, China, Malaya, Haiwan, Java, Iran and Iraq. **Current Regional Distribution:** Northern Indian, West Bengal, Bihar, Orissa, Northeastern India. **-Elevation:** Upto 500 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field study; Indirect information. **Recent Field Studies:** ZSI Survey ongoing. **Threats:** Hunting for trophies; Hunting for food; Pesticides; Road kills; Trade for parts. **Trade:** Domestic; Commercial; International . **Other Comments:** Hair traded for brushes and bristles. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Life history studies; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 244. **Compilers:** S. Chattopadhyay, N.V.K. Ashraf, G. Christopher, D. Mudappa.

117. *Herpestes palustris* (Ghose, 1965) — EN (B1, 2a, 2b, 2c, 2d)

— (Marsh mongoose). **Family:** Herpestidae. **Taxonomic status:** Species. **Habit:** Terrestrial, fossorial, aquatic. **Habitat:** Swampy edges infested with reeds. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** North and south 24 Parganas and Howrah District in West Bengal. **-Elevation:** Sea level. **-Range (Sq. Km):** < 5,000. **-Area Occupied (Sq. Km):** < 500. **-Number of location:** 5 (Calcutta, Pataitala, Salt lake, Bantal, Dattavad, Hedearhat, Nalbani, Howrah, Bajbaj). **Population Trends - % change: -% Decline:** Rapid decline (from habitat loss) Since 1965. **-Time / Rate (Yrs or gens):** In 30 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Indirect information; Museum/collection/records. **Recent Field Studies:** ZSI, field surveys, 1991. **Threats:** Catastrophic events; Edaphic factors; Human interference; Loss of habitat; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** Type locality has become a city (earlier was a swamp). **Status: -IUCN: ENDANGERED** . **-Criteria based on: B1, 2a, 2b, 2c, 2d** (Restricted distribution, limited location, continuing decline observed in extent of occurrence, area of occupancy, quality of habitat and number of mature individuals). **-CITES:** No. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 109, 333. **Compilers:** S. Chattopadhyay, N.V.K. Ashraf, G. Christopher.

118. *Herpestes smithii smithii* Gray, 1837 — LRlc/N

— (Indian ruddy mongoose). **Family:** Herpestidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial, Diurnal/Nocturnal. **Habitat:** Dry and Moist forests of Central and Peninslar India. **Global Distribution:** India and Sri Lanka. **Current Regional Distribution:** Peninsular India. **-Elevation:** 0-1000 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field study; Indirect information; Museum/collection/records. **Recent Field Studies:** None. **Threats:** Loss of habitat; Loss of habitat because of fragmentation; Trade for parts; Trade. **Trade:** Local; Domestic; Commercial. **Other Comments:** Study on the ecological separation between muddy, stripe-necked and brown mongoose needs to be done. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 207(iv), 232, 243 . **Compilers:** N.V.K. Ashraf, G. Christopher, R. Borges.

119. *Herpestes urva* (Hodgson, 1836) — VU/N (B1, 2a, 2c)

— (Crab-eating mongoose). **Family:** Herpestidae. **Taxonomic status:** Species. **Habit:** Terrestrial, diurnal, crepescular, more aquatic. **Habitat:** Stream banks, swamps, inundated paddy fields, moist deciduous forests. **Global Distribution:** India, Nepal, Bangladesh, China, Thailand, Malaysia, Taiwan. **Current Regional Distribution:** Northeastern India . **-Elevation:** 0-400 m. **-Range (Sq. Km):** < 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** 3 (Assam, Arunachal Pradesh, Tripura);Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Informal field study. **Recent Field Studies:** ZSI Survey ongoing since, 1978; Srikumar Chattopadhyay, 1993.in Sepahijala, Trishur & Gomti. **Threats:** Loss of habitat; Poisoning. **Trade:** No. **Other Comments:** None. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2a, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence and/or area of occupancy and quality of habitat). **-CITES:**

Appendix III. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. Exisiting Captive Population**:** 1.0.0 =1 in one zoo in India and 2.2.0 =4 in 1 zoo abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 50(i), 207(xxxiii), 244 . **Compilers:** K. Mukherjee, S. Chatopadhyay, G. Christopher, N.V.K. Ashraf, D. Mudappa.

120. ***Herpestes vitticollis*** **Bennett, 1835 — LRnt/N** — (Stripe-necked mongoose). **Family:** Herpestidae. **Taxonomic status:** Species. **Habit:** Terrestrial, Diurnal/Nocturnal. **Habitat:** Dry to moist forests in South India. **Global Distribution:** India and Sri Lanka. **Current Regional Distribution:** Western Ghats from Norh Kanara southwards . **-Elevation:** 150-2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known . **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field study; Indirect information; Museum/collection/records. **Recent Field Studies:** Pradhan, Field Sightings in NBR in 1989-1991. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** This species is frequently sighted. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. .Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 232, 243. **Compilers:** N.V.K. Ashraf, G. Christopher, R. Borges.

121. ***Hesperoptenus tickelli*** **(Blyth, 1851) — DD/N** — (Tickell's bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Sri Lanka, Myanmar, Thailand. **Current Regional Distribution:** Throughout India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records (Sinha, 1980 & 1986 in Rajasthan, Bihar). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Not applicable. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 285, 289. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer, R. Krishnan.

122. ***Hipposideros armiger*** **(Hodgson, 1835) — LRnt/N** — (Himalayan leaf-nosed bat). **Family:** Hipposideridae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Cave, ruins. **Global Distribution:** India, Nepal, Myanmar, China, Southeast Asia. **Current Regional Distribution:** Northeastern India. **-Elevation:** 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many (Assam, Meghalaya). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (BNHS, 1913-1923 in Northeastern India). **Recent Field Studies:** Sinha, 1990 in Meghalaya; M. Muni, 1993 in Mussorie. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 295. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, R. Krishnan.

123. ***Hipposideros ater*** **Temppleton, 1848 — LRnt/N** — (Dusky leaf-nosed bat) . **Family:** Hipposideridae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Ruins. **Global Distribution:** India, Sri Lanka, Southeast Asia, Australia, New Guinea. **Current Regional Distribution:** Throughout India including Nicobar Islands, except Northwestern India. **-Elevation:** 90 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study. **Recent Field Studies:** Usman, 1990 in Tamil Nadu (Ilayangudi); Vanitharani, 1991-95 in Tirunelveli.Marimuthu & Sripathi, 1992-97 in Madurai. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** Shy animal. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Survey. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 146, 320. **Compilers:** M. Muni, R. Krishnan, P.O. Nameer, G. Marimuthu, Y.P. Sinha, P. Padmanabhan.

124. ***Hipposideros cineraceus*** **Blyth, 1853 — DD/N** — (Least leaf-nosed bat) . **Family:** Hipposideridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Pakistan, Myanmar, Southeast Asia. **Current Regional Distribution:** Northern and Central India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:**

Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, P. Padmanabhan, R. Krishnan.

125. ***Hipposideros fulvus*** **Gray, 1838 — LRnt/N** — **Family:** Hipposideridae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Cave, ruins in forested areas. **Global Distribution:** India, Afghanistan, Pakistan, Sri Lanka. **Current Regional Distribution:** Throughout India. **-Elevation:** 1700 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Brosset, 1962; Sinha, 1970 in Gujarat; Sinha, 1974 in Rajasthan; Sinha, 1979 in Bihar; Marimuthu, 1977 in Madurai). **Recent Field Studies:** M. Muni, 1993 in Maharashtra. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 20, 39, 121, 146,171, 285, 286, 297(xiv). **Compilers:** G. Marimuthu, Y.P. Sinha, P. O. Nameer, M. Muni, P. Padmanabhan, R. Krishnan.

126. ***Hipposideros galeritus*** **Cantor, 1846 — DD/N** — (Cantor's leaf-nosed bat). **Family:** Hipposideridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Sri Lanka, Southeast Asia. **Current Regional Distribution:** Throughout India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 38. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer, M. Muni, R. Krishnan.

127. ***Hipposideros lankadiva*** **Kelaart, 1850 — VU/N (B1, 2c)** — **Family:** Hipposideridae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Cave, Ruins. **Global Distribution:** India and Sri Lanka. **Current Regional Distribution:** Throughout India except Northern India. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** < 10. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study. **Recent Field Studies:** M. Muni, 1992 in Madhya Pradesh; M. Muni, 1993 in Maharashtra; Sinha, 1990 -4 in Meghalaya, P.P. Kulkarni in Tadoba National Park 1996. **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** Distribution needs to be checked. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat) . **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 20, 209, 295, 297(xvi). **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, M. Muni, R. Krishnan.

128. ***Hipposideros larvatus*** **Horsfield, 1823 — DD/N** — **Family:** Hipposideridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Southeast Asia. **Current Regional Distribution:** Assam, Meghalaya. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 2, Fragmented . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records (BNHS Collection, 1920 in Meghalaya). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** . **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, R. Krishnan.

129. ***Hipposideros pomona*** **K**. **Anderson, 1918 — DD/N** — **Family:** Hipposideridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Myanmar, China . **Current Regional Distribution:** Southern India, Sikkim and Assam. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000 . **-Number of location:** Many; fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records (BNHS, 1913-1920 in Khasi hills, Chirapunchi, Mishmi Hills, Darjeeling;) . **Recent Field Studies:** Agarwal, 1992 in Arunachal Pradesh, Assam, Meghalaya,

Sikkim. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Data deficient. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 5. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, R. Krishnan.

130. ***Hipposideros schistaceus*** **K. Anderson, 1918 — DD** — **Family:** Hipposideridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Andhra Pradesh and Karnataka. **-Elevation:** Not known. **-Range (Sq. Km):** < 5,000 . **-Area Occupied (Sq. Km):** < 10 . **-Number of location:** (Vijayanagar, Bellari Dist). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk near threatened. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Monitoring; Survey. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer, M. Muni, R. Krishnan.

131. ***Hipposideros speoris*** **(Schneider, 1800) — LRnt/N** — (Schneider's leaf- nose bat) . **Family:** Hipposideridae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Ruins, caves. **Global Distribution:** Central, Northern and southern India and Sri Lanka. **Current Regional Distribution:** Central, northern and southern India. **-Elevation:** 500 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Marimuthu, 1977-97 in Madurai; Sinha, 1976 in Gujarat). **Recent Field Studies:** Vanitharani, 1991-96 in Tirunelveli; Balasingh, 1990 -97 in Tirunelveli; M. Muni, 1992 in Aurangabad, ZSI, WRS, Pune, Collection 1987-1994. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 20, 38, 48, 185, 286, 320. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, M. Muni, R. Krishnan.

132. ***Hyaena hyaena*** **(Linnaeus, 1758) — LRnt/N** — (Striped hyaena). **Family:** Hyaenidae . **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Dry thorn, semi urban, rare in forests but common in scrubs. **Global Distribution:** Southwest Asia, North Africa, India. **Current Regional Distribution:** Throughout India upto desert (subpeninsular India). **-Elevation:** Upto 1000 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field sightings. **Recent Field Studies:** Arumugam, 1995 onwards Pradhan, 1980-85 in Western Ghats . **Threats:** Poisoning; Road kills; Trade. **Trade:** Local; Domestic; International. **Other Comments:** In Africa home range of striped hyena is reported to be 30 km^2 and in S. India, Sigur platean it is approximately 8.10 km2. It seems to be very common in Sigur platean. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule III. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Habitat management; Limiting factor research; Others (Radio telemetry studies). **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Least difficult. Exisiting Captive Population**:** 61.59.21 =141 in 45 zoos in India and 32.32.0 = 64 in 22 zoos abroad. Indian zoo population needs mangement studbook, coordinated programmes etc.,. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 50(iii), 207(xvi). **Compilers:** J.C. Daniel, G. Ramaswamy, N. Sivaganesan, W. Sunderraj, A. Venkatraman.K.K. Ramachandran, S. Paulraj, G.K. Joseph, D.K. Lahiri Choudhury.

133. ***Hylopetes alboniger*** **(Hodgson, 1836) — VU/N (B1, 2a, 2b, 2c)** — (Parti-coloured flying squirrel). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Arboreal (Nocturnal). **Habitat:** Temperate forests. **Global Distribution:** India, Nepal, China, Myanmar, Thailand, Vietnam, Hainan. **Current Regional Distribution:** Sikkim Himalaya, Mizoram, Arunachal Pradesh, Nagaland. **-Elevation:** 1000-2500 m. **-Range (Sq. Km):** < 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** < 10. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field study; Indirect information; Museum/collection/records. **Recent Field Studies:** ZSI Faunistic survey - ongoing in entire range . **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** . **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2a, 2b, 2c** (Restricted distribution, limited location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring; Habitat management; Limiting factor management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1 . **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 335. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay, W. Sunderraj, N.V.K. Ashraf, G. K. Joseph.

134. ***Hylobates hoolock*** **(Harlan, 1834) — VU/N (C2a)** — (Hoolock Gibbon). **Family:** Hylobatidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Evergreen forests, Hill forests, tropical rain forests . **Global Distribution:** India, Mayanmar, Bangladesh. **Current Regional Distribution:** Assam, Arunachal Pradesh, Meghalaya, Tripura, Mizoram, Northeast India. **-Elevation:** 100-1000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; fragmented. **Population Trends - % change: -% Decline:** Decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** < 10,000. **Global Population:** > 30,000. **Regional Population:** > 15,000 (>6000 in Assam, >5000 Arunachal Pradesh). **Data Quality:** Reliable census; General field studies. **Recent Field Studies:** J.R.B. Alfred in Garo Hills; A. Choudhury, 1986-97 in northeastern India. **Threats:** Hunting; Hunting for food; Hunting for medicine; Loss of habitat; Loss of habitat because of fragmentation; Trade; Trade for parts. **Trade:** Local, Domestic. **Other Comments:** Due to loss of canopy bridging, loss of habitat it is to be put under endangered category - Chiners in 1972 (BNHS) said there were 80,000 individuals Mukherjee said 9.06 individuals per sq. km. During Mar-Apr 1997, in troupes (comparatively 6-7 individuals) were located in Gnengpai Reservoir, Mizoram. Loss of habitat due to Jhum cultivation. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2a** (Very few number of mature individuals in fragmented populations and continuing decline observed). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Data deficient. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor management; Limiting factor research. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** 5.5.0 =10 in 9 zoos in India. These individuals need to be paired in a couple.of good zoos with management. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 44(iv), 52, 57, 59, 60, 64, 69, 72, 74, 79 . **Compilers:** J.C. Daniel, L. Choudhury, Ramaswamy, W. Sunderraj, V. Menon, G.K. Joseph, Ravi, S. Chattopadhyay.

135. ***Hylopetes barberi*** **(Blyth, 1847) — DD/N** — **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** Not known. **Current Regional Distribution:** Not known. **-Elevation:** —. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk near threatened. **Recommendations: -Research management:** . **-PHVA:** Not Known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay, W. Sunderraj, N.V.K. Ashraf, G.K. Joseph .

136. ***Hylopetes fimbriatus*** **(Gray, 1837) — LRnt/N** — (Small Kashmir flying squirrel). **Family:** Scinridae. **Taxonomic status:** Species. **Habit:** Arboreal, nocturnal. **Habitat:** High reaches of temperate forest (Mostly maph forests). **Global Distribution:** India, Pakistan, Nepal. **Current Regional Distribution:** Jammu & Kashmir, Himachal Pradesh and Sikkim. **-Elevation:** 2000-3500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field study; Indirect information; Museum/herbarium/collection/records. **Recent Field Studies:** ZSI, Solan station surveys - ongoing in Kumaon, Gharwal in Himachal Pradesh and Uttar Pradesh; Peter Gastron, Malcom, Hintor on Indo, US, UK - Himachal survey report - ongoing in Himachal Pradesh; A.J. Gastron, 1984. **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** Firewood collection, tourism affected the population. **Status: -IUCN: LOWER RISK - NEAR THREATENED (NATIONALLY)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** . **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Habitat management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1 with extreme caution and genuine expertise. **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 336. **Compilers:** R. Borges, K.K. Ramachandram, S. Chattopadhyay, G.K. Joseph, S. Paulraj, W. Sunderraj, N.V.K. Ashraf.

137. ***Hyperacrius fertilis*** **(True, 1894) — DD/N** — (True's vole). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Colonial, fossorial. **Habitat:** Subalpine, scrub and meadows. **Global Distribution:** India, Pakistan. **Current Regional Distribution:** Jammu & Kashmir and Punjab. **-Elevation:** 2450-3600 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 10 (Specific location). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records; General field study (Charkravarthy, 1982 in Kashmir). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** — . **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 45, 84, 99. **Compilers:** S. Chakrobarthy, M.S. Pradhan, M. Muni, P. Padmanabhan, K.A. Subramanian, P.O. Nameer.

138. **Hyperacrius wynnei (Blanford, 1881) — VU/N** — (Murree vole). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Pine forests & associated grass grounds. **Global Distribution:** Pakistan and India. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 1850-3050 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** < 5 (Kashmir). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** No. **Trade:** Not

known. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to less than five locations). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 44, 84, 99 . **Compilers:** S. Chakraborthy, M.S.Pradhan, M. Muni, P. Padmanabhan, K.A. Subramanian, P.O. Nameer.

139. ***Hystrix brachyura*** **Linnaeus, 1758 — VU/N (B1, 2b, 2d; D2)** — *Acanthion hodgsoni*. **Family:** Hystricidae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Forested tracts in and around cultivation. **Global Distribution:** India, Nepal, Bangladesh, China, Myanmar, Malaysia, Sumatra, Borneo, Vietnam, Singapore. **Current Regional Distribution:** Central and eastern Himalayas, Nagaland. **-Elevation:** 1500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 4 Highly fragmented (Isolated populations) (Specific location). **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Indirect information; Museum/collection/records. **Recent Field Studies:** Mukherjee, 1997 in West Bengal, Sikkim; ZSI, 1990 -95 in Northeast India. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** As per given IUCN criteria it comes under VU but faunistic survey in its habitats .for last 30 years by the ZSI could not find single specimen except some quills, .it appears that its population has declined to a great extent and as such should be considered as EN. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2b, 2d** (Restricted distribution, limited location, severely fragmented, continuing decline observed in area of occupancy and no of locations or subpopulation); **D2** (Population restricted to less then five locations). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 244, 338. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

140. ***Hystrix indica*** **Kerr, 1792 — LRlc/N** — (Indian porcupine). **Family:** Hystricidae. **Taxonomic status:** Species. **Habit:** Fossorial and cave dwelling. **Habitat:** Rocky hill sides and also any other open land and forest. **Global Distribution:** India, Sri Lanka, Nepal, Pakistan, West to Israel and North to Soviet Turkistan. **Current Regional Distribution:** Almost throughout India from peninsular India and east to West Bengal. **-Elevation:** 2400 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field study; Indirect information; Museum/collection/records. **Recent Field Studies:** Mukherjee, 1992 -97 in West Bengal and Bihar; A.K. Chakravarty, 1990 -96 in Bihar, Andhra Pradesh, Gujarat; M.S. Pradhan, 1990 -97 in Western Ghats in Melghat & Tadoba Tiger Projects, Maharashtra; A.K. Chakravarthy, 1996 in Karnataka. **Threats:** Hunting for food; Trade for parts. **Trade:** Domestic. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 5. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** 73.73.105 =251 in 53 Indian zoos and 3.6.6 =15 in 2 zoos abroad. This common species needs to be managed in captivity such that it does not. Overpopulate zoos taking up space better, used for breeding endangered species. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 84, 99, 244, 258. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian, A.K. Chakravarthy.

141. ***Ia io*** **Thomas, 1902 — EN/N (B1, 2c)** — (Great evening bat) . **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Cave dweller. **Global Distribution:** India, China, Thailand, Vietnam. **Current Regional Distribution:** Assam, Meghalaya. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 2; Fragmeted. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study. **Recent Field Studies:** Sinha, 1992 in Meghalaya. **Threats:** Human interference. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk near threatened. **Recommendations: -Research management:** Survey; Monitoring; Taxonomic and morphological genetic studies. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 297(xxiv). **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, Riki Krishnan.

142. ***Kerivoula hardwickii*** **(Horsfield, 1824) — DD/N** — (Hardwicke's forest bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Sri Lanka, Southeast Asia. **Current Regional Distribution:** India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, A.K Chakravarthy, R. Krishnan.

143. ***Kerivoula papillosa*** **(Temminck, 1840) — DD/N** — (Papillose bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India and Southeast Asia. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, A.K. Chakravarthy, R.Krishnan.

144. ***Kerivoula picta*** **Pallas, 1767 — LRnt/N** — (Painted bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Solitary to small groups. **Habitat:** Near human inhabitations among banana plantations. **Global Distribution:** India, Sri Lanka, Southeast Asia. **Current Regional Distribution:** Throughout India. **-Elevation:** Upto 100 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field study; General field study (Brosset, 1962 in C & W India). **Recent Field Studies:** Jayson, Ramachandran, 1990 in Peechi; Nameer, 1997 in Vellanikkara,.Trichur; Marimuthu, 1995 in Salem; Sanjay, 1980s in Bombay (BNHS .collections); M. Muni in Kutuch; M.S. Pradhan in Goa; A. Madhavan 1992 in Trichur; A.K. Chakravarthy, 1997 in Bangalore (Personal observation). **Threats:** Human interference. **Trade:** Not known. **Other Comments:** The specimen collected from Vellanikkara, two young ones clinging on to the belly of the adult animal (Nameer). Two young ones found hanging separately from adults under banana leaves (A.K. Chakravarthy). **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Survey. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 38, 136. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, A.K. Chakravarthy, R. Krishnan.

145. ***Kogia breviceps*** **(Blainville, 1838) — LRnt/N** — (Pygmy sperm whale). **Family:** Physeteridae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic. **Global Distribution:** World wide Indian Ocean, Pacific and Atlantic. **Current Regional Distribution:** Indian waters. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Not known. **Recent Field Studies:** Allingar, 1983 in Indian Ocean; Stephen Leatherwood , 1986. **Threats:** Fishing. **Trade:** Not known. **Other Comments:** A rare form, two records from the stranding (Washed shore data). **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Not evaluated. **Recommendations: -Research management:** Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 162. **Compilers:** R.S. Lal Mohan, J.C. Daniel, S. Paulraj, G. Ramaswamy.

146. ***Kogia simus*** **(Owen, 1866) — LRnt/N** — (Dwarf sperm whale). **Family:** Physeleridae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic. **Global Distribution:** Tropical and Subtropical waters. **Current Regional Distribution:** Indian waters. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 2. **Population Trends - % change: -% Decline:** Not known . **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Not known. **Recent Field Studies:** Recorded from east coast of India. **Threats:** Fishing. **Trade:** No. **Other Comments:** Stray occurance. Only one or two records from Indian coast. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Not evaluated. **Recommendations: -Research management:** Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 134. **Compilers:** R.S. Lal Mohan, J.C. Daniel, S. Paulraj.

147. ***Latidens salimalii*** **Thonglongya, 1972 — EN (B1, 2a; C2a)**. **Family:** Pteropodidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Evergreen Forests. **Global Distribution:** ENDEMIC to Western Ghats. **Current Regional Distribution:** Western Ghats. **-Elevation:** 800-1100 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 2; Fragmented High wavy mountains & Agasthyamalai Hill in Tamil Nadu. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** < 500. **Data Quality:** Reliable census; General field study; Museum/collection/records. **Recent Field Studies:** M. Muni, 1993 in high wavy mountains; Saha, 1995 in Tamil Nadu.side of Agasthaymalai. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** Manoj Muni collected 6 specimens at High wavy mountains; ZSI collected about 10 specimens from Agasthyamalai hills, Tamil Nadu. **Status: -IUCN: ENDANGERED** . **-Criteria based on: B1, 2a** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence); **C2a** (Restricted number of mature individuals in fragmented populations and continuing decline observed) . **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Critically endangered. **Recommendations: -Research management:** Husbandry research; Survey; Monitoring; Life history studies; Taxonomic and morphological genetic studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of**

difficulty: Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 19, 208. **Compilers:** G. Marimuthu, Y.P. Sinha, J.C. Daniel, P.O. Nameer, P. Padmanabhan, R.Krishnan, M. Muni, A.K. Chakravarthy.

148. ***Leopoldamys edwardsi*** **(Thomas, 1882) — DD/N** — (Edward's rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Rain forests at hilly region. **Global Distribution:** India, China, Myanmar, Malaysia, Indochina, Thailand, and Vietnam. **Current Regional Distribution:** West Bengal, Nagaland, Arunachal Pradesh, Meghalaya. **-Elevation:** 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** Schedule V. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99. . **Compilers:** S. Chakraborty, M.S. Pradhan, M.Muni, K.A. Subramanian.

149. ***Lepus capensis*** **(Linnaeus,1758) — DD/N** — (Cape hare). **Family:** Leporidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** Not known. **Current Regional Distribution:** Not know. **-Elevation:** Not known . **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** —. **Compilers:** R. Borges, K.K. Ramachandran,S. Chattopadhyay, G.K. Joseph.

150. ***Lepus nigricollis*** **(F**. **Cuvier, 1823) — LRlc/N** — (Black-naped hare). **Family:** Leporidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** All habitats except high altitudes. **Global Distribution:** India, Sri Lanka, Pakistan, Nepal, Bangladesh. **Current Regional Distribution:** Throughout India except in high altitude. **-Elevation:** > 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field study; Indirect information; Museum/collection/records. **Recent Field Studies:** None. **Threats:** Hunting; Loss of habitat; Pesticides; Poisoning. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Limiting factor management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 5. **-Level of difficulty:** Least difficult. Exisiting Captive Population**:** 29.28.47 =104 in Indian zoos. This common species should be managed in captivity so that it does not proliferate to an extreme. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 297(xxxi). **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay, G.K. Joseph, K. Mukherjee.

151. ***Loris tardigradus*** **(Linnaeus, 1758) — LRnt/N** — (Slender loris). **Family:** Loridae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Forest types of tropical rain forests to Scrub jungles. **Global Distribution:** India and Sri Lanka. **Current Regional Distribution:** Karnataka, Tamil Nadu, Andhra Pradesh, Kerala. **-Elevation:** Up to 1000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Data Quality:** General field study; Informal field study; Indirect information. **Recent Field Studies:** Cauberi Kutty, 1993; KFRI surveys ongoing; Balakrishan KAU ongoing. **Threats:** Hunting; Hunting for medicine; Trade. **Trade:** Local; Commercial . **Other Comments:** Caught for folklore medicine with many supersitions, Commercially Threatened. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor management; Habitat management; Limiting factor research; Life history studies; Others (Radio telemetry). **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** 1.5.3 =9 in 3 zoos in India and 18.13.4 in 11 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 97(ii), 281(v). **Compilers:** W. Sunderraj, K.K. Ramachandran, G.K. Joseph, J.C. Daniel, S. Paulraj, M.V. Ravikumar, N. Sivaganesan, G. Ramaswamy.

152. ***Lepus oiostolus*** **(Hodgson, 1840) — DD/N** — (Woolly hare). **Family:** Leporidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Amidst dwarf Juniper, dwarf rhododendron, Alpine medow, plateau beyond snow line. **Global Distribution:** Tibet, Nepal, China, India. **Current Regional Distribution:** Jammu & Kashmir and Sikkim. **-Elevation:** 3500-6000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** No. **Captive Breeding**

Recommendations: -Captive breeding: Pending. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 8. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattophadyay, G.K. Joseph.

153. ***Lutra lutra*** **(Linnaeus, 1758) — NE/N** — (Common otter). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Aquatic-lives in water and the adjacent river banks. **Habitat:** Streams, rivers, creeks of hills and mountains. **Global Distribution:** India, Sri Lanka, Southeast Asia. **Current Regional Distribution:** Southern and northern India . **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** Not known. **Threats:** Not known. **Trade:** Not known. **Other Comments:** This taxon was referred to Husain for more information by the group. But information was not provided. **Status: -IUCN: NOT EVALUATED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part II. **-RDB, National (1994):** No . **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 17.10.4 = 31 in 13 zoos in India and 29.32.2 = 63 in 20 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 207(vi). **Compilers:** N.V.K. Ashraf, D. Mudappa, G. Christopher, S. Chattopadhyay.

154. ***Lutra perspicillata*** **(I**. **Geoffroy Saint Hilaire, 1826) — NE** — (Smooth Indian otter). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Aquatic. **Habitat:** Reservoirs, large rivers, tanks in lower altitudes. **Global Distribution:** Not known. **Current Regional Distribution:** Not known. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** Not known. **Threats:** Not known. **Trade:** Not known. **Other Comments:** This taxon was referred to Hussain for more information by the group. But information was not provided. **Status: -IUCN: NOT EVALUATED**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No . **-RDB, International (1996):** No. **Recommendations: -Research management:** Not known. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 4.2.0 = 6 in 3 Indian zoo and 2.3.0 = 5 in 2 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix): —**. **Compilers:** N.V.K. Ashraf, D. Mudappa, G. Christopher, S. Chattopadhyay.

155. ***Lynx lynx isabellina*****, Blyth — EN/N (B1, 2b, 2c)** — **Family:** Felidae . **Taxonomic status:** Sub-species. **Habit:** Crepuscular, Terrestrial. **Habitat:** Temperate forests, Scrub woodland.**Global Distribution:** Afghanistan, Pakistan, India, Tibet, Nepal. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 2500-3500 in summer. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 1(Hemis National Park) . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Indirect information. **Recent Field Studies:** None. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2b, 2c** (Restricted distribution, single location, continuing declilne observed in area of occupancy and/or extent of occurrence and quality of habitat). **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. Exisiting Captive Population**:** 2.0.0 = 2 in 1 Indian zoo and 36.29.2 =67 in 24 zoos abroad (listed as.Felis lynx lynx). **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 221, 243. **Compilers:** N.V.K. Ashraf, D. Mudappa, G. Christopher.

156. ***Macaca arctoides*** **(I**. **Geoffroy, 1831) — LRnt/N** — (Stump-tailed macaque). **Family:** Cercopithecidae. **Taxonomic status:** Species. **Habit:** Terrestrial, Semi-arboreal. **Habitat:** Dense forests. **Global Distribution:** China, Tibet, Myanmar, Thailand and India. **Current Regional Distribution:** Nagaland, Arunachal Pradesh, Meghalaya, Parts of Assam, Tripura. **-Elevation:** 2400 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** about 25,000 . **Regional Population:** Not known. **Data Quality:** General field study; Informal field study. **Recent Field Studies:** A.K. Srivastava & Mohnot, 1996 ongoing northeastern India; Mukherjee, ZSI, 1982 **;** Mandal & Bhatacharya, 1992; Alfred, ZSI, 1992 in northeastern India. **Threats:** Hunting; Loss of habitat; Trade. **Trade:** Domestic. **Other Comments:** Naga people hunt and eat in spite of its unpleasant characteristic. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**.**-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Life history studies. **-PHVA:** Pending . **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** 23.18.0 = 41 in 14 zoos in India . **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 78(i). **Compilers:** J.C. Daniel, D.K. Lahiri Choudary, W. Sunderraj, G. K. Joseph, S. Paulraj, .K.K. Ramachandran, G. Ramaswamy, M.V. Ravikumar.

157. ***Macaca assamensis*** **(M'clelland, 1840— LRnt/—**(Assamese macaque). **Family:** Cercopithecidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Forest types of Northeastern India. **Global Distribution:** Northeastern India, Myanmar, Bangladesh, Southeast Asia. **Current Regional Distribution:** Himalaya from Mussouri eastward to hills of Assam and forests of Arunachal Pradesh. **-Elevation:** 200-2750 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not knoown. **-Time / Rate (Yrs or gens):**

Not known. **-No of Mature Individuals:** Not known. **Global Population:** about 25,000 . **Regional Population:** Not known. **Data Quality:** General field studies; Indirect information. **Recent Field Studies:** Srivastava & Mohnot, 1996 ongoing in northeastern India ; J.R.V. Alfred, ZSI, 1987; K. Mukherjee in Calcutta. **Threats:** Human interference; Hunting for food; Loss of habitat. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**.**-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, PartI. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** Pending further data. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** 44.24.6 = 74 in 17 zoos in India and 0.1.0 = 1 in 1 zoo abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 44(iii), 207(viii), 323(ii). **Compilers:** J.C. Daniel, D.K. Lahiri Choudary, W. Sunderraj, G. K. Joseph, S. Paulraj, .K.K. Ramachandran, G. Ramaswamy, M.V. Ravikumar.

158. ***Macaca fascicularis umbrosa*** **(Raffles, 1821) — CR/N (C2a)** — (Crab-eating macacque). **Family:** Cercopithecidae . **Taxonomic status:** Sub-species. **Habit:** Arboreal, Terristrial and aquatic. **Habitat:** Tropical rain forest, Mangroves, Coastal forest. **Global Distribution:** India, Myanmar, Sumatra, Java, Borneo, Phillipines, Vietnam to Malaysia. **Current Regional Distribution:** Andaman & Nicobar islands. **-Elevation:** 0-100 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 5 (Kondul, Nevidera, Pilukanji, Pilubhari and Galathia National Park in Nicobar). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** < 250. **Global Population:** < 10,000 . **Regional Population:** 360 in 1994, 83 in 1992. **Data Quality:** Reliable census; General field study; Informal field sightings. **Recent Field Studies:** Saha, 1994 - ZSI ; M.V. Ravikumar & P.V. David, 1996 . .**Threats:** Human interference; Loss of habitat; Predation. **Trade:** Not known. **Other Comments:** Feeds on wild fruits, leaves, banana, guava, papaya, cashew nut, pandanus fruit etc, also feeds on molluscs and crabs occassionally coconut crabs. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globaly)**. **-Criteria based on: C2a** (Number restricted and in fragmented locations with continuing decline). **-CITES:** Appendix II. **-IWPA (1972;91):** ScheduleI, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Least difficult. Exisiting Captive Population**:** 10.7.0 = 17 in Hadoo Mini Zoo, Port Blair only it is breeding. Many of uncertain Sub-species in zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 245a. **Compilers:** J.C. Daniel, D.K. Lahiri Choudary, M. Ravikumar, W. Sunderraj, G. Ramaswamy.K.K. Ramachandran, S. Chattopadhyay, G.K. Joseph, S. Walker.

159. ***Macaca mulatta*** **(Zimmermann, 1780) — LRlc/N** — (Rhesus macaque). **Family:** Cercopithecidae. **Taxonomic status:** Species. **Habit:** Semi-arboreal. **Habitat:** Urban, semi-urban, forested area. **Global Distribution:** India, Myanmar, Indochina. **Current Regional Distribution:** Whole of northern India (North of Godavari) up to Assam. **-Elevation:** Up to 2500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Increasing. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Abundant. **Regional Population:** Abundant. **Data Quality:** Reliable census; General field study. **Recent Field Studies:** I. Mallick near Delhi; S.M. Mohnot & group, 1994 onwards. **Threats:** Trade. **Trade:** Domestic; Commercial. **Other Comments:** Probably no need to keep any in captivity from conservation view . **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Others (Urban pest management). **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 5.2. **-Level of difficulty:** Least difficult. Exisiting Captive Population**:** 204.176.83 = 463 in 76 zoos in India and 68.176.16 = 260 in 21 zoos abroad. Far too Many in zoos and need population management in India. Population control required to free space and resources for endangered species. Animals captured as pests should not be taken in zoos. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 297(xxxvi). **Compilers:** J.C. Daniel, W. Sunderraj, K.K. Ramachandran, G.K. Joseph, S. Paulraj, G. Ramaswamy, M.V. Ravikumar.

160. ***Macaca nemestrina*** **(Linnaeus, 1766) — DD/N** — (Pig-tail macaque). **Family:** Cercopithocidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Dense evergreen forests. **Global Distribution:** India, Southeast Asia up to Bornea. **Current Regional Distribution:** Meghalaya, Nagaland, Tripura. **-Elevation:** 1000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies; Informal field sightings. **Recent Field Studies:** A.J.T. Johnsingh & Sankar Ram, 1995 on Primates of northeastern India. **Threats:** Not known. **Trade:** Not Known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, PartI . **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Life history studies. **-PHVA:** Pending further data. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** 9.1.0 = 10 in 9 zoos in India and 26.37.16 = 79 in 17 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 78(ii). **Compilers:** J.C. Daniel, W. Sunderraj, K.K. Ramachandran, G.K. Joseph, S. Paulraj, G. Ramaswamy, M.V. Ravikumar.

161. ***Macaca radiata*** **(E**. **Geoffroy, 1812) — LRlc** — (Bonnet macaque). **Family:** Cercopithecidae. **Taxonomic status:** Species. **Habit:** Semi-arboreal. **Habitat:** Forested, urban, semiurban, rural etc.,. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Peninsular India up to 21^0 N. **-Elevation:** 2500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Increasing. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** 25,000+.
Data Quality: Reliable census; Informal field study; General field study. **Recent Field Studies:** KFRI, 1993 Shendurney WLS, Kerala; KFT, 1989 ; Mewa Singh ; AVC, 1994; A.K. Chakravarthy from 1980-97 in western ghats area plantations of coconut, areca, cocoa, etc., and even in rural areas and plantations. A severe pest on fruit and vegetables crops in S. India (details

available). **Threats:** Loss of habitat; Predation. **Trade:** No. **Other Comments:** Considered a problem species in urban areas. **Status: -IUCN: LOWER RISK - LEAST CONCERN** . . **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 5.2. **-Level of difficulty:** Least difficult. Exisiting Captive Population**:** 152.94.186 = 432 in 44 Indian zoos and 13.21.6 = 40 in 6 zoos abroad. Far too Many in zoos and need population management in India. Population control required to free space and resources for endangered species. Animals captured as pests should not be taken in zoos. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 77(iv), 245a, 281(iii). **Compilers:** W. Sunderraj, J.C. Daniel, K.K. Ramachandran, G. K. Joseph, G. Ramaswamy, M.V. Ravikumar, S. Paulraj, A.K. Chakravarthy.

162. ***Macaca silenus*** **(Linnaeus, 1758) — EN (B1, 2c; C2a)** — (Lion- tailed macaque). **Family:** Cercopithecidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Evergreen, Semievergreen. **Global Distribution:** ENDEMIC to Western Ghats. **Current Regional Distribution:** Western Ghats . **-Elevation:** 600 to 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** Many-Highly fragmented (Kerala, Tamil Nadu, Karnataka). **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** < 2,500. **Global Population:** 3,000-4,000 . **Data Quality:** Reliable census; General field study. **Recent Field Studies:** Ajit Kumar, 1987 onwards in Top Slip, 1993-96 Anamalais, Indra Gandhi Wildlife Sanctuary; Gigi K. Joseph & Ramachandran, KFRI, 1993 - 96in Silent Valley; Haridas, Paulraj & Ramaswamy, 1994-96 in Srivilliputhur; Mewa Singh, 1993 onwards in Indra Gandhi Wildlife Sanctuary; Sakthivelu & Ramaswamy, 1996-97 . **Threats:** Loss of habitat; Hunting; Trade; Hunting for food; Hunting for medicine. **Trade:** Local. **Other Comments:** Cutting of trees for plantation in its habitat is of much concern, Killed by .domestic dog, power line. Endoparasite observed in the excreta. LTM Project should be launched in line with Elephant Project and coordinated by SACON, AVC, KFRI & KAR) Macaca radiata is a competitor in plantation areas of Karnataka part of Western Ghats (A.K. Chakravarthy field studies from 1980-97). **Status: -IUCN: ENDANGERED** . **-Criteria based on: B1, 2c** (Restricted distribution, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); **C2a** (Number restricted and continuing decline observed in severely fragmented locations) . **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring; Habitat management; Limiting factor management; Limiting factor research (LTM Survey annually involving the 3 states). **-PHVA:** PHVA conducted in 1993. Recommendation should be included in Action Plan for saving the lion tailed Macaque. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** No. Exisiting Captive Population**:** 34.34.6 =74 in 22 Indian zoos and 151.156.23 = 330 in 51 zoos abroad. Zoos need to manage LTM population in coordinated fashion putting single animals and exchanging for maintaining genetic diversity.**-Name of facilities:** Refer appendix.**Sources (Refer Appendix):** 97(iii), 147(i), 164, 165, 309(ii) .**Compilers:** J.C. Daniel, K.K. Ramachandran, W. Sunderraj, G.K. Joseph, S. Walker, S. Molur, S. Paulraj, N. Sivaganesan, M.V. Ravi, G. Ramaswamy.

163. ***Macroglossus sobrinus*** **K. Anderson 1911 — DD/N** — **Family:** Pteropodidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Southeast Asia. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records; General field study (Saha, 1985 in Northeastern India). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy,P. Padmanabhan, R. Krishnan.

164. ***Manis crassicaudata*** **(Gray, 1827) — LRnt/N** — (Indian pangolin). **Family:** Manidae. **Taxonomic status:** Species. **Habit:** Terrestrial, nocturnal, fossorial. **Habitat:** Scrub, urban cultivation, dry and moist forest except true desert . **Global Distribution:** India, Pakistan, Bangladesh. **Current Regional Distribution:** Throughout India, except northeastern region desert and the Himalaya. **-Elevation:** 0-15000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field sightings; Indirect information; Museum/collection/records. **Recent Field Studies:** None. **Threats:** Human interference; Hunting; Hunting for medicine; Trade for parts, Trade. **Trade:** Local; Domestic. **Other Comments:** Appears to be an adaptable species frequentlly encountered. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Lower risk-near threatened. **Recommendations: -Research management:** Monitoring; Life history studies; Husbandry research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** 3.3.16 = 22 in 6 zoos in India. This species never has bred under captive (cage) conditions in India but do well when released free in often zoo grounds. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 84, 155, 231, 242, 297(xxx). **Compilers:** N.V.K. Ashraf, G. Chistopher, R. Borges, G.K. Joseph, S. Walker.

165. ***Manis pentadactyla*** **Linnaeus, 1758 — LRnt/N** — (Chinese pangolin). **Family:** Manidae. **Taxonomic status:** Species. **Habit:** Nocturnal, fossorial, terestrial. **Habitat:** Cultivation, forests, open areas. **Global Distribution:** India, Nepal, Myanmar, China. **Current Regional Distribution:** Northeastern India excluding Himalaya. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global**

Population: Not known. **Regional Population:** Not known. **Data Quality:** Informal field sightings; Indirect information; Museum/collection/records. **Recent Field Studies:** ZSI, 1993 in Buxa Tiger Reserve and east Sikkim. **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED(Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** ScheduleI, PartI. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** Lower risk-near threatened. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** None in India but 5.4.0 = 9 in 3 zoos abroad. **-Name of facilities:** —. **Sources (Refer Appendix):** 231, 242. **Compilers:** N.V.K. Ashraf, G. Christopher, R. Borges.

166. ***Marmota bobak*** **— EN/N (B1, 2a, 2b, 2c, 3b, 3c)** — (Himalayan marmot). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Terrestrial fossorial (diurnal). **Habitat:** Above trees lines, Amidst dwarf rhododentran and dwarf juniper. **Global Distribution:** India, Nepal, China, Bhutan. **Current Regional Distribution:** Sikkim. **-Elevation:** 3000 m. and above. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** Many; Fragmented (Kinchindzadha massif and kerang plateau). **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Indirect information; Museum/collection/records. **Recent Field Studies:** ZSI Survey, 1970-94 in entire range. **Threats:** Human interference; Loss of habitat; War. **Trade:** Not known. **Other Comments:** Infanticide known to occur in the species. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2a, 2b, 2c, 3a, 3b** (Restricted distribution, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy, quality of habitat and extreme fluctuation in extent of occurrence and area of occupancy) . **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Habitat management; Limiting factor management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 337. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattophadaya, S. Chakraborthy, .M.S. Pradan, G. Chistopher, K.A. Subramanian,.

167. ***Marmota caudata*** **(Geoffroy, 1844) — VU/N (B1, 2a, 2b, 2c)** —(Long -tailed marmot).**Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Terrestrial and Fossorial. **Habitat:** Rocky, scree, alpine meadows above treeline. **Global Distribution:** India, Kirgistan, Tadzhikisthan, Afghanistan, Pakistan, China. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 3000 m. & above. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented (Ladakh and other part of Kashmir). **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field sightings; Indirect information; Museum/collection/records. **Recent Field Studies:** Brig. Mati Dhar, 1978-79 onwards in Ladak; ZSI, Dehradun survey ongoing in Ladak. **Threats:** Human interference; Hunting; Hunting for food; Loss of habitat; War. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2a, 2b, 2c** (Restricted distribution, severely fragmented, continuing decline observed in extent of occurrence , area of occupancy and quality of habitat) . **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk-near threatened . **Recommendations: -Research management:** Survey; Monitoring; Limiting factor management; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —. Compilers:** R. Borges; K.K. Ramachandran; S. Chattopadhyay, G. K. Joseph, W. Sunderraj.

168. ***Martes flavigula*** **(Boddaert, 1785) — LRlc/N** — (Himalayan marten). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Diurnal, crepescular, terrestrial, arboeral. **Habitat:** Riverine, tropical and sub-tropical forest, alpine meadows. **Global Distribution:** India, Russia, South and southeast Asia. **Current Regional Distribution:** Northern and northeastern India except Tripura. **-Elevation:** 300-4500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** General field study; Informal field sightings; Indirect information; Museum/collection/records. **Recent Field Studies:** ZSI, 1980-85 in Himachal Pradesh; ZSI ongoing 1975 onwards. **Threats:** Hunting; Trade for parts. **Trade:** Not known. **Other Comments:** Raid poultry and musk deer in farms (fiece predators). **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. Exisiting Captive Population**:** 1.1.0 = 2 in 2 Indian zoos and 6.4.2 = 12 in 6 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 244, 336. **Compilers:** E.A. Jayson, S. Chattopadhyay, G. Christopher, D. Mudappa, M.V. Ravi kumar.

169. ***Martes foina*** **(Erxleben, 1777) — DD/N** — (Beech marten). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Diurnal /Nocturnal. **Habitat:** Temperate and alpine areas of Himalayas. **Global Distribution:** Central and south Europe, Central, west, southwest Asia except Arabia and penetrating the Himalaya as far east as Sikkim. **Current Regional Distribution:** Kashmir east to Sikkim Himalayas. **-Elevation:** 1500-3500 m. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive**

breeding: Pending. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 232, 243. **Compilers:** G. Christopher, N.V.K. Ashraf, R. Borges.

170. ***Martes gwatkinsi*** **(Horsfield, 1851) — VU (B1, 2b, 2c)** — (Nilgiri marten). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Terrestrial, arboreal, diurnal. **Habitat:** Shola grasslands, dry and moist tropical forest, tropical evergreen forests. **Global Distribution:** ENDEMIC to Western ghats. **Current Regional Distribution:** Western Ghats. **-Elevation:** 350-2500 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** not known. **Data Quality:** General field study; Informal field study; Indirect information; Museum/collection/records. **Recent Field Studies:** Yoganand & Kumar, 1995 in Nilgiri Biosphere Reserve; D. Mudappa, 1996-97 in Kalakkad Tiger Reserve; Christopher & Jayson, 1996 in Silent Valley & Peppera Wildlife Sanctuary; M.D. Madhusudan, 1995 in Eravikulam National Part; J. Joshua, 1992 in Srivilliputhur. **Threats:** Human interference; Hunting; Loss of habitat; Loss of habitat because of fragmentation. **Trade:** None. **Other Comments:** Accidental hunting; Considering a pest in Kodagu (Coorg) killed while .raiding honey boxes. **Status: -IUCN: VULNERABLE**. **-Criteria based on: B1, 2b, 2c** (Restricted distribution, severely fragmented, continuing decline observed in area of occupancy and/or extent of occurrence and quality of habitat) . **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Life history studies; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 83, 113, 115, 128, 174, 232, 244, 65, 270, 330. **Compilers:** E.A. Jayson, G. Christopher, M.V. Ravikumar, D. Mudappa.

171. ***Megaderma lyra*** **E.Geoffroy, 1810 — LRlc/N** — (Indian false vampire). **Family:** Megadermatidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Caves, old ruins, wells. **Global Distribution:** India, Afghanistan, Pakistan, Sri Lanka and southeast Asia. **Current Regional Distribution:** Throughout India. **-Elevation:** Plains. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records; General field studies; (Sinha, 1976 in Gujarat; Sinha, 1974 in Rajasthan; Sinha, 1975-79 in Bihar; Khajuria, 1980 in Madhya Pradesh). **Recent Field Studies:** Bates *et al*., 1992 in Belgham Karnataka; Sinha, 1994 in Arunachal Pradesh; Balasingh, 1986-90 in Tirunelveli; Vanitharani, 1990-95 in Tirunelveli; Marimuthu, 1983-97 in Madurai; Pradhan in Western Ghats, 1987-91. **Threats:** No. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey, Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 12, 19, 159, 187, 189, 235, 236, 285, 286, 289, 297(xii), 306 . **Compilers:** Y.P. Sinha, G. Marimuthu, P. Padmanabhan, M. Muni, A.K. Chakravarthy, .P.O. Nameer, R. Krishnan.

172. ***Megaderma spasma*** **(Linnaeus, 1758) — DD/N** — (Lesser false vampire). **Family:** Megadermatidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Old ruins and houses, wells. **Global Distribution:** Southeast Asia, Sri Lanka. **Current Regional Distribution:** Throughout India. **-Elevation:** 9900 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study. **Recent Field Studies:** M. Muni, 1993 in Sirsi; M.S. Pradhan, 1996 in Tadoba National Park, Chandrapur District, Maharashtra. **Threats:** Not known. **Trade:** No. **Other Comments:** According to Manoj Muni it is a rare bat and is difficult to capture. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey, Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** Y.P. Sinha, G. Marimuthu, P. Padmanabhan, M. Muni, P.O. Nameer, .A.K. Chakravarthy, R. Krishnan.

173. ***Megaerops niphanae*** **Yenbutra and Felten, 1983 — DD/N** —(Niphan's tailless fruit bat). **Family:** Pteropodidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Not known. **Global Distribution:** Thailand, Vietnam, Northeastern India. **Current Regional Distribution:** Northeastern India. **-Elevation:** Up to 2500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 3 (Arunachal Pradesh and Darjeeling); Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** Mandal *et al*, 1993 in Manipur; Saha, 1984 in Arunachal Pradesh. **Threats:** Not known. **Trade:** No. **Other Comments:** Survey and Monitoring required. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** No. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 295. **Compilers:** G. Marimuthu, Y.P. Sinha, J.C. Daniel, P.O. Nameer, P. Padmanabhan, R. Krishnan, M. Muni, A.K. Chakravarthy.

174. ***Megaptera novaeangliae*** **(Borowski, 1781) — LRnt/N** — (Hump - back whale). **Family:** Balaenopteridae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic. **Global Distribution:** All seas (Arctic to Antartic). **Current Regional Distribution:** East and west coasts of India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000.

-Area Occupied (Sq. Km): > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** About 10 strandings during last 10 yrs. **Data Quality:** General field study; Indirect information. **Recent Field Studies:** None. **Threats:** Collisions with ships, Whaling . **Trade:** Not known. **Other Comments:** Occurence in Indian waters based on records of carcasses washed ashore, Generally uncommon in Indian Waters. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 6, 168. **Compilers:** R.S. Lal Mohan, J.C. Daniel,G. Ramaswamy, S. Paulraj, R. Borges.

175. ***Mellivora capensis*** **(Schreber, 1776) — LRnt/N** — (Ratel/Honey badger). **Family:** Mustelidae . **Taxonomic status:** Species. **Habit:** Nocturnal, Terrestrial, Fossorial. **Habitat:** Desert, Dry and Moist Deciduous forest (Not in high rainfall area). **Global Distribution:** South Asia, Africa. **Current Regional Distribution:** Throughout India except Himalaya. **-Elevation:** 0-900 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field study; Indirect information; Museum/collection/records. **Recent Field Studies:** Vairavel, S.M. in (Prambikulam WLS). **Threats:** Human interference; Loss of habitat; Trade. **Trade:** Local. **Other Comments:** Wide distribution but secretive in habits. Preferential habitat; sighting difficult because it is Nocturnal and due to Low number. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** 15.5.3 = 23 in 12 Indian zoos and 6.4.2. = 12 in 6 zoos abroad. Has never been bred in India. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 21, 242, 266. **Compilers:** N.V.K. Ashraf, G. Christopher, D. Mudappa, R. Borges.

176. ***Melogale moschata*** **(Gray, 1831) — EN/N (B1, B2c)** — (Small toothed ferret badger) (Chinese ferret-badger). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Nocturnal, Fossorial, Terrestrial. **Habitat:** Tropical and Sub-tropical forests. **Global Distribution:** India, Myanmar. **Current Regional Distribution:** Northeastern India . **-Elevation:** Not known. **-Range (Sq. Km):** < 5,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** 1 (Naga Hills). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Indirect information. **Recent Field Studies:** None. **Threats:** Hunting for food; Loss of habitat; Trade. **Trade:** Local. **Other Comments:** Indirect information from habitat loss and hunting for meat. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, B2c** (Restricted distribution, single location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat) . **-CITES:** No. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Very difficult. Exisiting Captive Population**:** 1.1.0 = 2 in 1 Indian zoo and 1.0.0. = 1 in 1 zoo abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 232, 242. **Compilers:** N.V.K. Ashraf, G. Christopher, R. Borges.

177. ***Melogale personata*** **(Geoffroy St. Hilaire, 1831) — VU/N (B1, 2c)** — (Large - toothed ferret badger). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Nocturnal, Fossorial, Terrestrial. **Habitat:** Tropical and Sub-tropical forests, also in grassland, Bushy area. **Global Distribution:** Nepal, India, Bhutan, China and Myanmar . **Current Regional Distribution:** Northern Bengal, Cachar (Assam), Manipur, Meghalaya, Tipperah (Old distribution recorded in Pocock). **-Elevation:** Not known. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** 6-7; Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records (English, 1919 in Jalpaiguri- 4 individuals). **Recent Field Studies:** Chakraborty, June 1997 in Jalpaiguri Chelcha (Near Gorumara in National Park West Bengal). **Threats:** Loss of habitat. **Trade:** Not known. **Other Comments:** Fairly common-lives in bushy areas with water bodies. Enters huts in .search of rice cooked. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 44(i), 232, 242. **Compilers:** N.V.K. Ashraf, R.S. Lal Mohan, G. Christopher, R. Borges.

178. ***Melursus ursinus*** **(Shaw, 1791) — VU/N (C2a)** — (Sloth bear). **Family:** Ursidae. **Taxonomic status:** Species. **Habit:** Terrestrial and arboreal. **Habitat:** Forests, grasslands, hill tops. **Global Distribution:** Nepal, Sri Lanka, India. **Current Regional Distribution:** Throughout India. **-Elevation:** Up to 2500 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Overall decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** < 5,000. **Global Population:** Not known. **Regional Population:** 5000-7000. **Data Quality:** Reliable census; General field study. **Recent Field Studies:** A.J.T. Johnsingh, 1986 in Panna - ongoing; Yoganand, 1996 on Lary Sadl; Bhaskaran *et al*., 1992 & 1997 , in Mudumalai Wildife Sanctuary; Davidar, 1993; Gokula, 1991 & 1996 in Mundanthurai; Pradhan 1993 in Tadoba National Park and 1991 in Melghat Tiger reserve . **Threats:** Hunting; Loss of habitat because of fragmentation; Poisoning; Trade; Trade for parts. **Trade:** Commercial; International. **Other Comments:** Gall bladder trade; Creation of a separate sanctuary in Bellary district Karnataka. **Status: -**

IUCN: VULNERABLE (Nationally). **DATA DEFICIENT (Globally)**. **-Criteria based on: C2a** (Numbers restricted and declining in many severely fragmented locations) . **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Others (Radio collaring). **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. Although this species is threatened, so many come into captivity.from problem situations that there are always enough for zoo breeding. There.are so many human conflict situations it may be unlikely that reintroductions would be viable for most bears. **-Level of difficulty:** Moderately difficult. Exisiting Captive Population**:** 68.55.16 = 139 in Indian zoos and 19.20.0 = 39 in zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 91, 97(ix), 207(xxviii), 331(i). **Compilers:** J.C. Daniel, N. Sivaganesan, G. Ramaswamy, S. Paulraj, R.S. Lal Mohan, W. Sunderraj.

179. ***Meriones hurriane*** **Jerdon, 1867 — LRlc/N** — (Indian desert gerbil). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial, Colonial and diurnal. **Habitat:** Desert, semi-desert country. **Global Distribution:** India, Pakistan, Afghanistan. **Current Regional Distribution:** Rajasthan, Gujarat. **-Elevation:** Almost plains. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Museum/collection/records. **Recent Field Studies:** I. Prakash, 1970 till date in Rajasthan . **Threats:** Loss of habitat (irrigation); Pesticides. **Trade:** No. **Other Comments:** Loss of habitat due to irrigation. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 84, 99 . . **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

180. ***Micromys minutus*** **(Pallas, 1771) — VU/N (D2)** — (Harvest mouse). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Primary and secondary forests. **Global Distribution:** India, Myanmar Vietnam China, much of paleartic region from Japan to Britain. **Current Regional Distribution:** Meghalaya and Nagaland. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** > 2 (specific locations). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known . **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to only two locations). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk-near threatened. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. United Kingdom zoos have a coordinated conservation programme for this species with zoo breeding and reintroduction programmes. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

181. ***Microtus leusurus*** **(Blyth, 1863) — DD/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Grassy land, in the river banks of high mountain steppe region. **Global Distribution:** India, China. **Current Regional Distribution:** Jammu & Kashmir, Himachal Pradesh. **-Elevation:** 4420 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 44, 99, 219. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian, M. Muni.

182. ***Microtus sikimensis*** **(Hodgson, 1849) — LRlc/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Upper edges of temperate, coniferous forests and in grass and amongst rocks and roots, decayed trees. **Global Distribution:** India, Bhutan and Nepal. **Current Regional Distribution:** Sikkim, West Bengal. **-Elevation:** 3700 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** Chakraborty & Chatterjee, 1994 in Sikkim. **Threats:** No. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 99, 158. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

183. ***Millardia gleadowi*** **(Murray, 1886) — LRnt/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Arid sandy regions with thorny bushes. **Global Distribution:** India, Pakistan. **Current Regional Distribution:** Northwestern India, south to Gujarat. **-Elevation:** 1200 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not

known. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** None. **Threats:** Loss of habitat. **Trade:** No. **Other Comments:** Crump (in Reley, 1914 obtained this species as rare in Gujarat). **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 99, 237, 257. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

184. ***Millardia kondana*** **Mishra and Dhanda, 1975 — VU (D2)** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Scrub and bushes, forest marshy, in rock areas, near human dwellings. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Sinhgad in Pune, Maharashtra. **-Elevation:** 1270 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** > 2. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** Pradhan, 1991-92 in and around Sinhgal Fort. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE** . **-Criteria based on: D2** (Population restricted to only two locations). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 196, 234. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

185. ***Millardia meltada*** **(Gray, 1837) — LRlc/N** — (Soft furred field rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Crop fields, Scrub, Grassland, fringes of forest patches. **Global Distribution:** India, Pakistan, Nepal, Sri Lanka. **Current Regional Distribution:** Peninsular India, north to Punjab, east to Bihar and West Bengal. **-Elevation:** 2670 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Museum/collection/records. **Recent Field Studies:** P.A.U., 1990-97 in Punjab; UAS, 1997 in Karnataka. **Threats:** Interspecific competition; Pesticides; Poisoning. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 84, 99, 179, 254. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

186. ***Miniopterus pusillus*** **Dobson, 1876 — DD/N** — **Family:** Vespertilionidae. **Taxonomic status:** species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India and Southeast Asia. **Current Regional Distribution:** Southern India and Andaman & Nicobar Islands. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, A.K. Chakravarthy, R. Krishnan.

187. ***Miniopterus schreibersii*** **(Kuhl, 1817) — LRlc/N** — (Schreiber's long fingered bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Cave dweller. **Global Distribution:** India, Southeast Asia, Australia, Pakistan, Nepal, China. **Current Regional Distribution:** All over India. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** Sinha, 1992-93 in Meghalaya; Sinha, 1994 in Maharashtra, Karnataka,.Kashmir. **Threats:** No. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk-near threatened. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 38, 292, 297(xxvi). **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, A.K. Chakravarthy, R. Krishnan.

188. ***Moschiola meminna*** **(Erhleben, 1777) — LRnt/N** — (Tragulu, mouse deer). **Family:** Tragulidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Wet forests, moist dry deciduous, rain forest. **Global Distribution:** India, Nepal and Sri Lanka. **Current Regional Distribution:** Peninsular India. **-Elevation:** Up to 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known (Kerala 95 + Mud 800 ?). **Data Quality:** Collection /Records from Western Ghats, ZSI, WPS, Pune. **Recent Field Studies:** Satyakumar, 1988 . **Threats:** Hunting; Hunting for food. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-**

CITES: No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies; Radio telemetry studies. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult in Indian zoos. Moderately difficult elsewhere. Exisiting Captive Population**:** 4.1.1 = 6 in 4 Indian zoos and none in zoos abroad. **-Name of facilities:** Refer Appendix. **Sources (Refer Appendix): —**. **Compilers:** J.C. Daniel, N. Sivaganesan, G. Ramaswamy, E.A. Jayson, R.S. Lal Mohan,.M.M. Mansoor, V. Menon, S. Paulraj, W. Sunderraj, D.K. Lahiri Choudhury.

189. ***Moschus chrysogaster*** **(Hudgson, 1839) — CR/N (A1d)** — (Himalayan musk deer). **Family:** Moschidae. **Taxonomic status:** Species. **Habit:** Mountaneous. **Habitat:** Scrub, alpine forest. **Global Distribution:** India, Nepal, China, Bhutan, Tibet, Russia, Korea. **Current Regional Distribution:** Indian Himalaya-Kashmir to Sikkim. **-Elevation:** 2500-4500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many (Isolated pockets). **Population Trends - % change: -% Decline:** > 80%. **-Time / Rate (Yrs or gens):** 10 Yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** > 30000 CITES manual (> 50,000 - Ref. Mir Mansoor). **Data Quality:** General field study; Hearsay/popular belief; Indirect information (M. Green, 1986; Holloway, 1973 ; Gross, 1975**)**. **Recent Field Studies:** Satyakumar, WII, 1990 onwards . **Threats:** Hunting; Trade for parts, Trade. **Trade:** Commercial; International. **Other Comments:** 200 kg musk was exported Approximately 20,000 Males removed per year (V. Menon). Inspite of 3 major projects captive breeding programme is not really successful in India. Suspected reduction of 20% per year. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: A1d** (Population reduction due to actual or potential levels of exploitation). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable . **-RDB, International (1996):** Lower risk-near threatened. **Recommendations: -Research management:** Husbandry research; Monitoring; Others (trade study to quantity); Taxonomic and morphological genetic studies. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficult. Exisiting Captive Population**:** 12.9.0 = 21 in 3 Indian facilities. Also under plan by J &K. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** —. **Compilers:** J.C. Daniel, N. Sivaganesan, G. Ramaswamy, R.S. Lal Mohan, W. Sunderraj, V. Menon, A. Venkataraman, E.A. Jayson, M.M. Mansoor, S. Paulraj.

190. ***Muntiacus muntjak*** **(Zimmermann, 1780) — LRlc/N** - -(Barking deer). **Family:** Cervidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Any forest except mangroves and desert, moist mixed deciduous. **Global Distribution:** India, China, Southeast Asia. **Current Regional Distribution:** Throughout India . **-Elevation:** Up to 2500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known (Kerala 1025 - KFRI 1995). **Data Quality:** Reliable census. **Recent Field Studies:** Surendra Varman & Sukumar, since 1988 in Mudumalai Wildlife Sanctuary M.S. Pradhan, field sightings in NBR (1991), Melghat Tiger Project (1994) and western Ghats (1980-87). **Threats:** Hunting for food. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** . **-CITES:** No. **-IWPA (1972;91):** Schedule III. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Life history studies; Survey; Monitoring; Others (Radio collaring). **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Least difficult. Exisiting Captive Population**:** 115.154.155 = 424 in Indian zoos and 17.3.3 = 33 in zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 207(xxvi). **Compilers:** J.C. Daniel, N. Sivaganesan, E.A. Jayson, V. Menon, A. Venkataraman, G. Ramaswamy, S. Paulraj, R.S. Lal Mohan, M.M. Mansoor, W. Sunderraj,S. Varman.

191. ***Murina aurata*** **Milne-Edwards, 1872 — DD/N** — (Little tube-nosed bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Nepal, Myanmar, China, Thailand. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk-near threatened. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** —. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, A.K. Chakravarthy, P.O. Nameer, .R. Krishnan.

192. ***Murina cyclotis*** **Dobson, 1872 — DD/N** — (Round-eared tube-nosed bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India and Southeast Asia. **Current Regional Distribution:** Southern and northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Ghosh, 1989 in Southern India); Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 111. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, A.K. Chakravarthy, P. Padmanabhan, .R. Krishnan.

193. ***Murina grisea*** **Peters, 1872 — VU (D2)** — (Peter's tube-nosed bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Uttar Pradesh. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 100. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 1 (Kumaon). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** Known only from photo type. **Status: -IUCN: VULNERABLE** . **-Criteria based on: D2** (Population restricted to single location and area less than 100 Sq.Km). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** —. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, A.K. Chakravarthy, .R. Krishnan.

194. ***Murina huttoni (*****Peterrs, 1872) — DD/N** — (Hutton's tube-nosed Bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, China, Thailand, Malaysia. **Current Regional Distribution:** Northwestern and northern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk-near threatened. **Recommendations: -Research management:** Survey; Monitoring; Taxonomic and morphological genetic studies. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, A. K. Chakravarthy, .R. Krishnan.

195. ***Murina leucogaster*** **Milne-Edwards, 1872 — DD/N** — (Greater tube-nosed bat) . **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Thailand, China, Mongolia. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, A.K. Chakravarthy, .R. Krishnan.

196. ***Murina tubinaris*** **(Scully, 1881) — VU/N (B1, 2c; D2)** —**Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Solitary to small group. **Habitat:** Banana leaves. **Global Distribution:** India, Pakistan, Myanmar, Thailand. **Current Regional Distribution:** Jammu & Kashmir and Meghalaya. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 2; Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** Sinha, 1992 . **Threats:** Human interference. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted dstribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy, and/or quality of habitat); **D2** (Population restricted to only two locations) . **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 295. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, A.K. Chakravarthy, R. Krishnan, .P. Padmanabhan.

197. ***Mus booduga*** **(Gray, 1837) — LRlc/N** — (Indian field mouse). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial, Fossorial. **Habitat:** Througout India in grasslands and crop fields and Forest fringes. **Global Distribution:** Pakistan, India, Myanmar and Sri Lanka. **Current Regional Distribution:** Throughout India. **-Elevation:** 3695 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** Reliable census; General field study; Informal field study; Museum/collection/records. **Recent Field Studies:** Mudappa ,1996-97 in Kalakad and Anamalais Wildlife Sanctuary; Shankar, 1993-1995 in Nilgiri biosphere; M.S. Pradhan , 1990-97 in ENP, Kerala, 1990-1997 in Melghat Tiger Project and in Maharashtra Western Ghats; Chakraborty , 1990-97 in Gujarat, Bihar, Andhra Pradesh, West Bengal . **Threats:** Drowning; Pesticides; Poisoning. **Trade:** No. **Other Comments:** Management of populations is required. Mohan Rao & Mandal reported the loss of rodent population due to cyclone the flood in Andhra Pradesh. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Genetic management; Survey; Taxonomic and morphological genetic studies; Habitat management. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India . **-**

Name of facilities: —. **Sources (Refer Appendix):** 27, 28, 42, 84, 98, 192. **Compilers:** S. Chakraborty, M.S. Pradhan; G. Chistopher, K.A. Subramanian.

198. ***Mus cervicolor*** **Hodgson,1845 — LRlc/N—** (Fawn-coloured mouse) . **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Crop fields, houses godowns. **Global Distribution:** India, Nepal, Myanmar, Thailand, Loas, Vietnam, Sumatra, Java. **Current Regional Distribution:** Jammu & Kashmir, Nagaland, Manipur, South Andaman, Assam. **-Elevation:** 3200 M. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** None. **Threats:** No. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 1, 44, 84, 99, 192, 259. **Compilers:** S. Chakraborthy, M.S. Pradhan; K.A. Subramanian.

199. ***Mus cookii*** **(Ryley, 1914) — LRnt/N** — (Cook's mouse). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial/fossorial. **Habitat:** High altitude, shola grass lands. **Global Distribution:** India, Nepal, Myanmar, Thailand, Vietnam. **Current Regional Distribution:** . **-Elevation:** 100-2500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Eight; fragmented (Assam, Palani Hills & Anamalai Hills). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Museum/collection/records. **Recent Field Studies:** M.S. Pradhan, 1994-97 in Eravikulam National Park; Shankar, 1994-96.in Nilgiri Biosphere reserve. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Taxonomic and morphological genetic studies; Monitoring; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99. **Compilers:** M.S. Pradan, S. Chakraborty, G. Chistopher, K.A. Subramanian, D. Mudappa.

200. ***Mus famulus*** **(Bonhote, 1898) — EN (B1, 2c)** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial, Fossorial. **Habitat:** High altitude, Grass land, Sholas, Montane forests. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Southern India and Andaman & Nicobar Islands. **-Elevation:** about 2500 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 4 Specific locations (Kannur, Nilgiris, Palani Hills Andaman Hills). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** M.S. Pradhan, 1994-97 in Eravikulam National Park; Shankar, 1994-96 in.Nilgiri Biosphere Reserve. **Threats:** Loss of habitat, Loss of habitat due to fragmentation, Human interference. **Trade:** No. **Other Comments:** None. **Status: -IUCN: ENDANGERED** . **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); . **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99. **Compilers:** S. Chakraborthy, M.S. Pradhan, K.A. Subramanian.

201. ***Mus musculus*** **(Linnaeus, 1758) — LRlc/N** — House mouse. **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial/terrestrial. **Habitat:** Throughout Indai in all habitats. **Global Distribution:** Worldwide. **Current Regional Distribution:** India. **-Elevation:** Sea level-3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Population increasing. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** Reliable census ; General field study; Informal field study; Museum/collection/records. **Recent Field Studies:** D. Muddapa, 1996-97 in Kalakkad and Anamalais Wildlife Sanctuary; Kumar and.Prabhakar, 1993-95 in Anamalais Wildlife Sanctuary; M.S. Pradhan, 1990-97.in Tadoba and Melghat Tiger Reserves, Western Ghats; Chakraborty, 1990 -97.in Gujarat,. Andhra Pradesh, Bihar, West Bengal. **Threats:** None. **Trade:** No. **Other Comments:** Management of population is required. The species is believed to be exotic.but has naturalised over centuries. Was considered as super species but chromosome studies indicate varation within the species. Most abundant rodent species in cardamom plantations of Chikmangular, Karnataka (A.K. Chakravarthy, 1994). **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 42, 84, 98, 192. **Compilers:** D. Mudappa, A.K. Chakravarthy, N.V. Ashraf, G.K.Joseph, Christopher, M.S. Pradhan, K.A.Subramanian.

202. ***Mus pahari*** **Thomas, 1916 — DD/N**— (Gairdner's shrew mouse). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Forested tracts on hill sides. **Global Distribution:** India, Myanmar, China, Thailand, Laos, Vietnam, Indochina. **Current Regional Distribution:** West Bengal, Sikkim, Meghalaya, Assam, Arunachal Pradesh. **-Elevation:** about 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature**

Individuals: Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 84, 99. **Compilers:** S. Chankraborthy, M.S. Pradhan, K.A. Subramanian.

203. ***Mus phillipsi*** **(Wroughton,1912)— LRlc**—**Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial, Fossorial. **Habitat:** Semi arid, Scrubs, bushes, forest patches. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Southern,central and western India. **-Elevation:** 1500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; fragmented (Maharashtra, Madhya Pradesh, Gujarat, Rajasthan). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Stable. **-No of Mature Individuals:** Not known. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** M.S. Pradhan, 1993-97 in Tadoba Tiger Reserve; M.S. Pradhan, 1993-97 in.Melghat Tiger Reserve, Maharashtra; Charkraborty, 1994-97 in Andhra .Pradesh; Prakash (1995) in Mount Abu. **Threats:** Drowning; Loss of habitat because of fragmentation; Poisoning. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 192. **Compilers:** S. Chakraborty, M.S. Pradhan, G. Christopher, K.A. Subramanian, D. Mudappa.

204. ***Mus platythrix*** **Bennett,1832 —LRlc** — (Spiny field mouse). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Uncultivated hilly country with scrubs. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Penninsular India, East to west Bengal. **-Elevation:** about 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** Karthik Shankar, 1996 in Upper Bhavani, Tamil Nadu; Chakraborty, 1994-96 in Andhra Pradesh. **Threats:** No. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey, Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not Known. Exisiting Captive Population**:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 178, 192. **Compilers:** S. Chakraborty, M. S. Pradhan, K.A. Subramanian.

205. ***Mus saxicola*** **(Elliot, 1839) — LRlc/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial/fossorial. **Habitat:** Grassland, scrub land, dry cultivation. .**Global Distribution:** India, Pakistan. **Current Regional Distribution:** Maharashtra, Punjab, Uttar Pradesh, West Bengal, Tamil Nadu, Kerala, Karnataka, Andhra Pradesh. **-Elevation:** about 1000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** General field study; Collection/records (Ellerman (1961), Marshall (1977), Mammal Survey report, JBNHS, 1912-1929). **Recent Field Studies:** Agarwal *et al.*, 1961; Agarwal & Bhattachariya, 1987; Chakraborty, 1994-1997 . **Threats:** Drowning; Poisoning. **Trade:** No. **Other Comments:** Mohan Rao and Mandal reported the loss of rodent population in Andhra Pradesh due to cyclonic floods. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 192. **Compilers:** S. Chakraborthy, M.S. Pradhan, G. Christopher, K.A. Subramanian, D. Mudappa.

206. ***Mustela altaica*** **(Pallas, 1811) — DD/N** — (Pale weasel) . **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Diurnal . **Habitat:** Coniferous forest, Temperate forest. **Global Distribution:** Central Asia, Southwards to Tibet and the Himalaya. **Current Regional Distribution:** Upper reaches of Indian Himalaya. **-Elevation:** 2130 - 4100 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 232, 242. **Compilers:** G. Christopher, N.V.K. Ashraf, R. Borges.

207. ***Mustela erminea ferghanae*** **Linnaeus, 1758 — DD/N** — (Himalayan Stoat). **Family:** Mustelidae. **Taxonomic status:** Sub-species. **Habit:** Diurnal. **Habitat:** Alpine and temperate forests. **Global Distribution:** Central Asia to India (Semi-arid Schensk, Tian Shan and Ferghana, Southwards to Chitral, Hatara and India). **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 3200-4200 m. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Kashmir. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data**

Quality: Records/literature. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Insufficiencly known. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** Pending. Pending. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 232, 242. **Compilers:** G. Christopher, N.V.K. Ashraf, R. Borges.

208. ***Mustela kathiah*** **Hodgson, 1835 — DD/N** — (Yellow bellied weasel). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Myanmar, Vietnam, China. **Current Regional Distribution:** India (Distribution not known). **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records/literature. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** Formerly distributed in Mussoorie, Naini Tal & Sikkim Himalayas.Current distribution unknown. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 232, 242. **Compilers:** N.V.K. Ashraf, G. Chistoper, R. Borges.

209. ***Mustela putorius larvatus*** **Linnaeus, 1758 — DD/N** — (Tibetan Polecat). **Family:** Mustelidae. **Taxonomic status:** Sub-species. **Habit:** Terrstrial, Diurnal/Nocturnal, Semi-arboreal. **Habitat:** Rocky, scrub, thorn or dry temperate forest. **Global Distribution:** India and Tibet . **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Kashmir. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Not known. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** Schedule IV. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Pending . **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India. **-Name of facilities:** -. **Sources (Refer Appendix):** 232, 242. **Compilers:** G. Christopher, N.V.K. Ashraf, R. Borges.

210. ***Mustela sibirica*** **(Pallas, 1773) — LRnt/N** — (Siberian weasel). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Terrestrial, diurnal, crepuscular. **Habitat:** Coniferous forest. .**Global Distribution:** Trans Himalayan, Myanmar. **Current Regional Distribution:** Indian Himalaya. **-Elevation:** 1500-4800 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Collection/Records. **Recent Field Studies:** ZSI, Man and Biosphere Project . **Threats:** Human interference; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** Probably in low densities. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Life history studies; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 232, 242. **Compilers:** S. Chattopadhyay, E.A. Jaison, G. Christopher, M.V. Ravikumar, D. Mudappa, N.V.K. Ashraf, R. Borges.

211. ***Mustela strigidorsa*** **Gray, 1853 — DD/N** — (Black striped weasel). **Family:** Mustelidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Temperate forests . **Global Distribution:** Nepal, Laos, India, China, Vietnam. **Current Regional Distribution:** Northeastern India. **-Elevation:** 900-2000 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 2 (Sikkim); Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Indirect information; Records/collection. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** Globally also, restricted distribution; considered as a species of concern in Viverrid Action Plan, IUCN 1989. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 242, 270. **Compilers:** N.V.K. Ashraf, G. Chistopher, D. Mudappa, J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, E.A. Jayson.

212. ***Myotis annectans*** **(Dobson, 1871) — DD/N** — (Hairy faced bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India and Thailand. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk-near threatened. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -**

Captive breeding: Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan. M. Muni , P.O. Nameer, .R. Krishnan.

213. ***Myotis blythi*** **Tomes, 1857 — DD/N** — (Lesser mouse-eared bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, West Europe, North Africa, China. **Current Regional Distribution:** Punjab, Kashmir, Rajasthan, Himachal Pradesh. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 4 . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Chakravarthy, 1983 in Kashmir). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Survey. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 44, 285. .**Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, .R. Krishnan.

214. ***Myotis daubentoni*** **(Kuhl, 1817) — DD/N** — (Dauberton's bat; Water bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Western Europe to Japan, China. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P. Padmanabhan, P.O. Nameer, .R. Krishnan.

215. ***Myotis formosus*** **(Hodgson, 1835) — LRnt/N** — (Hodgson's bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Solitary and small groups. **Habitat:** Ruins, buildings, crevices, plantain leaves. **Global Distribution:** India, China, Taiwan, Philippines, Southeast Asia. **Current Regional Distribution:** Northeastern and northern India. **-Elevation:** Up to 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (ZSI, 1842-1870 in Bihar, Meghalaya, Assam, Punjab; BNHS, 1906-1913 in Dehradun & Mussorie). **Recent Field Studies:** None. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** . **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Taxonomic and morphological genetic studies. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P. Padmanabhan, P.O. Nameer, R. Krishnan.

216. ***Myotis hasselti*** **(Temminck, 1840) — DD/N** — (Lesser large-tooth bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Sri Lanka, Southeast Asia. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Survey. **-PHVA:** —. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, A.K. Chakravarthy, P.O. Nameer, R. Krishnan, P. Padmanabhan.

217. ***Myotis horsfieldii*** **(Temminek, 1840) — LRnt/N** — (Lesser large-tooth bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Cave dweller. **Global Distribution:** India, Hong kong, Southeast Asia. **Current Regional Distribution:** Southern, central India and South Andamans. **-Elevation:** 900 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 3; Fragmented (Specific locations). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Das, 1986 in Silent Valley, Kerala; Hill, 1987 in Madhya Pradesh; Khajuria 1979 Maharashtra). **Recent Field Studies:** None. **Threats:** Human interference. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 88, 124, 159. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, A.K. Chakravarthy, .P.O. Nameer, R. Krishnan.

218. ***Myotis longipes*** **(Dobson, 1873) — EN/N (B1, 2c)** — **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Cracks and crevices of caves and ruins. **Global Distribution:** India, Afghanistan. **Current Regional Distribution:** Jammu & Kashmir and Meghalaya. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 2; Fragmented (specific locations). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study. **Recent Field Studies:** Sinha, 1992 in Meghalaya (Garo Hills). **Threats:** Human interference. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 291, 297(xvii). **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, .R. Krishnan.

219. ***Myotis muricola*** **(Gray, 1846) — DD/N** — **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Afghanistan, Pakistan, China, Nepal, Southeast Asia. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, .R. Krishnan.

220. ***Myotis mystacinus*** **Kubl, 1817 — DD/N** — (Whiskered bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Western Europe, Northern Africa, Pakistan, Bhutan, Korea, Japan, Nepal . **Current Regional Distribution:** Northeastern India, Jammu & Kashmir, Himachal Pradesh. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records/Collections (BNHS, 1922-24 in Himachal Pradesh, Sikkim; ZSI, 1916 in Darjeeling). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (NATIONALLY)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, .R. Krishnan.

221. ***Myotis sicarius*** **Thomas, 1915 — VU/N (D2)** — **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Nepal. **Current Regional Distribution:** Eastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 2; Fragmented (Darjeeling, Sikkim). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records/Collections (BNHS Collections, 1915 in Darjeeling). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to only 2 locations). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, .R. Krishnan.

222. ***Myotis siligorensis*** **(Horsfield, 1855) — DD/N** — Himalayan whiskered bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, China, Southeast Asia. **Current Regional Distribution:** Northern and northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records/literature. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, .R. Krishnan.

223. ***Mytois montivagus*** **(Dobson, 1874) — DD/N** — (Burmese whiskered bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Myanmar, China, Southeast

Asia. **Current Regional Distribution:** Southern India. **-Elevation:** Not known. **-Range (Sq. Km):** Not known. **-Area Occupied (Sq. Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower Risk near threatened. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, .R. Krishnan.

224. ***Naemorhedus sumatraensis*** **(Bechstein, 1799) — VU/N (D2)** — (Southern serow). **Family:** Caprinae. **Taxonomic status:** Species. **Habit:** Climbing (Terrestrial). **Habitat:** Himalayan. **Global Distribution:** India, Nepal, China, Bhutan. **Current Regional Distribution:** N.S. Rubidus in Northeastern India, Bangladesh, Myanmar. **-Elevation:** 500 - 4000 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** < 5,000. **Global Population:** Not known. **Regional Population:** 5000-10000. **Data Quality:** General field study; Informal field sightings. **Recent Field Studies:** C. Misra, A.J.T. Johnsingh, 1993 in Mizoram; S.P. Goyal . **Threats:** Human interference; Hunting for food; Loss of habitat; Trade. **Trade:** Local. **Other Comments:** Since the species interacts with domestic cattle chances of diseases affecting the species are present. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D1** (Population restricted in numbers). **-CITES:** Appendix I. **-IWPA (1972;91):** —. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Habitat management; Others (protection, conservation education). **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 1.2.0 = 3 in 1 zoo in India. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** —. **Compilers:** R.S. Lal Mohan, J.C. Daniel, G. Ramaswamy,M. Misra, N. Sivaganesan, .M. M. Mansoor.

225. ***Nectogale elegans*** **Milne - Edwards, 1870 — VU/N (D2)** — (Elegant water shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Aquatic. **Habitat:** In mountain rivers and streams. **Global Distribution:** India, China, Nepal, Myanmar. **Current Regional Distribution:** Northeastern Himalaya, West Bengal, Sikkim. **-Elevation:** 900-2270 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** < 5. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museums/collections/records. **Recent Field Studies:** None. **Threats:** Loss of habitat; Human interference. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to less than 5 locations). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 27, 28, 84, 98, 106, 127. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

226. ***Neofelis nebulosa*** **(Griffith, 1821) — LRnt/N** — (Clouded leopard). **Family:** Felidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Dense forest, evergreen forest and moist deciduous, grasslands, scrub. .**Global Distribution:** India, Sikkim, Nepal, Bhutan, Myanmar, Southeast Asia. **Current Regional Distribution:** Northeastern India. **-Elevation:** Up to 3000 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 20 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field sightings; Indirect information. **Recent Field Studies:** A. Choudhury, 1986-91 in Assam & Nagaland; Vidhya, 1995 in Nampadha, Nongkhylleum; Nitin D. Rai, 1991 in parts of Mizoram; A. Choudhury, 1993 in Manipur. .**Threats:** Decline in prey species; Hunting for trophies; Hunting; Loss of habitat; Trade for parts; Trade. **Trade:** Commercial; International. **Other Comments:** Commercially threatened (Sri Kumar, ZSI). Killing for trade is the main threat. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Habitat management; Life history studies; Limiting factor research. **-PHVA:** Pending further data. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Moderately difficult. .**Existing Captive Population:** 9.4.0 = 13 in 7 Indian zoos, Neofelis nebulosa (no Sub-species) 81.73.0 = 154 in 47 zoos and *Neofelis nebulosa nebulosa* 17.6.0 = 23 in 9 zoos abroad. **-Name of facilities:** See appendix. **Sources (Refer Appendix):** 66, 69. 80. 82. 142, 207(iii). .**Compilers:** J.C. Daniel, G. Ramaswamy, D.K. Lahiri Choudhary, W. Sunderraj, K.K. Ramachandran, V. Menon.

227. ***Neophocaena phocaenoides*** **(G. Cuvier, 1829) — LRnt/N** — (Furless porpoise). **Family:** Phocaenoides. **Taxonomic status:** Species. **Habit:** Marine, estuarine. **Habitat:** Estuaries, river mouth; coastal. **Global Distribution:** Circum tropical (Indian Ocean, Pacific), Coast land, fresh water Indo-Pacific from China to Gulf of Arabia. **Current Regional Distribution:** East and west coast of India, Andaman & Nicobar coast. **-Elevation:** Not known. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Declining . **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings. **Recent Field Studies:** R.S. Lal Mohan, 1985-1997; P.S.B.R. James, 1986. .**Threats:** Fishing. **Trade:** Not known. **Other Comments:** Occasionally caught in gill nets. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** No. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** Data deficient. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding**

Recommendations: -Captive breeding: Level 3 . **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 134. **Compilers:** R.S. Lal Mohan, J.C. Daniel, S. Paulraj.

228. ***Nesokia indica*** **(Grey and Hardwicke, 1830) — LRlc/N** — (Short tailed bandicoot) . **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Strictly fossorial. **Habitat:** Natural grassland, cultivated fields, in arid and semi-arid zones, also forested tracts near river beds. **Global Distribution:** India, Afghanistan, Pakistan, Nepal, Bangladesh, South Soviet Union, Turkestan to Israel and Egypt. **Current Regional Distribution:** Northwestern India, east to West Bengal. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Collections/records. **Recent Field Studies:** Agarwal *et al.*, 1992 in West Bengal; S. Chakraborty, 1992 in Himachal Pradesh; P.A.U. 1992-97 in Punjab. **Threats:** Drowning. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 27, 28, 84, 99, 286, 297(xxxiv). **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

229. ***Niviventer brahma*** **(Thomas, 1914) — EN/N (B1, 2c)** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Rain forest. **Global Distribution:** India, Myanmar, China. **Current Regional Distribution:** Arunachal Pradesh. **-Elevation:** 1900 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 1 . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Collections/Records. **Recent Field Studies:** None. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** —. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, single location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 114. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

230. ***Niviventer eha*** **(Wroughton, 1916) — VU/N (B1, 2c; D2)** — (Smoke bellied rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Wet forest at higher altitude. **Global Distribution:** India, Nepal, Myanmar and China. **Current Regional Distribution:** Sikkim, West Bengal. **-Elevation:** 4000 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 4 . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Collection/Records. **Recent Field Studies:** Chakraborty, 1994 in Lachen & Thangu (Sikkim). **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** Population is stable at Tachen-Thangu in Sikkim. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Resticted distribution, limited location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); **D2** (Population restricted to only 4 locations). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 29, 84, 99, 118. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

231. ***Niviventer fulvescens*** **(Gray, 1847) — LRlc/N** — (Chertmut rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial cum terrestrial. **Habitat:** Grass and bushy lands, river beds in the hilly forests. **Global Distribution:** India, Pakistan, Nepal, China, Myanmar, Thailand, Indo-China. **Current Regional Distribution:** Northeastern India . **-Elevation:** 2500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many (Himalayas, Garo and Mishmi Hills). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Collections/records. **Recent Field Studies:** None. **Threats:** No. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 1, 84, 99. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

232. ***Niviventer langbianis*** **(Robinson and Kloss, 1922) — DD/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Myarmar, Thailand, Laos and Vietnam. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Arunachal Pradesh. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Collections/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive**

Population: None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 191, 210. **Compilers:** S. Chakraborty, M. Muni, M.S. Pradhan, K.A. Subramanian.

233. ***Niviventer niviventer*** **(Hodgson, 1836) — DD/N** — (White bellied rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Forest in hilly areas. occassionally near human dwellings. **Global Distribution:** India, Pakistan, Nepal, Myanmar. **Current Regional Distribution:** Northeastern India. **-Elevation:** 2250 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many (Himalayas to Mishmi Hills). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Collections/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT(Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 1, 84, 99, 108. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

234. ***Niviventer tenaster*** **(Thomas, 1916) — DD/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Myanmar, Vietnam. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Mizoram. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Collections/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** Specific is not certain (Corbet and Hill, 1992). **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 84. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

235. ***Nyctalus leisleri*** **(Kuhl, 1817) — DD/N** — (Lesser noctula). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Pakistan, USSR, Western Europe, Africa. **Current Regional Distribution:** Jammu & Kashmir and Punjab. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk-near threatened. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. O. Nameer, P. Padmanabhan, R. Krishnan.

236. ***Nyctalus montanus*** **(Barrett-Hamilton, 1906) — DD/N** — (Mountain noctule). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** Afghanistan and India. **Current Regional Distribution:** Punjab. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 1. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**.**DATA DEFICENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk-near threathened. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, Riki Krishnan.

237. ***Nyctalus noctula*** **(Schreber, 1774) — DD/N** — (Mountain noctule). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Pakistan, Myanmar, China, Southeast Asia. **Current Regional Distribution:** Northern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**.**DATA DEFICENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, R. Krishanan.

238. ***Nycticebus coucang*** **(Boddaert, 1785) — LRnt/N** — (Slow loris). **Family:** Loridae. **Taxonomic status:** Species. **Habit:** Arboreal-nocturnal. **Habitat:** Dense Forest, mixed moist deciduous and Tropical rain forests. **Global**

Distribution: India, Myanmar, Bangladesh, Southeast Asia. **Current Regional Distribution:** Northeastern India. **-Elevation:** Up to 800 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many (Assam, Tripura, Megalaya and Nagaland). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** . **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings. **Recent Field Studies:** S. Chakraborty, 1988 in Tripura; A. Gupta in Tripura; Ajith Kumar, SACON; A. Srivastav in Northeastern India. **Threats:** Hunting for medicine; Trade; Loss of habitat; Loss of habitat due to fragmentation. **Trade:** Commercial; International. **Other Comments:** Commercially threatened species. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. **Existing Captive Population:** 16.13.3 = 32 in 11 zoos in India and 45.46.1 = 92 in 30 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 17(ii), 44(ii), 50(ii). **Compilers:** W. Sunderraj, K.K. Ramachandran, G.K. Joseph, J. C. Daniel, G. Ramaswamy, S. Paulraj, N. Sivaganesan, M.V. Ravikumar.

239. ***Ochotona curzoniae*** **(Hodgson, 1858) — EN/N (B1, 2a, 2b)** — (Plateau pika, Black-lipped pika). **Family:** Ochotonidae. **Taxonomic status:** Species. **Habit:** Terrestrial, fossorial. **Habitat:** High alpine deserts and plateau. **Global Distribution:** India, China, Nepal. **Current Regional Distribution:** Northern Sikkim. **-Elevation:** 5000-8000 m. **-Range (Sq. Km):** < 5,000. **-Area Occupied (Sq. Km):** < 500. **-Number of location:** 1. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Indirect information; Records. **Recent Field Studies:** ZSI, BSI, Sikkim tourist Department and Indian army on Hooker's trail, 1994 . **Threats:** Human interference; Loss of habitat; War. **Trade:** No. **Other Comments:** —. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2a, 2b** (Restricted distribution, single location, continuing decline observed in extent of occurrence and area of occupancy). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies; Limiting factor management; Limiting factor research; Habitat management. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay, G.K. Joseph.

240. ***Ochotona forresti*** **Thomas, 1923 — LRnt/N** — (Forrest's pika). **Family:** Ochotonidae. **Taxonomic status:** Species. **Habit:** Terrestrial, fossorial. **Habitat:** Forested slopes (East and south facing). .**Global Distribution:** China, Myanmar, India. **Current Regional Distribution:** Northeastern Himalaya. **-Elevation:** 2600-4400 m. **-Range (Sq. Km):** < 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many; Fragmented (Arunachal Pradesh (Tushil Valley, Dhapabhoom), Sikkim). **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Indirect information; Records. **Recent Field Studies:** ZSI Survey ongoing in entire area. **Threats:** Human interference; Loss of habitat; Siltation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**.**DATA DEFICENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies; Habitat management; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 335. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay, G.K. Joseph.

241. ***Ochotona ladacensis*** **(Gunther, 1875) — DD/N** — (Long-eared pika). **Family:** Ochotonidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** Not known. **Current Regional Distribution:** Not known. **-Elevation:** Not known. **-Range (Sq. Km):** Not known. **-Area Occupied (Sq. Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay,G.K. Joseph.

242. ***Ochotona macrotis*** **(Gunther, 1875) — DD/N** — **Family:** Ochotonidae. **Taxonomic status:** Species. **Habit:** Terrestrial-fossorial. **Habitat:** Beyond snow line in India (Alpine deserts in outside India). **Global Distribution:** India, China, Tibet, Nepal, Bhutan. **Current Regional Distribution:** Northern India (Entire Himalaya). **-Elevation:** 2500-6130 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Indirect information; Collections. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** R. Borges, K.K. Rramachandran,S. Chattopadhyay,G.K. Joseph .

243. ***Ochotona nubrica*** **Thomas, 1922 — DD/N** — (Nubra pika). **Family:** Ochotonidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India ?. **Current Regional Distribution:** Not known. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Not evaluated. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay, G.K. Joseph.

244. ***Ochotona roylei*** **(Ogilby, 1839) — LRnt/N** — (Pika/Himalayan mouse-hare). **Family:** Ochotonidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Amidst Dwarf Rhododendrer, Dwarf Juniper, Alpine meadows, Rocky screes above tree line. **Global Distribution:** India, Pakistan, Nepal, China. **Current Regional Distribution:** Northwestern and eastern Indian Himalayas. **-Elevation:** > 3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Indirect information; Records. **Recent Field Studies:** ZSI, ongoing survey Ladak; WII ongoing survey. **Threats:** Human interference; Loss of habitat; War. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 322, 336. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay, G.K. Joseph.

245. ***Ochotona thibetana*** **(Milne-Edwards, 1871) — LRnt/N** — (Moupin pika). **Family:** Ochotonidae. **Taxonomic status:** Species. **Habit:** Terrestrial and fossorial. **Habitat:** Amidst temperate and coniferous forests and agricultural fields with such habitats. **Global Distribution:** China, Myanmar, Bhutan, India. **Current Regional Distribution:** Sikkim Himalaya. **-Elevation:** 2500-3500 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Indirect information; Collections. **Recent Field Studies:** R.K. Ghosh, ZSI ongoing, 1972 in entire area of distribution. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** Snowfall may be a catastrophic. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Habitat management; Limiting factor management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay, G.K. Joseph.

246. ***Orcaella brevirostris*** **(Gray, 1866) — EN/N (B1, 2c)** — (Irrawaddy dolphin). **Family:** Delphinidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Marine estuaries. **Global Distribution:** India, Bangladesh, Southeast Asia, Vietnam. **Current Regional Distribution:** Northeastern Indian coast, Chilka Lake. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** <2,000. **-Number of location:** about 5. **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** About 100. **Data Quality:** General field study; Collections; Census. **Recent Field Studies:** Dandapani, 1992 in Chilka; R.S. Lal Mohan, 1994 in Chilka; ZSI, Calcutta 1996 in Chilka, Brahmaputra inland. **Threats:** Fishing; Siltation. **Trade:** No. **Other Comments:** Annandale 1991. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, continuing decline observed in extent of occurrence, area of occupancy and quality of habitat). **-CITES:** Appendix 1. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** Data deficient. **Recommendations: -Research management:** Monitoring; Habitat management; Limiting factor management. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 1 . **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 9, 86. **Compilers:** R.S. Lal Mohan, S. Paulraj, J.C. Daniel.

247. ***Orcinus orca*** **(Linnaeus, 1758) — LRnt/N** — (Killer whale). **Family:** Delphinidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic. **Global Distribution:** Indian, Atlantic, Pacific, Arctic, Antartic Oceans. **Current Regional Distribution:** West and east coasts of India (Very few records). **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study. **Recent Field Studies:** R.S. Lal Mohan in west coast. **Threats:** Fishing. **Trade:** Not known. **Other Comments:** Caught in gill nets occasionally. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk conservation dependent. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 134. **Compilers:** .

248. ***Otomops wroughtoni*** **(Thomas, 1913) — CR (B1, 2c)** — (Wroughton's free-tail). **Family:** Molossidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Cave. **Global Distribution:** ENDEMIC to Western Ghats. **Current Regional Distribution:** Western Ghats. **-Elevation:** 500 m. **-Range (Sq**. **Km):** < 100. **-Area Occupied (Sq**. **Km):** < 10. **-Number of location:** 1 (Barapede Cave, North Canara. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Few. **Global Population:** Very few individual. **Data Quality:** General field study (Brosset, 1961); Collections. **Recent Field Studies:** Bates *et al*., 1992. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** Single population in need of special attention. **Status: -IUCN: CRITICALLY ENDANGERED** . **-Criteria based on: B1, 2c** (Restricted distribution, single location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Critically endangered. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 19, 38. **Compilers:** M. Muni, Y.P. Sinha, P.O. Nameer, G. Marimuthu, A.K. Chakravarthy.

249. ***Otonycteris hemprichii*** **Peters, 1859 — VU/N (D2)** — (Hemprichs long-eared bat). **Family:** Verpertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, China, Myanmar, Thailand, Vietnam. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 1 (Kashmir). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Nath, 1987 in Kashmir). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to only one location). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, .R. Krishnan.

250. ***Ovis ammon*** **(Linnaeus, 1758) — EN/N (C2a)** — (Argali, nayan). **Family:** Bovidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Tibetan plateau. **Global Distribution:** India, Tibet, Nepal. **Current Regional Distribution:** Jammu & Kashmir, Himachal Pradesh and Sikkim. **-Elevation:** 4575 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 3 (Ladakh, Himachal Pradesh and Sikkim); Fragmented. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** < 250. **Global Population:** 250 300. **Regional Population:** 250 (Fox *et al* 1991). **Data Quality:** General field study. **Recent Field Studies:** Fox *et al*., 1991; J.K. Das 1984; Mallon, 1985; Jammu & Kashmir Forest Department . **Threats:** Interspecific competition; Cattle grazing; Disease; Hunting; Hunting for food; Predation (wolves snow leopard). **Trade:** No. **Other Comments:** —. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2a** (Restricted number of mature individuals in fragmented populations and continuing decline in numbers). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedeule I, Part I. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring; Habitat management; Limiting factor research. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficulty. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 87, 105, 176. **Compilers:** G. Ramaswamy, M.M. Mansoor, J.C. Daniel, N. Sivaganesan, R.S. Lal Mohan, P.S.Easa, M. Mishra.

251. ***Ovis orientalis*** **(Gmelin, 1774) — EN/N (B1, 2c)** — (Shapu or Urial) (Ladakh urial/shapu). **Family:** Bovidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Steep grassy hill slopes (above forest). **Global Distribution:** India, Iran, Afghanistan, Pakistan, Former Russia . **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** above 4000 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 1 (Ladakh). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Records. **Recent Field Studies:** None. **Threats:** Cattle grazing; Damming; Hunting. **Trade:** No. **Other Comments:** —. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, single location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered (1994). **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** Pending further data. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** J.C. Daniel, M.M. Mansoor, N. Sivaganesan, G. Ramaswamy, R.S. Lal Mohan.

252. ***Ovis vignei vignei*** **— EN (C2a)** — (Shapu or Ladakh urial). **Family:** Bovidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Grassy hill slopes above forest in Ladakh. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Jammu & Kashmir and Pakistan ocupied Kashmir. **-Elevation:** 2500-3800 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 2; Fragmented (Skaron Valley, Ladakh). **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** 660-750. **Global Population:** < 1500. **Data Quality:** Reliable census; General field study (Mallon, 1983); (Schaller, 1977) Informal field sighting. **Recent Field Studies:** Mallon, 1991; Fox *et al*., 1991; Chundawat & Rawat, 1994. .**Threats:** Aircraft; Cattle grazing; Damming; Human interference; Hunting; Loss of habitat. **Trade:** No. **Other Comments:** Disease through domestic animal, hunting by army, canal can result in habitat loss. Most threatened animal in Indian trans Himalaya. **Status: -IUCN: ENDANGERED**. **-Criteria based on: C2a** (Restricted number of mature individuals and continuing decline observed in

fragmented location). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Limiting factor management. **-PHVA:** Pending further data. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** J.C. Daniel, M.M. Mansoor, N. Sivaganesan, G. Ramaswamy, R.S. Lalmohan.

253. ***Paguma larvata*** **(Hamilton-Smith, 1827) — LRlc/N** — (Himalayan masked palm civet). **Family:** Viverridae. **Taxonomic status:** Species. **Habit:** Nocturnal, mostly arboreal, terrestrial. **Habitat:** Temperate and Sub-tropical forests. **Global Distribution:** India, Pakistan, Myanmar, Southeast Asia. **Current Regional Distribution:** Western, central and eastern Indian Himalaya, northeastern India, Andaman & Nicobar Islands. **-Elevation:** 400-2500 m. **-Range (Sq**. **Km):** > 20, 000. **-Area Occupied (Sq**. **Km):** > 2, 000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Museum/records/collection; Indirect information. **Recent Field Studies:** ZSI, Survey. **Threats:** Hunting; Loss of habitat; Trade. **Trade:** Commercial; International. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (NATIONALLY)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Life history studies; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 2.3.1 = 6 in 4 Indian zoos and 12.10.0 = 22 in 6 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 207(xxxv), 244. **Compilers:** S. Chattopadhyay, E.A. Jayson, G. Christopher, M. Ravi kumar, .D. Mudappa, V. Menon.

254. ***Panthera leo persica*** **(Linnaeus, 1758) — CR (C2d)** — (Asiatic lion). **Family:** Felidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Dry deciduous teak, scrub jungle, dry savannah forest. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Gujarat . **-Elevation:** Sea level-500 m. **-Range (Sq**. **Km):** < 5,000 (1412). **-Area Occupied (Sq**. **Km):** < 2,000 (1412). **-Number of location:** One (Gir National Park). **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** 221. **Global Population:** 251. **Data Quality:** 1 (Gujarat Forest Department census). **Recent Field Studies:** R. Chellam & Waker, 1989-93; Chauhan, 1993 . **Threats:** Cattle grazing; Disease; Genetic problem; Human interference; Loss of habitat . **Trade:** No. **Other Comments:** Alternate home identified at Kuno-Palpar. **Status: -IUCN: CRITICALLY ENDANGERED** . **-Criteria based on: C2d** (Number of mature individuals restricted to a single location). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Translocation; Limiting factor research; Limiting factor management; Habitat management; Genetic managment. **-PHVA:** Conducted in 1993. **Captive Breeding Recommendations: -Captive breeding:** Level 1; Level 5.2 (for hybrids). **-Level of difficulty:** Least difficult. **Existing Captive Population:** 33.68.0 = 101 in 14 zoos in India. *Panthera leo persica* 29.35.4 = 68 in 28.zoos & *Panthera leo persica* (herb) 0.1.0 = 1 in zoos abroad. Indian zoo .population correpted with hybrids and inbred animals some years ago. Now.a management plan is in place but needs active cooperation between zoos and their state government for effective implementation. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 10a, 221. **Compilers:** J.C. Daniel, G. Ramaswamy, W. Sunderraj, K.K. Ramachandran, .A. Venkataraman, S. Walker.

255. ***Panthera pardus*** **(Linnaeus, 1758) — VU/N (C2a)** — (Leopard). **Family:** Felidae. **Taxonomic status:** Species. **Habit:** Terrestrial, semiarboreal. **Habitat:** Forests, scrub jungle, open country. **Global Distribution:** Asia and Africa. **Current Regional Distribution:** Throughout India. **-Elevation:** Up to 3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Stable ?. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** < 10,000. **Global Population:** < 10,000. **Regional Population:** 12000-15000. **Data Quality:** General field study; Informal field sightings. **Recent Field Studies:** R. Chandawat; U. Karanth; Adwhyt, . **Threats:** Trade; Hunting; Loss of habitat; Overexploitation; Poisoning. **Trade:** Commercial; International. **Other Comments:** Largest number of skins in the catskin trade is of this species. Commercially threatened. Population calculated as 4 times the number of tigers in the wild. **Status: -IUCN: VULNERABLE (Nationally)**.**DATA DETICIENT (Globally)** . **-Criteria based on: C2a** (Population restricted with few mature individuals in fragmented locations). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Limiting factor management. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** 152.130.28 = 310 in Indian zoos and 78.98.2 = 178 in 80 zoos abroad. Many.of this species come into zoos as problem animals. In Indian zoo population,.breeding needs to be curbed as current number is sufficient to maintain species for exhibition and conservation with fresh genetic material being.added all the time. Management urgently required. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 13(v), 97(vii), 207(x). **Compilers:** J.C. Daniel, G. Ramaswamy, K.K. Ramachandran, N. Sivaganesan, V. Menon, W. Sunderraj, D.K. Lahiri Choudhury, R.S. Lal Mohan, .A. Venkataraman, S. Walker.

256. ***Panthera tigris tigris*** **(Linnaeus, 1758) — EN/N** — (Indian tigers). **Family:** Felidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Dense forest, thorny, semi evergreen, evergreen, mangroves, grassland. **Global Distribution:** India, Nepal, Bangladesh, Bhutan, Myanmar. **Current Regional Distribution:** All over India except Himachal Pradesh, Jammu & Kashmir, Punjab, Haryana. **-Elevation:** Up to 3600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** 1500-2000. **Global Population:** < 5,000. **Regional Population:** 3000-4000. .**Data Quality:** Reliable census; General field study. **Recent Field Studies:** U. Karanth; R. Chundawat; A.J.T. Johnsingh. **Threats:** Decline in prey species; Hunting for medicine; Loss of habitat because of fragmentation; Poisoning; Trade; Trade for parts. **Trade:** Commercial; International. **Other Comments:** —. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2a** (Population restricted to very few mature individuals in

fragmented locations and continuing decline observed) . **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring; Habitat management; Limiting factor research; Limiting factor management; Others (Conservation Education). **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Least difficult. **Existing Captive Population:** According to CZA record 94.105.0 = 209 in Indian zoos. *Panthera tigris* (no Sub-species) 4.13.0 = 17 in 11 zoos and *Panthera tigris tigris* 146.168.1 = 315 in 64 zoos abroad. Indian zoo population needs their management plan to be actively implemented. However, doubt exists about purity of sup-species due to importation of hybrid tigers in pest and mixing with zoo populations. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 13(vi), 97(vi), 207a, 221. **Compilers:** J.C. Daniel, G. Ramaswamy, K.K. Ramachandran, W. Sunderraj, V. Menon, A. Venkataraman, N. Sivaganesan.

257. *Pantholops hodgsoni* — CR/N (C2b) — (Chiru, Tibetan antelope). **Family:** Bovidae. **Taxonomic status:** Species. **Habit:** Terrestrial, gregarious. **Habitat:** Tibetan plateau. **Global Distribution:** India and Tibet (Seasonal migrant). **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 4000-5000 m. **-Range (Sq. Km):** < 5,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** 1 (Chang Chen Mo Valley-Ladakh). **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** < 250. **Global Population:** < 250. **Regional Population:** 200 mature individuals. **Data Quality:** General field study; Informal field sightings. **Recent Field Studies:** Department of Wildlife of J & K, 1996 -97; R. Chandawat, 1995-96; R. Singh, 1995-96 . **Threats:** Disease; Hunting; Hunting for food; Trade for parts; Trade. **Trade:** Commercial; International (Wool). **Other Comments:** Jammu & Kashmir Government has a prgramme for captive breeding. Wool is the main part traded. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2b** (Population number of mature individuals restricted to only one location and numbers are in continuing decline). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Taxonomic and morphological genetic studies; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 47, 103, 132, 275. **Compilers:** J.C. Daniel, N. Sivagaesan, P.S. Easa, G. Ramaswamy, D.K. Lahiri Choudhury, V. Menon, R.S. Lal Mohan, M.M. Mansoor, M. Mishra.

258. *Paradoxurus hermaphroditus* (Pallas, 1777) — LRlc/N — (Common palm civet/toddy cat). **Family:** Viverridae. **Taxonomic status:** Species. **Habit:** Terrestrial and arboreal. **Habitat:** Tropical forests, rural and Urban areas, except high altitudes and reserve. .**Global Distribution:** South and southeast Asia. **Current Regional Distribution:** Penninsular India. **-Elevation:** 0-1500 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** General field study; Informal field sightings; Collection/records. **Recent Field Studies:** Yoganand and Kumar 1995, Nilgiri Biosphere Reserve; Field sightings in Western Ghats and Vidharbha regions of M.S. during ZSI survey. **Threats:** Hunting; Hunting for food; Road kills; Trade for parts; Trade. **Trade:** Commercial; International. **Other Comments:** Considered a pest at poultry farms and cocoa plantations. Observed feeding on fruits of toddy palms in Chikmangalur district, Karnataka, Nocturnal and feeds on wild fruits (Chakravarthy, A.K., 1994**:** Personal Observation). **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 48.33.15 = 96 in 34 Indian zoos and 20.14.2 = 36 in 13 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 207(xxxvi), 231, 232, 244. **Compilers:** E.A. Jayson, G. Christopher, M. Ravikumar, D. Mudappa, A.K. Chakravarthy.

259. *Paradoxurus jerdoni* Blanford, 1885 — VU (B1, 2b, 2c) — (Brown/Jerdon's palm civet). **Family:** Viverridae. **Taxonomic status:** Species. **Habit:** Nocturnal, arboreal, terrestrial. **Habitat:** Wet evergreen tropical forests (available records). **Global Distribution:** ENDEMIC to Western Ghats. **Current Regional Distribution:** Western Ghats. **-Elevation:** 700-1,600 m. **-Range (Sq. Km):** < 20,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** Many - fragmented (in southern Western Ghats). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** Reliable census; General field study; Informal field sightings; Indirect information; Museum/collection/records. **Recent Field Studies:** Ashraf *et al.*, 1990 in Southern Western Ghats; Ramachandran, KFRI 1991.in Silent Valley Wildlife Sanctuary; Ramachandran, KFRI, 1995 in Chenduruni.Wildlife Sanctuary; D. Mudappa, 1996-97 in Kalakad; Kumar, 1992 -93 in.Anamalais. **Threats:** Hunting for food; Loss of habitat; Loss of habitat because of fragmentation. **Trade:** No. **Other Comments:** Believed to be rare but seems to be quite wide spread, Extensively hunted for food by local tribes. **Status: -IUCN: VULNERABLE** . **-Criteria based on: B1, 2b, 2c** (Restricted distribution, severely fragmented, continuing decline observed in area of occupancy and/or extent of occurrence and quality of habitat). **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 10, 231. **Compilers:** E.A. Jayson, G. Christopher, M. Ravi kumar, N.V.K. Ashraf, D. Mudappa.

260. *Paraechinus micropus* (Blyth) — LRlc/N — (Indian hedge hog/Pale Hedge hog) .*Hemiechinus micropus* (Blyth) .*Paraechinus intermedius* (Biswas and Ghose). **Family:** Erinaceidae (Sub**Family:** Erinaceinae). **Taxonomic status:** Species. **Habit:** Terrestrial and Fossorial. **Habitat:** Lives in burrows near shrubs and/or bushes of dry deserts and plains. **Global Distribution:** India and Pakistan. **Current Regional Distribution:** Punjab, Rajasthan, Gujarat, Maharashtra up to Pune and parts of Uttar Pradesh up to Agra. **-Elevation:** 1200 m. **-Range (Sq. Km):** > 20,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** > 10. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-**

No of Mature Individuals: Not known. **Global Population:** Not known. **Regional Population:** Common. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** I. Prakash, 1994 in Thar Desert. **Threats:** Predation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**.**DATA DEICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. -IWPA (1972;91)**:** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 84, 98, 239. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

261. ***Paraechinus micropus nudirentris*** **(Horsfield) — VU (D2)** — (Short eared hedghog) .*Erinaceus nudiventris* (Horsfield). **Family:** Erinaceidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial, Fossorial. **Habitat:** Rocky areas with grasslands. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Southern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** >20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 2 (Madurai District in Tamil Nadu and Kerala). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** P.S. Easa, 1994 in Kerala parts of Western Ghats. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE** . **-Criteria based on: D2** (Population restricted to only 2 locations). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 84, 98, 244. **Compilers:** S. Chakraborthy, M.S. Pradhan and K.A. Subramanian.

262. ***Pardofelis marmorata*** **(Martin, 1837) — LRnt/N —** (Marbled cat). **Family:** Felidae. **Taxonomic status:** Species. **Habit:** Mostly nocturnal. **Habitat:** Tropical forest, deciduous to evergreen forest. **Global Distribution:** Southeast Asia, Bhutan, Nepal, China, Malaysia. **Current Regional Distribution:** Northeastern India . **-Elevation:** Up to 3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** < 10 (Sikkim, Namdapha in Arunachal Pradesh, Assam (Subarisri rain forest, Dharisri rain forest), Megalaya, Manas). **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Not known. **Recent Field Studies:** Hussain, 1974; Khan, 1986; Corbett, 1993; A. Choudhury, 1991 in Lakhimpur, Dharaja and Kauli Anglang districtg . **Threats:** Hunting; Trade for parts; Trade; Loss of habitat due to fragmentation. **Trade:** Commercial; International. **Other Comments:** Commercially threatened for its skin. Sighting of the species in Great Nicobar needs to be verified. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. -IWPA (1972;91)**:** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Data deficient. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor management; Limiting factor research. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India and none of Indian Sub-species in foreign zoos. **-Name of facilities:** —. **Sources (Refer Appendix):** 75, 79, 82, 181. **Compilers:** M.M. Mansoor, J.C. Daniel, G. Ramaswamy, N. Sivaganesan, W. Sunderraj, K.K. Ramachandran, S. Paulraj, A. Venkatraman; S. Molur, G.K. Joseph.

263. ***Peponocephala electra*** **(Gray, 1846) — LRnt/N —** (Melon heater dolphin). **Family:** Delphinidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic. **Global Distribution:** Warm temperate, tropical seas. **Current Regional Distribution:** Indian waters. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** 2 records from Indian coast sightings from Indian Ocean. .**Data Quality:** Reliable census; General field study; Informal field sightings. **Recent Field Studies:** None. **Threats:** Fishing. **Trade:** Not known. **Other Comments:** Caught in gill nets. **Status: -IUCN: LOWER RISK - NEAR THREATENED (NATIONALLY)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Not evaluated. **Recommendations: -Research management:** Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 134. **Compilers:** R.S. Lal Mohan, J.C. Daniel, G. Ramaswamy, S. Paulraj.

264. ***Petaurista philippensis*** **(Elliot, 1842) — LRnt/N —** (Large brown flying squirrel). **Family:** Scuiridae. **Taxonomic status:** Species. **Habit:** Arboreal (Nocturnal). **Habitat:** Dry deciduous, moist deciduous, semievergreen, evergreen forests. **Global Distribution:** India, Sri Lanka, Myanmar, Thailand, Indochina, China, Vietnam, Hainan, Taiwan. **Current Regional Distribution:** Peninsular India (Goa, Maharashtra, Andhra Pradesh, Madhya Pradesh, Karnataka, Tamil Nadu, Kerala) . **-Elevation:** 50-1800 m. **-Range (Sq**. **Km):** > 20,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** Many (Parts of Rajasthan, Orissa, Bengal). **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Indirect information; Museum/collection/records. **Recent Field Studies:** Ashraf et al., 1993 in Western Ghats; Ramachandran, 1995 in Shendurney .Wildlife Sanctuary; KFRI Report, 1996 in Chinnar Wildlife Sanctuary; .Francis Xavier *et al.*, 1996 in Kerala; Tehsin, 1980 in Rajasthan; M.S. Pradhan in Melghat Tiger project (1991 to 1995). **Threats:** Human interference; Hunting; Hunting for food; Loss of habitat; Loss of habitat because of fragmentation; Trade. **Trade:** Domestic. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Limiting factor management; Limiting factor research; Life history studies; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India . **-Name of**

facilities: —. **Sources (Refer Appendix):** 10, 156, 157, 317, 328. **Compilers:** R. Borges, N.V.K. Ashraf, K.K. Ramachandran, G.K. Joseph, S. Paulraj.

265. ***Petinomys fuscocapillus fuscocapillus*** **(Jerdon, 1847) — VU (B1, 2b, 2c) —** (Small Travancore flying squirrel). **Family:** Sciuridae. **Taxonomic status:** Sub-species. **Habit:** Arboreal. **Habitat:** Moist deciduous, semi evergreen, evergreen. **Global Distribution:** ENDEMIC to Western Ghats . **Current Regional Distribution:** Southern Western Ghats . **-Elevation:** Up to 7000m. **-Range (Sq**. **Km):** < 20,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** Few (Anamalais, Chalakkudy FD, Periyar Tiger Reserve, Pathanamthitta Dist Shendurney WLS, Peppara WL, Srivilliputhur, Meghamalai Wildlife Sanctuary,.Kodayar, Peechi); Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** Informal field sightings; Museum/collection/records. **Recent Field Studies:** Ashraf *et al.*, 1993 in Western Ghats; Kurup, 1989 in Western Ghats; Xavier *et al*., 1996 in Vazhathacaud; Ramachandran, 1995 in Shadurney .Wildlife Sanctuary; J. Zucharias and Christoffer, 1996, in Periyar Tiger reserve. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** Intensive surveys north of Palaghat Gap needed. **Status: -IUCN: VULNERABLE** . **-Criteria based on: B1, 2b, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. -IWPA (1972;91)**:** Schedule I Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1 with extreme caution and genuine expertise only. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 10, 166, 252, 328. **Compilers:** K.K. Ramachandran, N.V.K.Ashraf, G.K. Joseph, W. Sunderraj.

266. ***Physeter catodon*** **Linnaeus, 1758 — LRnt/N —** (Sperm whale). **Family:** Physoteridae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic. **Global Distribution:** Worldwide all oceans. **Current Regional Distribution:** East and west Coasts of India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Not known. **Recent Field Studies:** Recordeed from Carenes washed ashore occasionally. **Threats:** Hunting; Ship collisions; sound pollution; Trade. **Trade:** Local. **Other Comments:** Uncommon in Indian waters. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)** . **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 6, 168. **Compilers:** R.S. Lal Mohan, J.C. Daniel, G. Ramaswamy, S. Paulraj, R. Borges.

267. ***Pipistrellus affinis*** **(Dobson, 1871) — DD/N —** (Chocolate bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. .**Global Distribution:** India, Sri Lanka, Nepal, Myanmar, China. **Current Regional Distribution:** Throughout India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**.**DATA DEFICEINT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** —. .**Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer, R. Krishnan.

268. ***Pipistrellus cadornae*** **Thomas, 1916 — DD/N** — (Cadornae's pipistrelle bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Myanmar, Thailand. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. -Area Occupied (km^2)**:** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer, R. Krishnan.

269. ***Pipistrellus ceylonicus*** **(Kelaart, 1852) — LRlc/N —** (Kelaart's pipistrelle). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Crevices in wood, buildings, bridge etc. **Global Distribution:** India, Sri Lanka, Pakistan, Southeast Asia. **Current Regional Distribution:** Throughout India. **-Elevation:** Up to 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** 2 (BNHS, 1901-24 many locations; ZSI 1978-80 in many locations; Brosset 1962 Maharashtra, Karnataka). **Recent Field Studies:** Bates *et.al.* 1992 in Rajkot. **Threats:** No. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —.

Sources (Refer Appendix): 20, 38, 297(xxiii). **Compilers:** G. Marimuthu, Y.P. Sinha, A.K. Chakravarthy, M. Muni, P. Padmanabhan, .P.O. Nameer, R. Krishnan.

270. ***Pipistrellus coromandra*** **Gray, 1838 — LRnt/N** — (Indian pipistrelle). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Colonial . **Habitat:** Crevices of building, bark of trees. **Global Distribution:** India, Sri Lanka, Pakistan, Afghanistan. **Current Regional Distribution:** India except Gujarat, Rajasthan, Jammu & Kashmir. **-Elevation:** Plains - 1600m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records (Sinha, 1979-81 in Bihar; Brosset, 1962 in Surat; BNHS, 1907-55 many locations). **Recent Field Studies:** None. **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. -IWPA (1972;91)**:** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 39, 285, 297(xxi). **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer, M. Muni, .R. Krishnan.

271. ***Pipistrellus dormeri*** **(Dobson, 1875) — LRnt/N** — (Dormer's bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Crevices and holes in buildings and trees. **Global Distribution:** India, Pakistan. **Current Regional Distribution:** Throughout India. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** > 20,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Sinha, 1980 in Rajasthan; 1980 in Bihar; 1981 in Gujarat; Marimuthu, 1985, in Madurai). **Recent Field Studies:** Sinha, 1993 in Meghalaya; Balasingh, 1990-97 in Tirunelveli, Tamil Nadu. **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** Madurai - declining; Rajasthan & Bihar increasing. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 285, 286, 289, 293, 297(xxii). **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer, R. Krishnan.

272. ***Pipistrellus kuhlii*** **(Kuhl, 1817) — DD/N —** (Kuhl's pipistrelle). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Solitary to colonial. **Habitat:** Cervices of buildings, caves. **Global Distribution:** India, Pakistan, Africa. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. -IWPA (1972;91)**:** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** —. **Compilers:** G. Marimuthu, Y.P. Sinha, P.Padmanabhan, M. Muni, P.O. Nameer, R. Krishnan.

273. ***Pipistrellus paterculus*** **Thomas 1915 — LRnt/N —** (Paternal pipistrelle). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Bamboo Forests. **Global Distribution:** India, Myanmar, China. **Current Regional Distribution:** Northeastern India. **-Elevation:** Plains. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 4. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Sinha, 1983 in Bihar). **Recent Field Studies:** None. **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** . **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower risk near threatened. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 288. **Compilers:** G. Marimuthu, Y.P. Sinha, A.K. Chakravarthy, R. Krishnan, P. Padmanabhan, P.O. Nameer.

274. ***Pipistrellus pipistrellus*** **(Schreber, 1774) — VU/N (D2) —** (Common pipistrelle). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Pakistan, Western Europe, Northern Africa. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** Not known . **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 1 (Kashmir). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to single location). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, A.K. Chakravarthy, M. Muni, P. Padmanabhan, P.O. Nameer, R. Krishnan.

275. ***Pipistrellus savii*** **(Bonaparte, 1837) — DD/N —** (Savii's pipisttelle). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, North Africa to Japan, Western Europe. **Current Regional Distribution:** Jammu & Kashmir and Punjab. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. -Area Occupied (km^2)**:** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** Pesticides could be a threat to all fruit-eating bats. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** —. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer,R. Krishnan.

276. ***Pipistrellus tenuis*** **(Temminck, 1840) — LRlc/N —** (Least pipistessa). (Pipistrellus mimus). **Family:** Vespertilionidae . **Taxonomic status:** Species. **Habit:** Solitary and Colonial. **Habitat:** Cervices of buildings and rocks. **Global Distribution:** India, Sri Lanka, Afghanisthan, Pakistan, Southeast Asia. **Current Regional Distribution:** Throughout India. **-Elevation:** Plains. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Sinha, 1986 in Bihar, 1981 in Gujarat & 1980 in Rajasthan) . **Recent Field Studies:** Sinha, 1994 in Bihar; Isaac & Marimuthu 1989-97 in Madurai. **Threats:** No. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN** (NATIONALLY). DATA DEFICIENT **(Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 240, 285, 286, 289, 311, 312, 314, 315, 316. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer, M. Muni, R. Krishnan.

277. ***Plantacanthomys lasiurus*** **Blyth — LRlc —** (Malabar spiny door-mouse). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Arboreal and hollow of trees. **Habitat:** Moist deciduous & rain forest. **Global Distribution:** ENDEMIC to Western Ghats. **Current Regional Distribution:** South of Shimoga District in Western Ghats. **-Elevation:** 900-2500 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 10 . **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records (Pradhan, 1989 - 92 in NBR- Karnataka; Rajagopalan, 1965 in Shimoga. **Recent Field Studies:** Sankar, 1996 in Upper Bhavani; M.S. Pradhan, 1993-95 in Eravikulam; Padmanabhan & Easa, 1997 in Parambikulam; Jayson & Christopher, 1995, inPeppara WLS; Divya, 1997 in Kalakkad; Prabhakar, 1997 in Indira Gandhi Wildlife Sancutary. **Threats:** Loss of habitat; Human interference. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule IV. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 30, 84, 99, 137. **Compilers:** M.S. Pradhan, S. Chakraborty, M. Muni, K.A. Subramanian, P. Padmanaban, P.O. Nameer.

278. ***Platanista gangetica*** **(Roxburgh, 1801) — CR/N (A1a, 1c, 1d; C1, C2a) —** (Ganges river dolphin). **Family:** Platanistidae. **Taxonomic status:** Species. **Habit:** Rivers (Fresh water). **Habitat:** Fresh waters. **Global Distribution:** India, Nepal, Bangladesh. **Current Regional Distribution:** Ganges, Brahmaputra, Meghna Barakand their tributaries and Bheels. **-Elevation:** 250 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented by Fraakka Dam (Residential populations in tributaries (Kulsi River)). **Population Trends - % change: -% Decline:** > 80%. **-Time / Rate (Yrs or gens):** 10 years. **-No of Mature Individuals:** about 200. **Global Population:** about 2250. **Regional Population:** 1000-1200. **Data Quality:** General field study; Museum/records/collection. **Recent Field Studies:** R.S. Lal Mohan, 1989-1997in Brahmaputra, Ganges; R.K. Sinha, 1992-1997in Ganges; R.J. Rao, 1990-1993 in Chambal; Haque Iillnet in Meghna. **Threats:** Decline in prey species; Dynamite and other destructive fishing; Fishing; Hunting for food; Loss of habitat;Loss of habitat because of fragmentation; Pollution; Siltation; Trade; Trade for parts. **Trade:** Domestic. **Other Comments:** Oil of the animal is extracted and used as fish attractant. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globaally)**. **-Criteria based on: A1a, 1c, 1d**; (Population reduction observed due to decline in extent of occurrence, area of occupancy and/or quality of habitat and due to actual or potential levels of exploitation); **C1, C2a** (Very few mature individuals declining rapidly and found in a few fragmented locations). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Monitoring; Limiting factor research; Habitat management (Creation of awareness, declare dolphin oil fishery illegal). **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1 with great caution as techniques are not developed. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 200, 202, 205, 280, 283, 297(xxix). **Compilers:** R. S. Lal Mohan, J.C. Daniel, S. Paulraj, G. Ramaswamy.

279. ***Plecotus auritus*** **Linnaeus, 1758 — DD/N —** (Brown big-eared bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Deserted huts, tree trunks. **Global Distribution:** India, Western Europe, Japan, Pakistan. **Current Regional Distribution:** Northern and northeastern India. **-Elevation:** > 2500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records (ZSI & BNHS

Collections). **Recent Field Studies:** Srikumar in North Sikkim; ZSI, 1990-94 in North Sikkim. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** —. **Compilers:** G. Marimuthu, Y.P. Sinha, A.K. Chakravarthy, M. Muni, P. Padmanabhan, P.O. Nameer, R. Krishnan.

280. ***Plecotus austriacus*** **(J. Fisher 1829) — DD/N —** (Common long eared bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Pakistan, China, Southwest Europe. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** Not known. **-Range (Sq. Km):** Not known. -Area Occupied (km^2)**:** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Monitoring; Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, A.K. Chakravarthy, M. Muni, P. Padmanabhan, P.O. Nameer, R. Krishnan.

281. ***Prionailurus bengalensis*** **(Kerr, 1792) — LRnt/N —** (Leopard cat). **Family:** Felidae. **Taxonomic status:** Species. **Habit:** Terrestrial, semiarboreal . **Habitat:** Grasslands, Scrub, Wet and Moist forests (Tropical & temperate). **Global Distribution:** South and southeast Asia. **Current Regional Distribution:** Throughout India except Deccan plateau and arid western India. **-Elevation:** Up to 3000 m. **-Range (Sq. Km):** > 20,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Declining . **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field sightings; Indirect information. **Recent Field Studies:** None. **Threats:** Human interference; Loss of habitat; Trade (live animals and skins). **Trade:** Commercial; Local (Trophy hunting - stuffed). **Other Comments:** Harvested at a larger rate. It is threatened due to trade. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 36.45.9 = 90 in 20 Indian zoos and 23.16.1 = 40 in 13 zoos abroad (listed as *Felis bengalensis bengalensis*). **-Name of facilities:** These animals must be managed systematically under one coordinated captive programme and a studbook be initiated. **Sources (Refer Appendix):** 222, 246. **Compilers:** N.V.K. Ashraf, G. Christoper, D. Mudappa, M.S. Pradhan, V. Menon, S. Walker.

282. ***Prionailurus rubiginosus rubiginosus*** **— LRnt/N** — (Geoffroy Saint-Hilaire, 1831) (Rusty spotted cat). **Family:** Felidae. **Taxonomic status:** Sub-species. **Habit:** Terrestria/arboreal, nocturnal. **Habitat:** Scrub, dry and open forests, tolerant to man-modified habitats and plantations. **Global Distribution:** Sri Lanka and India. **Current Regional Distribution:** Peninsular India . **-Elevation:** 10- 200 m. **-Range (Sq. Km):** > 20,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** Many (Topslip, Gir Sariska, Chinnar, Simplipal, Periyar, Nagarhole, Bhadra WLS, Thana district, Maharastra, Kuttanad, Kerala, Mundanthurai, Bangalore). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field sightings; Museum/records/collection. **Recent Field Studies:** None. .**Threats:** Hybridization (substantiated); Road kills. **Trade:** Not reported. **Other Comments:** Kashmir record is to be verified, Not as common as lepoard cat. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I Part I. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Taxonomic and morphological genetic studies; Life history studies (?). **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Least difficult. **Existing Captive Population:** None in Indian zoos but 2.2.0 = 4 in 2 zoos abroad (listed as *Felis rubiginosa* in 1919). Many numbers of Sri Lankan Sub-species. **-Name of facilities:** —. **Sources (Refer Appendix):** 97(x), 221, 244. **Compilers:** N.V.K. Ashraf, G. Chistopher, D. Mudappa.

283. ***Prionailurus viverrinus*** **(Bennett, 1833) — VU/N (B1, 2a, 2b, 2c) —** (Fishing cat) . **Family:** Felidae. **Taxonomic status:** Species. **Habit:** Nocturnal. **Habitat:** Heavy jungle, scrub, wetlands, marshy areas, tidal creeks, mangroves. **Global Distribution:** Pakistan, India, Bangladesh, Myanmar, Indonesia, Sumatra. **Current Regional Distribution:** Northern, northeastern, eastern and southern India. **-Elevation:** 0-1500 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** Many but patchy; Fragmented. **Population Trends - % change: -% Decline:** Declining . **-Time / Rate (Yrs or gens):** Not known . **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings. **Recent Field Studies:** S. Mukherjee. 1989 in Bharatpur National Park; J.C. Daniel in Bharatpur . **Threats:** Dynamite and other destructive fishing (agriculture); Human interference; Loss of habitat; Trade (conversion of lands); Trade for parts. **Trade:** International; Commercial (pets and live animals). **Other Comments:** Trichur, Kerala-sighted along rivers in town. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2a, 2b, 2c** (Restricted distribution, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/of quality of habitat). **-CITES:** No. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Lower risk near threatened. **Recommendations: -Research management:** Monitoring; Survey; Life history studies; Habitat management. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Least

difficult. **Existing Captive Population:** 6.5.0 = 11 in 5 Indian zoos and 57.63.1 = 121 in 33 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 221, 244. **Compilers:** N.V.K. Ashraf, G. Christoper, E.A. Jayson, D. Muddappa.

284. ***Prionodon pardicolor*** **Hodgson, 1842 — VU/N (B1, 2a, 2c)** — (Spotted linsang/Tiger civet). **Family:** Viverridae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Temperate and Coniferous. Tropical rain forest. **Global Distribution:** Nepal, Myanmar, China, Thailand, Laos, Vietnam. **Current Regional Distribution:** Sikkim and Northeastern India. **-Elevation:** 150-3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 4 (Yum Thang, Yak sum, Bakhim, Pelling). **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; Indirect information; Museum/records/collection. **Recent Field Studies:** Sree Kumar, ZSI, 1989-1995 . **Threats:** Hunting; Loss of habitat. **Trade:** No. **Other Comments:** None. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2a, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence and/or area of occupancy and quality of habitat). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India but 3.0.0 = 3 in Singapore zoo. **-Name of facilities:** —. **Sources (Refer Appendix):** 130, 270, 300. **Compilers:** S. Chattopadhyay, E.A. Jayson, N.V.K. Ashraf, M. Ravi Kumar, G. Christopher, D. Mudappa.

285. ***Procapra picticaudata picticaudata*** **— CR/N (D)** — (Tibetan gazelle). **Family:** Bovidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Open, rolling plains. **Global Distribution:** India, China, Mangolia, Tibet. **Current Regional Distribution:** Jammu & Kashmir and SIkkim. **-Elevation:** 3950- 5000 m. **-Range (Sq**. **Km):** < 5,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** 2; Fragmented (Ladakh, Sikkim). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** < 50. **Global Population:** < 50. **Regional Population:** 50 (Fox, 1991). **Data Quality:** General field study. **Recent Field Studies:** Fox *et. al.*, 1991; Rahmani,1997 . **Threats:** Loss of habitat; Human interference. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. . **-Criteria based on: D** (Very few mature individuals). **-CITES:** No. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 105, 248. **Compilers:** M.M. Mansoor, R.S. Lal Mohan, V. Menon, N. Sivaganesan, J.C. Daniel,.G. Ramaswamy.

286. ***Pseudois nayaur*** **(Hodgson, 1833) — LRlc/N —** (Bharal or blue sheep). **Family:** Bovidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** High altitude above tree line. **Global Distribution:** Tibet, India, Nepal and Bhutan. **Current Regional Distribution:** Indian Himalaya. **-Elevation:** Up to 4880 m. **-Range (Sq**. **Km):** > 20,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** Four (Ladak, Himachal Pradesh, Sikkim & Kumaon). **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** 11000 (Fox 1991; Mallen 1991). .**Data Quality:** Reliable census; General field study. **Recent Field Studies:** Fox *et. al.* 1991; Mallen 1991; JK WL Department . **Threats:** Cattle grazing; Disease; Hunting. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Lower Risk near threatened. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Very difficult. **Existing Captive Population:** 1.0.0 = 1 in Indian zoos and 7.7.0 = 14 in zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 25(ii). **Compilers:** J.C. Daniel, M.M. Mansoor, N. Sivaganesan, R.S. Lal Mohan, G. Ramaswamy.

287. ***Psuedorca crassidens*** **(Owen, 1846) — LRnt/N** — (False killer whale). **Family:** Delphinidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Costal, Oceanic. **Global Distribution:** Circum tropical, (Indian, Pacific, Atlantic oceans, Baltic sea). **Current Regional Distribution:** Indian waters. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known (Large scale strandings reported from India). **Data Quality:** Not known (R.S. Lal Mohan, 1985). **Recent Field Studies:** None. **Threats:** Fishing. **Trade:** No. **Other Comments:** They strand in large numbers due to disorientation of the magnetic field. Kept in aquarium for shows. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Not evaluated. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India but 1.0.0 = 1 in zoo abroad. **-Name of facilities:** —. **Sources (Refer Appendix):** 134. **Compilers:** R.S. Lal Mohan, J.C. Daniel, S. Paulraj, G. Ramaswamy.

288. ***Pteropus faunulus*** **Miller 1902 — VU (B1, 2c, 2d)** — (Fruit bat). **Family:** Pteropodidae . **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Forest, Tropical evergreen. **Global Distribution:** ENDEMIC to Andaman & Nicobar Islands. **Current Regional Distribution:** Andaman & Nicobar Islands. **-Elevation:** Up to 200 m. **-Range (Sq**. **Km):** < 20,000 ?. **-Area Occupied (Sq**. **Km):** < 2,000 ?. **-Number of location:** 4 (Nicobar Islands). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Loss of habitat. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: VULNERABLE** . **-Criteria based on: B1, 2c, 2d** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of

occupancy and/or quality of habitat and in number of locations or sub-populations). .**-CITES:** Appendix II. -IWPA (1972;91)**:** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** — . **Compilers:** G. Marimuthu, Y.P. Sinha, J.C. Daniel, P.O. Nameer, P. Padmanabhan, .R. Krishnan, A.K. Chakravarthy.

289. ***Pteropus giganteus giganteus*** **(Brunnich, 1782) — LRnt/N** — (Indian flying fox) . **Family:** Pteropodidae. **Taxonomic status:** Sub-species. **Habit:** Arboreal. **Habitat:** All habitats. **Global Distribution:** South Asia. **Current Regional Distribution:** Throughout India. **-Elevation:** Up to 3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Indirect information. **Recent Field Studies:** Y.P. Sinha, 1995, 1997 in Bihar; A.K. Chakravarty, 1997 in Coorg. **Threats:** Human interference; Hunting; Hunting for food; Hunting for medicine; Loss of habitat. **Trade:** Local. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring . **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Least difficult. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 46, 294, 297(i). **Compilers:** G. Marimuthu, Y.P. Sinha, J.C. Daniel, P.O. Nameer, P. Padmanabhan, R. Krishnan, A.K. Chakravarthy.

290. ***Pteropus melanotus*** **Blyth 1863 — DD/N** — (Fruit bat). **Family:** Pteropodidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Forests. **Global Distribution:** India, Indo-malaysia. **Current Regional Distribution:** Andaman & Nicobar Islands. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** No. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Apendix II. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** None. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** —. **Compilers:** G. Marimuthu, Y.P. Sinha, J.C. Daniel, P.O. Nameer, P. Padmanabhan, .R. Krishnan, A. K. Chakravarthy.

291. ***Pteropus vampyrus*** **(Linnaeus 1758) — DD/N —** (Fruit bat). **Family:** Pteropodidae . **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Forest. **Global Distribution:** India, Myanmar, Vietnam, Philippines. **Current Regional Distribution:** Andaman & Nicobar Islands. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records (Mason 1908; Hill 1967). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India but 17.21.2 = 40 in 3 zoos abroad. **-Name of facilities:** —. **Sources (Refer Appendix):** 123, 193. **Compilers:** G. Marimuthu, Y.P. Sinha, J.C. Daniel, P.O. Nameer, P. Padmanabhan, R. Krishnan, A.K. Chakravarthy.

292. ***Rattus nitidus*** **(Hodgson, 1845) — DD/N —** (Himalayan rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial, fossorial. **Habitat:** Village houses, cultivated fields, rocky situation. **Global Distribution:** India, China, Myanmar, Thailand, Vietnam, Phillipines, Nepal, Bhutan, Sulawesi, New Gunea. **Current Regional Distribution:** Northern and northeastern India. **-Elevation:** about 3900 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/records/collection. **Recent Field Studies:** None. **Threats:** Not known . **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 327. **Compilers:** S. Chakraborthy; M.S. Pradhan; K.A. Subramanian.

293. ***Rattus norvegicus*** **(Berkenhout, 1769) — LRlc/N** — (Brown rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial and Fossorial. **Habitat:** Temeprate as well as cities and agricultural land. **Global Distribution:** Temperate region of the world as a synamthropic species. **Current Regional Distribution:** Throughout India. **-Elevation:** 7000 m. **-Range (Sq**. **Km):** Not known. -Area Occupied (km^2)**:** Not known. **-Number of location:** Large cities, ports as well as towns. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/records/collection. **Recent Field Studies:** M.S. Pradhan, 1981-90 in and around Mumbai island. **Threats:** Interspecific competition. **Trade:** No. **Other Comments:** Introduced and established in India. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule

V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 233, 273, 299. **Compilers:** S. Chakraborthy, M.S. Pradhan, K. Shankar, K.A. Subramanian.

294. ***Rattus palmarum*** **(Zelebor, 1869) — VU (D2)** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Mangroves and tropical rain forests. .**Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Andaman & Nicobar Islands. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 1(Nicobar islands). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: VULNERABLE**. **-Criteria based on: D2** (Population restricted to only 1 location). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 212. **Compilers:** S. Chakraborthy, M.S. Pradhan, K. Shankar, K.A. Subramanian.

295. ***Rattus ranjiniae*** **Agarwal & Ghosal — VU (D2)** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial/Arboreal. **Habitat:** Fields, water logged areas. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Kerala. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** 1 (Thiruvananthapuram). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE**. **-Criteria based on: D2** (Population restricted to a single location). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 4, 107. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

296. ***Rattus rattus*** **(Linnaeus, 1758) — LRlc/N** — (Black rat) . **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial, Arboreal. **Habitat:** Ubiquitous in and around human habitation, scrub, secondary forests, mangrove swamp. .**Global Distribution:** World wide. **Current Regional Distribution:** Throughout India. **-Elevation:** about 4300 m. **-Range (Sq**. **Km):** > 20,000. -Area Occupied (km^2)**:** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** Reliable census; General field study; Museum/records/collection. **Recent Field Studies:** M.S. Pradhan, 1990-97 in Western Ghats, 1994-97 in Melghat Tiger Reserve &, 1994-97 in Tadoba Tiger reserve; Agarwal *et. al.* 1992 in West Bengal; Chakravarthy 1990-1997 in Bihar, Gujarat, Andhra Pradesh; Shankar. 1994- 96 in Nilgiris; Ajith Kumar *et.al.* 1994-95 in Anamalais; Mudappa *et. al.* 1995-97 in Kalakkad, Mundanthurai. Common species in plantation of S. India cardomom, coffee, coconutt & Arecanut (A.K. Chakravarthy 1995**:** Personal observation). **Threats:** Interspecific competition. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** No. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Least difficulty. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 26, 84, 99, 125, 258, 260, 273, 299, 324. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian, A.K. Chakravarthy.

297. ***Rattus sikkimensis*** **Hinton, 1919 — DD/N** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Terrestrial, arboreal. **Habitat:** Cultivated fields and adjacent forest (Rain forest). **Global Distribution:** India, Nepal, China, Indochina, Myanmar, Thailand, Vietnam. **Current Regional Distribution:** Sikkim, Meghalaya, Arunachal Pradesh. **-Elevation:** about 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known . **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 125, 214. **Compilers:** S. Chakraborty; M.S. Pradhan; K.A. Subramanian.

298. ***Rattus stoicus*** **(Miller, 1902) — VU (D2)** — **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** ENDEMIC India. **Current Regional Distribution:** Andamans (South, little), Henry Lawrence Islands. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** < 5. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE**. **-Criteria based on: D2** (Population restricted to less than 5 locations). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive**

Population: None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 212. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

299. ***Rattus tiomanicus*** **(Miller, 1900) — VU/N (D2)** — (Malaysian wood rat) . **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Scrub, Gardens, plantation, Secondary forest, frequently entering house. Also from undistributed land; forests. **Global Distribution:** India and Southeast Asia. **Current Regional Distribution:** Andaman & Nicobar Island. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 5,000. -Area Occupied (km^2)**:** < 2,000. **-Number of location:** 3 (Nicobar group of islands). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** No. **Trade:** Not known. **Other Comments:** The species should be lower risk. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to less than 5 locations). **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 172, 122, 211. **Compilers:** S. Chakraborthy; M. S. Pradhan; K.A. Subramanian.

300. ***Rattus turkestanicus*** **(Satunin, 1903) — DD/N** — (Mus rattoides). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial/Terrestrial. **Habitat:** Mainly in and around houses and rocky river beds and fields. **Global Distribution:** India, Iran, Kirghizia, Kazakhstan, Afghanistan, Pakistan, Nepal, China. **Current Regional Distribution:** Indian Himalaya. **-Elevation:** 4700 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/records/collection. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 44, 84, 99, 269. **Compilers:** S. Chakraborty, M.S. Pradhan.

301. ***Ratufa bicolor gigantea*** **(Sparrman, 1778) — VU/N (A1c)** — (Malayan giant squirrel). **Family:** Sciuridae. **Taxonomic status:** Sub-species. **Habit:** Arboreal. **Habitat:** Tropical moist deciduous, semi evergreen, and evergreen forests. **Global Distribution:** India, Nepal, Myanmar, China. **Current Regional Distribution:** West Bengal, Assam, Meghalaya, Manipur, Sikkim, Arunachal Pradesh. **-Elevation:** Sea level - 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many, Fragmented. **Population Trends - % change: -% Decline:** >20%. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** >10,000. **Global Population:** >10,000. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Informal field sightings; Indirect information; Museum/records/collection. **Recent Field Studies:** Prathihar & Chakravarthy, 1995 -97 in Sanctuaries of North Bengal; Agarwal *et al.*, 1992 in North Bengal. **Threats:** Hunting; Hunting for food; Hunting for medicine; Loss of habitat; Loss of habitat because of fragmentation; Trade; Trade for parts. **Trade:** Domestic, Commercial; International. **Other Comments:** None. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: A1c** (Population reduction due to decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor management; Habitat management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 3.3.1 = 7 in 3 Indian zoos and 7.3.1 = 11 in 7 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** —. **Compilers:** R. Borges, S. Paulraj, K. Srihari, G.K. Joseph, S. Chakraborthy, K. Mukherjee, K.K. Ramachandran.

302. ***Ratufa indica centralis*** **(Erxleben, 1777) — VU (A1c)** — (Indian giant squirrel). **Family:** Sciuridae. **Taxonomic status:** Sub-species. **Habit:** Arboreal. **Habitat:** Miost deciduous, semi evergreen, evergreen. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Central and eastern India, Eastern Ghats. **-Elevation:** 0-1500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many, Fragmented. **Population Trends - % change: -% Decline:** > 20 %. **-Time / Rate (Yrs or gens):** 10 years. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Informal field sightings; Indirect information; Museum/records/collections. **Recent Field Studies:** Dutta, 1993 in Bori Wildlife Sanctuary, Madhya Pradesh. **Threats:** Hunting; Hunting for food; Hunting for medicine; Loss of habitat; Loss of habitat because of fragmentation; Trade; Trade for parts. **Trade:** Domestic, Commercial. **Other Comments:** In many areas, isolated subpopulations restricted to few individuals near sacred springs, riverine forests. **Status: -IUCN: VULNERABLE**. **-Criteria based on: A1c** (Population reduction due to decline in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Survey; Habitat management; Limiting factor management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not Known. **Existing Captive Population:** No information at Sub-species level. **-Name of facilities:** —. **Sources (Refer Appendix):** 94. **Compilers:** R. Borges, K.K. Ramachandran, Paulraj, G.K. Joseph, S. Chakraborty, K. Mukherjee, K. Srihari.

303. ***Ratufa indica dealbata*** **(Erxleben, 1777) — EX** — (Indian Giant Squirrel). **Family:** Sciuridae. **Taxonomic status:** Sub-species. **Habit:** Arboreal. **Habitat:** Dry deciduous forests. **Global Distribution:** ENDEMIC to India. Historical

Regional Distribution**:** Probably extinct from India. **-Elevation:** 500-1000. **-Range (Sq**. **Km):** < 5,000 . **-Area Occupied (Sq**. **Km):** < 500 . **-Number of location:** 1 (Surat Durga, Gujarat). **Population Trends - % change: -% Decline:** 100%. **-Time / Rate (Yrs or gens):** 100% (Last sightings about 1940's). **-No of Mature Individuals:** Not known. **Global Population:** None currently. **Data Quality:** Reliable census; General field study; Informal field sightings; Indirect information; Museum/records/collection; **Recent Field Studies:** R. Borges, 1993 in Surat; M. Muni, 1986 in Surat. **Threats:** Human interference; Hunting; Hunting for food; Hunting for medicine; Loss of habitat; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** Habitat conservation to bamboo and teak plantations - major factors contributing to habitat loss. . **Status: -IUCN: EXTINCT** . **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** Not evaluated. **Recommendations: -Research management:** Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Not applicable. **-Level of difficulty:** Not Known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 23, 90 (i). **Compilers:** K.K. Ramachandran, R. Borges, S. Paulraj, K. Srihari, G.K. Joseph, M. Muni.

304. ***Ratufa indica indica*** **(Erxleban, 1777) — VU (A1a, 1c; C1)** — (Indian giant squirrel)**. Family:** Sciuridae. **Taxonomic status:** Sub-species. **Habit:** Arboreal. **Habitat:** Moist deciduous, semievergreen, Evergreen forests. **Global Distribution:** ENDEMIC to Western Ghats . **Current Regional Distribution:** Western Ghats in Maharashtra, Karnataka, Tamil Nadu, Goa . **-Elevation:** Sea level - 2000 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many, Fragmented. **Population Trends - % change: -% Decline:** > 20 %. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** > 5000. **Global Population:** > 5000. **Data Quality:** Reliable census; General field study; Informal field sightings; Indirect information; Museum/collection/records. **Recent Field Studies:** Borges, 1992 -97 & 1985-86 in Maharashtra, Karnataka; M.S. Pradhan, 1993 in Goa. **Threats:** Hunting; Hunting for food; Hunting for medicine; Loss of habitat; Loss of habitat because of fragmentation; Trade; Trade for parts. **Trade:** Domestic; Commercial. **Other Comments:** Fragmented population in sacred groves in Maharashtra; Species highly dependent on closed canopy, mature, diverse forests. **Status: -IUCN: VULNERABLE**. **-Criteria based on: A1a, 1c** (Population reduction observed due to decline in extent of occurrence, area of occupancy and/or quality of habitat); **C1** (Population with very few mature individuals declining in numbers and in fragmented locations). **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Habitat management; Limiting factor management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 8.4.1 = 13 in 7 Indian zoos and 1.1.0 = 2 in 1 zoo abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 31, 32, 33, 34, 35, 37. **Compilers:** R. Borges, K.K. Ramachandran, S. Paulraj, G.K. Joseph, S.Chattopadhyay.

305. ***Ratufa indica maxima*** **(Erxlebon, 1777) — VU (B1, 2c; C1)** — (Indian giant squirrel) . **Family:** Sciuridae. **Taxonomic status:** Sub-species. **Habit:** Arboreal. **Habitat:** Moist deciduous, semi evergreen and evergreen forests. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Western Ghats south of Biligiri Hills (Karnataka). **-Elevation:** 50 - 2500 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** > 10 %. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** > 5000. **Global Population:** > 5000. **Data Quality:** Reliable census; General field study; Informal field sightings; Indirect information. **Recent Field Studies:** Kerala Forest Department., 1989 in Kerala; KFRI, 1993 in Kerala. **Threats:** Damming; Hunting; Hunting for food; Loss of habitat; Loss of habitat because of fragmentation; Trade for parts; Trade. **Trade:** Commercial; Domestic. **Other Comments:** None. **Status: -IUCN: VULNERABLE**. **-Criteria based on: B1, 2c** (Restricted distribution, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); **C1** (Population with very few mature individuals declining in numbers). **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Habitat management; Limiting factor management; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 250. **Compilers:** K.K. Ramachandran, G. K. Joseph, P.S. Easa, V. Menon, R. Borges.

306. ***Ratufa macroura dandolena*** **(Pennant, 1769) — EN/N (B1, 2c; C1)** — (Grizzled giant squirrel). **Family:** Sciuridae. **Taxonomic status:** Sub-species. **Habit:** Arboreal. **Habitat:** Dry deciduous riverine forest. **Global Distribution:** India and Sri Lanka. **Current Regional Distribution:** Eastern slopes of the southern western ghats. **-Elevation:** 200-1100 m. **-Range (Sq**. **Km):** < 5,000. -Area Occupied (km^2)**:** < 500. **-Number of location:** 10 Known locations Chinnar WLS, Srivilliputhur WLS, Amaravathi, Palani hills) F. **Population Trends - % change: -% Decline:** > 50 % (> 10%). **-Time / Rate (Yrs or gens):** 50 yrs (10 years). **-No of Mature Individuals:** < 800. **Global Population:** Not known. **Regional Population:** < 1000. .**Data Quality:** Reliable census; General field study; Informal field sightings; Indirect information; Museum/collection/records. **Recent Field Studies:** Paulraj, 1991 in Srivilliputhur; Ramachandran, 1991in Chinnar; KFRI Project ongoing in Chinnar; Udayan, 1996 in Dindigal; Chakravarthy, 1990-97 in Muthodi Wildlife Sanctuary; . **Threats:** Damming (Pambar hydel project -proposed); Siltation; Genetic problem; Hunting; Hunting for food; Loss of habitat; Loss of habitat because of fragmentation; Hybridization. **Trade:** Predicted. **Other Comments:** Three Sub-species including dandolena is distributed in Sri Lanka; Distribution reported in Nilgiris to be checked Agarwal, 1994); Hybridisation with R. indica at Srivilliputhur & Chinnar. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); **C1** (Population restricted with very few mature individuals and continuing decline observed). **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring; Habitat management; Life history studies; Limiting factor management; Limiting factor research; Translocation (Subject to habitat availability). **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Very difficult. **Existing Captive Population:** 3.5.2 = 10 in 6 Indian zoos. These should be combined in one or two zoos.with good

record of breeding small mammals. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 137, 148, 226, 249, 251, 252. **Compilers:** R. Borges, K.K. Ramachandran, S. Paulraj, S. Chattopadhyay, A. Udayan.

307. ***Rhinoceros sondaicus*** **Desmarest, 1822 — EX/N** — (Javan rhinoceros) . **Family:** Rhinocerotidae. **Taxonomic status:** Species. **Habit:** Grassy Marsh. **Habitat:** Malaysia. **Global Distribution:** Vietnam, Indonesia. **Current Regional Distribution:** Not in India. **-Elevation:** Not applicable. **-Range (Sq**. **Km):** Not applicable. **-Area Occupied (Sq**. **Km):** Not applicable. **-Number of location:** Not applicable. **Population Trends - % change: -% Decline:** Not applicable. **-Time / Rate (Yrs or gens):** Not applicable. **-No of Mature Individuals:** Not applicable. **Global Population:** < 100. **Regional Population:** None. **Data Quality:** General field study; Informal field sightings. **Recent Field Studies:** None. **Threats:** Loss of habitat; Poaching. **Trade:** None. **Other Comments:** This species was found in northeastern India previously but is thought to have been extinct for many decades. It persists in two places only today in Vietnam and in Indonesia with less than 100 individuals. **Status: -IUCN: EXTINCT (NATIONALLY)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** None. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in captivity anywhere in the world. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** M.M. Mansoor, N. Sivaganesan, S. Paulraj, G. Ramaswamy, James, P.S. Easa, M. Ravikumar, E.A. Jayson, A. Udayan, R.S. Lal Mohan, D.K. Lahiri Choudhury.

308. ***Rhinocerous unicornis*** **Linnaeus, 1758 — EN/N (B1, 2d)** — (Great Indian rhinoceros). **Family:** Rhinocerotidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Swamp grass lands, Savannahs. **Global Distribution:** India and Nepal. **Current Regional Distribution:** Assam, West Bengal and Uttar Pradesh. **-Elevation:** Up to 200m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 10 (Pobitora, Kazhiranga, Manas, Orang, Jaldapara, Gorumara, Dudhwa, Burhachapori); Fragmented. **Population Trends - % change: -% Decline:** 50% increase but 100% decline from Laokhowa 90% Manas. **-Time / Rate (Yrs or gens):** 20 yrs. **-No of Mature Individuals:** (600) 40-50% of total population1250. **Global Population:** 1750 (India+Nepal). **Regional Population:** 1250. **Data Quality:** Reliable census (Spillet, 1960); General field studies (A. Choudhury, 1985, 87, 89). **Recent Field Studies:** K. Banerjee, 1993, BSI Survey on Food of Rhino; V. Menon, 1992-95 Traffic India survey; Forest Department of West Bengal, Assam, Uttar Pradesh, Annual census; A. Choudhury, 1984-97 in Assam and 1995-96 in West Bengal. **Threats:** Cattle grazing; Disease; Drowning; Edaphic factors; Genetic problem; Hunting; Loss of habitat; Loss of habitat because of exotic plants; Powerlines; Trade for parts; interspecific competition; Trade. **Trade:** Commercial, International. **Other Comments:** Nepal, Katernia Ghats and Dudhwa populations are contiguous. Laokhowa has a few stragglers left. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2d** (Restricted distribution, severely fragmented, continuing decline observed in number of locations or subpopulations). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Translocation; Survey (for isolated popn.); Monitoring; Genetic management; Habitat management; Limiting factor management; Limiting factor research. **-PHVA:** Conducted in 1993. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 23.12.0 = 35 in 12 zoos in India and 35.31.0 = 66 in 27 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 13 (iv), 16, 17 (i), 51, 53, 56, 61, 76, 77, 82, 161, 194. **Compilers:** M.M. Mansoor, N. Sivaganesan, S. Paulraj, G. Ramaswamy, P. S. Easa, M. Ravikumar, E.A. Jayson, A. Udayan, R.S. Lal Mohan, D.K. Lahiri Choudhury.

309. ***Rhinolophus affinis*** **Horsfield, 1823 — LRnt/N** — (Intermediate horse shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Cave dweller. **Global Distribution:** India, Nepal, China, Southeast Asia, Sri Lanka. **Current Regional Distribution:** Northeastern India, Andaman & Nicobar islands. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** < 10. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/record (BNHS, 1920 in Darjeeling). **Recent Field Studies:** Bates *et al,* 1992 in Haldwani & Mussorie. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** —. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, R.Krishnan.

310. ***Rhinolophus cognatus*** **Anderson, 1906 — DD** — (Kindred horse shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** ENDEMIC to Andaman & Nicobar Islands. **Current Regional Distribution:** Andaman & Nicobar Islands. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** Sinha (1973) review the genus. **Status: -IUCN: DATA DEFICIENT** . **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 284. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer, M. Muni, R. Krishnan.

311. ***Rhinolophus ferrumequinum*** **(Schreber, 1774) — VU/N (B1, 2c; D2)** — (Greater horse shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Gregarious. **Habitat:** Cave dweller in forest areas. **Global Distribution:** India, Pakistan, Nepal, China, Western Europe. **Current Regional Distribution:** Jammu & Kashmir, Sikkim and Himachal Pradesh. **-Elevation:** 1600 - 2000 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** < 2,000. **-Number of location:** 3; Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Chakravarthy, 1974 in Kashmir; BNHS, 1922 in Himachal Pradesh). **Recent Field Studies:** Bates *et al.*, 1992 in Mussorie. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severey fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); **D2** (Population restricted to less than 5 locations). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower Risk conservation dependent. **Recommendations: -Research management:** Monitoring, Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 44. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, M. Muni, P.O. Nameer, SR. Krishnan.

312. ***Rhinolophus hipposideros*** **(Bechstein, 1800) — VU/N (D2)** — (Lesser house-shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Moroco and Western Europe. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** Not known. **-Range (Sq. Km):** Not known. **-Area Occupied (Sq. Km):** Not known. **-Number of location:** 1 (Gilgit, Kashmir). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to single location). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** —. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer, M. Muni, R. Krishnan.

313. ***Rhinolophus lepidus*** **Blyth, 1844 — LRnt/N** — (Blythe's horse-shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Solitary to colonial. **Habitat:** Caves, ruins. **Global Distribution:** India, Afghanistan, Pakistan, Southeast Asia. **Current Regional Distribution:** All over India. **-Elevation:** Plains to 100 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Sinha, 1982 in Bihar; Sinha, 1974 in Rajasthan; Podder, 1985 in W. Bengal; Topal, 1980 in W. Bengal). **Recent Field Studies:** Sinha, 1996 in Bihar; M. Muni, 1992 in Indore, Madhya Pradesh; ZSI, WRS, Pune, Collection. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 20, 39, 285, 289, 297(xiii). **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, M. Muni, A.K. Chakravarthy, R.Krishnan.

314. ***Rhinolophus mitratus*** **Blyth, 1844 — VU (D2)** — **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Bihar. **-Elevation:** Not known. **-Range (Sq. Km):** < 100. **-Area Occupied (Sq. Km):** < 10. **-Number of location:** 1(Chaibasa, Singhbhum District). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records/museum/collections (Sinha, 1973 examined the specimen at ZSI, Calcutta). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** Known only from holotype. **Status: -IUCN: VULNERABLE**. **-Criteria based on: D2** (Population restricted to single location and area less than 100 square kilometres). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Data deficient. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 284. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy, P. Padmanabhan, R. Krishnan.

315. ***Rhinolophus pearsoni*** **Horsfield, 1851 — LRnt/N** — (Pearson's hunting-shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Caves. **Global Distribution:** India, Southeast Asia. **Current Regional Distribution:** Northeasten India. **-Elevation:** 1600-2000 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** 4 . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records/Museums (Sinha, 1973 on museum collection; Hill, 1987 in Sikkim). **Recent Field Studies:** Bhattacharya, 1995 in Manipur; Sinha, 1992 in Meghalaya; Agarwal et al.,.1992 in West Bengal. **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:**

None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 124, 284, 295. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P. Padmanabhan, A.K. Chakravarthy, R. Krishnan, P.O. Nameer.

316. ***Rhinolophus pusillus*** **Temminck, 1834 — LRnt/N** — (Least horse-shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Cave dweller. **Global Distribution:** India, Nepal, China, Southeast Asia. **Current Regional Distribution:** West Bengal, Assam, Meghalaya. **-Elevation:** 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 3; Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Sinha, 1973 in Meghalaya; Hinton & Lindsay, 1926 in Assam). **Recent Field Studies:** Agarwal *et al.*, 1992 in West Bengal. **Threats:** Human interference. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** None. **Sources (Refer Appendix):** 5, 284 . **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, M. Muni, A.K. Chakravarthy, R. Krishnan.

317. ***Rhinolophus rouxi*** **Temminck, 1835 — LRnt/N** — (Roux's horse- shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** colonial. **Habitat:** Cave dweller, ruins. **Global Distribution:** India, Sri Lanka, Nepal, Myanmar, China, Vietnam. **Current Regional Distribution:** Throughout India. **-Elevation:** 1370 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Ghosh, 1985 in W. Bengal; Mukerjee 1982 in W. Bengal; Agarwal, 1973 in Goa; Subaraj, 1977 in Mysore; Marimuthu, 1984 in Mysore). **Recent Field Studies:** Sripathy & Schuller, 1997 in Mysore; Bates *et al*., 1992 in Karnataka & Maharashtra. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 20, 38, 271. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, M. Muni, A.K. Chakravarthy, R. Krishnan.

318. ***Rhinolophus subbadius*** **Blyth, 1844 — CR/N (B1, 2c)** — (Chestnust horse shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Cave dweller. **Global Distribution:** India, Nepal, Myanmar, Vietnam. **Current Regional Distribution:** Meghalaya. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** < 100. **-Area Occupied (Sq**. **Km):** < 10. **-Number of location:** 1 (Siju cave). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records/Museums/collections (Siju Cave, Meghalaya). **Recent Field Studies:** None. **Threats:** Human interference. **Trade:** Not known. **Other Comments:** Only known from Siju Cave Meghalaya; Sinha 1973 worked on the museum collections. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, single location, continuing decline observed in .extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1with extreme caution if threats to the cave should become great. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 284. **Compilers:** G. Marimuthu, M. Muni, P. Padmanabhan, P.O. Nameer, Y.P. Sinha, R. Krishnan, A.K. Chakravarthy.

319. ***Rhinolophus trifoliatus*** **Temminck, 1834 — DD/N** — (Trefoil horse shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India and Southeast Asia. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** No. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy, P. Padmanabhan, R. Krishnan.

320. ***Rhinolophus yunanensis*** **Dobson, 1872 — DD/N** — (Asian horse shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India and Southeast Asia. **Current Regional Distribution:** Northeastern India (Meghalaya). **-Elevation:** 1600 m. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** Taxonomic needs revision (Sinha personal comments). **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Lower Risk near threatened. **Recommendations: -Research management:** Survey; Monitoring; Taxonomic and morphological genetic studies. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive**

breeding: Pending. **-Level of difficulty:** No. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, M. Muni, A.K. Chakravarthy.

321. ***Rhinolopus luctus*** **Temminck, 1835 — DD/N** — (Wodly horse-shoe bat). **Family:** Rhinolophidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Sri Lanka and Southeast Asia. **Current Regional Distribution:** India except northwestern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Taxonomic and morphological genetic studies. **-PHVA:** —. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** —. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy, P. Padmanabhan, R. Krishnan.

322. ***Rhinopoma hardwickii*** **Gray 1831 — LRnt/N** — (Hardwick's fruit bat). **Family:** Rhinopomatidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Caves, old ruins, tunnels, buildings. **Global Distribution:** South Asia, Northern Africa, Kenya. **Current Regional Distribution:** Throughout India. **-Elevation:** Upto 100 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records (Sinha, 1970 in Gujarat; Sinha, 1972 in Rajasthan; Sinha, 1978-79 in Bihar; Usman 1978-81 in Madurai). **Recent Field Studies:** Bates *et al.*, 1992 in Tamil Nadu Gujarat; M.S. Pradhan, 1996 in Tadoba National Park, Chandrapur Dist., Maharashtra. **Threats:** Genetic problem; Human interference; Loss of habitat. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 18, 39, 119, 285, 286, 289, 297 (viii), 318. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy, P. Padmanabhan, R. Krishnan.

323. ***Rhinopoma microphyllum*** **Brunnich, 1782 — LRnt/N** — (Greater mouse tailed bat). **Family:** Rhinopomatidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Old ruins, buildings, tunnels, caves, desert regions. **Global Distribution:** Thailand, Sumatra, India, Pakistan, Afghanistan, Egypt, Senegal, Nigeria. **Current Regional Distribution:** Central, northwestern and northern India. **-Elevation:** Upto 100 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Sinha, 1972-74 in Rajasthan; Sinha, 1976 in Gujarat); **Recent Field Studies:** M. Muni, 1992 -97 in Delhi. **Threats:** Genetic problem; Human interference; Loss of habitat. **Trade:** No. **Other Comments:** Population decline in India (Muni personal comments).But in Rajasthan it is increasing (Sinha personal comments). **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 285, 286, 297 (vii). **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy, P. Padmanabhan, R. Krishnan.

324. ***Rhizomys pruinosus*** **Blyth, 1851 — LRnt/N** — (Horry bamboo rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Forested tracts in and around zoom cultivations. Preferably having bamboo. **Global Distribution:** India, Myanmar, China, Indochina, Thailand, Malaysia, Vietnam. **Current Regional Distribution:** Northeastern India. **-Elevation:** 2600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** > 10 (specific locations). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/records/collection. **Recent Field Studies:** Mondal and Bhattacharya, 1992-95 in Manipur & Mizoram. **Threats:** Hunting for food; Loss of habitat. **Trade:** Not known. **Other Comments:** Recent field visits yielded no specimen. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Schedule V. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 99, 244. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

325. ***Rousettus leschenaulti*** **(Desmarest, 1820) — LRlc/N** — (Fulvous fruit bat). **Family:** Pteropodidae . **Taxonomic status:** Species. **Habit:** Colonized. **Habitat:** Caves, Man made constructions. **Global Distribution:** India, Pakistan, Southeast Asia. **Current Regional Distribution:** Throughout India. **-Elevation:** Plains upto 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Museum/collection/records (Sinha, 1980 in Rajastan; Sinha, 1981 in Gujarat; Sinha, 1981 in Rajasthan, Sinha, 1986 in Bihar). **Recent Field Studies:** Y.P. Sinha, 1990-94 in Garo hills in Meghalaya; Marimuthu, 1993 in.unused temple at Cheranmahadevi

in Tirunelveli; Bates *et al.*, .1992 in Aurangabad, Ellora, Mandoor, Mahabaleswar; 1987-93, ZSI, WRS, Pune, collections. **Threats:** No. **Trade:** No. **Other Comments:** Colony as much as 10,000 (Marimuthu) Captured and eaten at Garo Hills in Megahalaya -Y.P. Sinha. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India but 2.0.51 = 53 in 2 zoos abroad. **-Name of facilities:** —. **Sources (Refer Appendix):** 20, 285, 286, 287, 289, 295, 297 (ii). **Compilers:** G. Marimuthu, Y.P. Sinha, J.C. Daniel, P.O. Nameer, P. Padmanabhan, R. Krishnan, M. Muni, A.K. Chakravarthy.

326. ***Saccolaimus saccolaimus*** **(Temminck, 1838) — DD/N** — **Family:** Emballonuridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Southeast Asia, norteastern Australia, Sri Lanka. **Current Regional Distribution:** Throughout India including Andaman & Nicobar Islands. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/collection/records (Wroughton, 1915 in Bihar); **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 326 . **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy, .P. Padmanabhan, R. Krishnan.

327. ***Scotoecus pallidus*** **(Dobson, 1876) — LRnt/N** — **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Crevices of buildings. **Global Distribution:** India, Pakistan. **Current Regional Distribution:** Punjab, Uttar Pradesh and Bihar. **-Elevation:** Plains. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (ZSI, 1922 in Punjab, U.P.; Sinha 1979-81 in Bihar). **Recent Field Studies:** None. **Threats:** Human interference. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**.**DATA DEFICENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Survey. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 289, 296, 297 (xxv). **Compilers:** G. Marimuthu, Y.P. Sinha, P. Padmanabhan, P.O. Nameer, R. Krishnan.

328. ***Scotomanes ornatus*** **(Blyth, 1851) — DD/N** — (*Scotomanes emarginatus*). (Harlequin Bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India, Myanmar, China, Thailand,Vietnam. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records (BNHS, 1915-20 in W. Bengal & Assam; ZSI, 1863 in; W. Bengal; Nath, 1987 in Kashmir). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** LRnt. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** Not known. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 216. **Compilers:** G. Marimuthu, Y.P. Sinha, A.K. Chakravarthy, M. Muni, P. Padmanabhan, P.O. Nameer, R. Krishnan.

329. ***Scotophilus heathi*** **(Horsfield, 1831) — LRlc/N** — (Common yellow bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Cervice in building, tree holes. **Global Distribution:** India, Pakistan, Afghanistan, Sri Lanka. **Current Regional Distribution:** Throughout India. **-Elevation:** Plains. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; (Hebersetzer, 1978 in Madurai; Sinha, 1970-73 in Rajasthan, Sinha, 1988 in Assam); Museum/collection/records (BNHS Collections, 1908-71 many locations). **Recent Field Studies:** Sinha, 1996 in Bihar; Balasingh, 1992 in Tirunelveli.
Threats: No. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 38, 120, 285, 289, 295, 297 (ix). **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, R. Krishnan.

330. ***Scotophilus kuhlii*** **Leach, 1821 — LRnt/N** — (Lesser yellow house bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Solitary and Colonial, arboreal. **Habitat:** Crevices of building trees. **Global Distribution:** India, Sri Lanka, Southeast Asia, Afghanistan, Pakistan. **Current Regional Distribution:** Throughout India except Jammu & Kashmir. **-Elevation:** Plains. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature**

Individuals: Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Sinha, 1980-84 in Bihar; Sinha, 1973 in Rajasthan;; BNHS, 1911-22 in Bihar, W. Bengal, Gujarat, Madhya Pradesh, Andhra Pradesh, Maharashtra, Karnataka). **Recent Field Studies:** None. **Threats:** Human interference. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 285, 289, 297 (xviii). **Compilers:** G. Marimuthu, A.K. Chakravarthy, Y.P. Sinha, M. Muni, P. Padmanabhan, P.O. Nameer, R. Krishnan.

331. ***Semnopithecus entellus*** **(Dufresne, 1797) — LRlc/N** — (Common langur). **Family:** Sub family Colobinae. **Taxonomic status:** Species. **Habit:** Arboreal and terrestrial. **Habitat:** Forest, urban, semi urban and human habitation. **Global Distribution:** India, Pakistan, Sri Lanka, Nepal. **Current Regional Distribution:** Throughout India except western part of Gujarat. **-Elevation:** Upto 3600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Increasing. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Abundant. **Global Population:** > 50,000. **Regional Population:** Abundant. **Data Quality:** Reliable census; General field study. **Recent Field Studies:** Agoramurthy; Easa; Several studies by AVC, Jodhpur Univesity & Other.Institutions; Surendra Varman & Sukumar since 1988 on population .denisity in Mudumalai; A. K. Chakravarthy in four disitricts of Karanataka located in Wester Ghats. **Threats:** No. **Trade:** No. **Other Comments:** More studies, crop rading by Langur reported, very patchy in distribution in Karnataka part of Western Ghats. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** LRnt. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 5.1. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 78.56.19 = 153 in 36 Indian zoos and 15.22.5 = 42 in 10 zoos abroad. **-Name of facilities:** Refer appendix . **Sources (Refer Appendix):** 281 (ii). **Compilers:** J.C. Daniel, W. Sunderraj, K.K. Ramachandran, G.K. Joseph, S. Paulraj, .D.K. Lahiri Choudhury, A.K. Chakravarthy.

332. ***Sicista concolor*** **(Buchner, 1892) — DD/N** — (Chinese birch mouse). **Family:** Dipodidae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Rocky areas at high altitudes. **Global Distribution:** India, China, Pakistan. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 4000 m. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 44, 84, 99, 258. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

333. ***Sorex minutus*** **(Linnaeus, 1766) — VU/N (D2) —** (*Sorex planiceps* Miller). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Alpine rocky slopes covered with snow lives at high altitude. **Global Distribution:** India, Pakistan, Iran, China, Europe. **Current Regional Distribution:** Jammu & Kashmir. **-Elevation:** 3000 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 2 (Kashmir). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** S. Chakraborty in Kashmir. **Threats:** No. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: D2** (Population restricted to only 2 locations). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 98, 258. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

334. ***Soriculus caudatus*** **(Horsfield, 1851) — VU/N (B1, 2c)** — **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial, fossorial. **Habitat:** Forest dwelling form living along river side at higher altitudes. **Global Distribution:** Nepal, India, Myanmar, Yunnan and Sichuan. **Current Regional Distribution:** Jammu & Kashmir, Sikkim, West Bengal, Manipur and Uttar Pradesh. **-Elevation:** 1800 - 3600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 5; Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Loss of habitat; Human interference. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

335. ***Soriculus leucops*** **(Horsfield, 1851) — VU/N (B1, 2c; D2)** — (Indian long-tailed shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial, fossorial. **Habitat:** High altitude forest dwelling form living along

river side. **Global Distribution:** Nepal, India, Yunnan, Vietnam, Myanmar. **Current Regional Distribution:** Northeastern India. **-Elevation:** Upto 2500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 3 (Manipur, Mishmi Hills, Sikkim, Darjeeling Dist.); Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); **D2** (Population restricted to only 3 locations). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 27, 28, 84, 98, 127, 223. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

336. ***Soriculus macrurus*** **Blanford, 1888 — VU/N (B1, 2c; D2)** — **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial, fossorial. **Habitat:** Found along river sides forests at higher altitudes. **Global Distribution:** India, Nepal, Myanmar, Vietnam (Isolated distribution). **Current Regional Distribution:** Sikkim and West Bengal. **-Elevation:** Upto 1700 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 2 (Sikkim and Darjeeling). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); **D2** (Population restricted to only 2 locations). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 84, 98, 175, 223. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

337. ***Soriculus nigrescens*** **(Gray, 1842) — VU/N (B1, 2c)** — (Himalayan shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Terrestrial, fossorial. **Habitat:** Lives in damp water places in broad leaved coniferous forest at higher altitude. **Global Distribution:** India, Nepal, Bhutan, Myanmar. **Current Regional Distribution:** Indian Himalaya (Darjeeling, Sikkim, Kumaon, Mishmi Hills in Arunachal Pradesh). **-Elevation:** 1560 - 4300 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 5 (Isolated). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Loss of habitat; Human interference. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 27, 28, 84, 98, 126 . **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

338. ***Sousa chinensis*** **(Osbeck, 1765) — EN/N (A1a, 1c, 1d)** — (Indo-pacific hump-backed dolphin). **Family:** Delphinidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Coastal, estuaries confluence of rivers with seas. **Global Distribution:** Indo pacific. **Current Regional Distribution:** Indian waters. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20, 000. **-Area Occupied (Sq**. **Km):** > 2, 000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** > 50% . **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** About 1500. **Global Population:** Not known. **Regional Population:** About 2500. .**Data Quality:** General field studies; Indirect information. **Recent Field Studies:** R.S. Lal Mohan, 1985-1997 in Calicut. **Threats:** Siltation; Fishing (Gill net). **Trade:** Not known. **Other Comments:** Getting killed in gillnets in costal fishing. Due to increase fishing pressure the population is facing great threat. They die by drowning while taking fishes from the fishing nets. **Status: -IUCN: ENDANGERED (NATIONALLY)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: A1a, 1c, 1d** (Population reduction observed due to decline in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I. **-RDB, National (1994):** Not listed. **-RDB, International (1996):** Data Deficient. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Monitoring; Husbandry research; Limiting factor research. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Very difficult. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 198, 203. **Compilers:** R.S. Lal Mohan, J.C. Daniel, G. Ramaswamy, S. Paulraj, R. Borges.

339. ***Sphaerias blandfordi*** **(Thomas, 1891) — DD/N** — (Blandford's fruit bat). **Family:** Pteropodidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Bamboo Forests. **Global Distribution:** India, Nepal, Bhutan, Myanmar, Thailand, Tibet and China. **Current Regional Distribution:** Sikkim, Himalaya and Uttar Pradesh. **-Elevation:** 1800 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 2 (Sikkim, Darjeeling, Uttar Pradesh); Fragmented. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Sinha, 1988 in Sikkim; Bhat, 197? in U.P.). **Recent Field Studies:** None. **Threats:** Not known. **Trade:** No. **Other Comments:** According to Bhat H.R. it is a rare and Vulnerable species. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring;

Taxonomic and morphological genetic studies; Life history studies. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 297 (v). **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan,R. Krishnan, M. Muni, A.K. Chakravarthy.

340. ***Stenella longirostris*** **(Gray, 1828) — LRnt/N** — (Spinner dolphine). **Family:** Delphinidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Marine. **Global Distribution:** Circum tropical (Indian Pacific, Atlantic oceans). **Current Regional Distribution:** Indian Coastal waters. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known . **Data Quality:** Records. **Recent Field Studies:** R.S. Lal Mohan in south west coast; P.S.B.R. James & R.S. Lal Mohan,.Dandapani in Gulf of Mannar. **Threats:** Fishing (Gill nets, Purse saline); Trade. **Trade:** Local. **Other Comments:** Gill nets form a major threat to the species. About 200 individuals get killed every year. **Status: -IUCN: LOWER RISK - NEAR THREATENED (NATIONALLY)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** LRcd. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 144, 198 . **Compilers:** R.S. Lal Mohan, J.C. Daniel.

341. ***Suncus dayi*** **(Dobson, 1888) — VU (B1, 2b)** — (Shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Montane humid forests at high altitudes. **Global Distribution:** ENDEMIC to India. **Current Regional Distribution:** Western Ghats. **-Elevation:** 1000-2500 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** 5 (Trissur, Palani, Nilgiris, Anamalai Hills). **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Museum/records/collection; **Recent Field Studies:** M.S. Pradhan, 1994-96 in Eravikulam; K. Shankar, 1996 in Upper Bhavani. **Threats:** Loss of habitat. **Trade:** Not known. **Other Comments:** No. **Status: -IUCN: VULNERABLE** . **-Criteria based on: B1, 2b** (Restricted distribution, limited location, severely fragmented, continuing decline observed in area of occupancy). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 84, 98, 170. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

342. ***Suncus etrusus*** **(Savi, 1822) — LRlc/N** — (Pygmy white toothed shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Multiparous habitats on plains and high altitudes. **Global Distribution:** Pakistan, India, Nepal, Myanmar, Thailand, Sri Lanka, Borneo. **Current Regional Distribution:** Throughout India excluding Rajasthan, Gujarat and Jammu & Kashmir. **-Elevation:** 3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Museum/collection/records. **Recent Field Studies:** M.S. Pradhan, 1981-86 in Western Ghats, ZSI, Calcutta; M.S. Pradhan, 1994-95 in Melghat Tiger Project. **Threats:** No. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 11, 27, 28, 84, 98, 170. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

343. ***Suncus montanus*** **(Kelaart, 1850) — VU/N (B1, 2b)** — **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Montane humid forests above 150 m. **Global Distribution:** India, Sri Lanka. **Current Regional Distribution:** Western Ghats. **-Elevation:** 150-3000 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 5 (South of Coorg, Nilgiri and Palani Hills). **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Museum/records/collection; **Recent Field Studies:** M.S. Pradhan, 1994-95 in Melghat Tiger Project, ZSI, Calcutta. **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** Human interference, possibily in Coorg. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2b** (Restricted distribution, limited location, severely fragmented, continuing decline observed in area of occupancy). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 84, 98, 170, 228. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

344. ***Suncus murinus*** **(Linnaeus, 1766) — LRlc/N** — (House shrew/Grey musk shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Ocassionally in all sorts of habitats, particulary near human dewelling forests, crop fields, etc. **Global Distribution:** Europe, Asia, Africa and North America. **Current Regional Distribution:** Throughout India. **-Elevation:** 3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Informal field sightings; Museum/herbarium/collection/records. **Recent Field Studies:** Mondal;

Chakraborty & Pradhan in Western Ghats, Melghat,Tadoba, Maharashtra; Sinha, 1996 in Bihar, West Bengal; Karthik & Shankar, 1994 in Upper Bhavani. **Threats:** No. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 297 (xxviii). **Compilers:** M.S. Pradhan, S. Chakraborty, K.A. Subramanian.

345. ***Suncus stoliczkanus*** **(Anderson, 1877) — LRlc/N** — (Anderson's shrew). **Family:** Soricidae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Grassy and scurblands in and around human dwellings and forest fringes. **Global Distribution:** India, Pakistan, Nepal.**Current Regional Distribution:** Peninsular India. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20, 000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Many. **Regional Population:** Many. **Data Quality:** General field study (Prakash, 1972; ZSI, Calcutta); Museum/records/collection. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** None. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 27, 28, 84, 98, 170 . **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

346. ***Sus salvanius*** **(Hodgson, 1847) — CR/N (C2a)** — (Pygmy hog). **Family:** Suidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Grass lands of eastern Himalayan foot hills. **Global Distribution:** India and Nepal. **Current Regional Distribution:** Northeastern India. **-Elevation:** < 500 m. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 8-9 (Manas, Bhagnudhi, Sughankantak, Bhottleslip); Fragmented. **Population Trends - % change: -% Decline:** Decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** <250 ??. **Global Population:** <250 ??. **Regional Population:** 500-600 (ZSI RDB 1994) ??. **Data Quality:** Reliable census; General field study; **Recent Field Studies:** Gautam Narayan & William Oliver, 1995 onwards; Indian Army Service, 1993 in Bhottle slip. **Threats:** Hunting for food; Loss of habitat. **Trade:** No. **Other Comments:** None. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2a** (Population restricted in number of mature individuals declining and in fragmented locations). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered . **-RDB, International (1996):** Critically Endangered. **Recommendations: -Research management:** Monitoring; Survey; Limiting factor research. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 2. **-Level of difficulty:** Very difficult. **Existing Captive Population:** Yes - more than one dozen births in captive breeding programme with Govt. of Assam near Barnadhi Wildlife Sanctuary. **-Name of facilities:** —. **Sources (Refer Appendix):** 207 (xxiv). **Compilers:** J.C. Daniel, N. Sivaganesan, G. Ramaswamy, E.A. Jayson, A. Venkataraman,.D.K. Lahiri Choudhury, R.S. Lal Mohan, S. Paulraj, V. Menon,M.M. Mansoor, W. Sunderarj.

347. ***Sus scrofa*** **Linnaeus, 1758 — LRlc/N** — (Wild boar). **Family:** Suidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Brush. **Global Distribution:** Asia and Europe. **Current Regional Distribution:** Throughout India. **-Elevation:** Upto 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Increasing. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Abundant. **Global Population:** Abundant. **Regional Population:** Abundant. **Data Quality:** Reliable census; General field study. **Recent Field Studies:** Surendravarman & Sukumar (1998) in Mudumalai; Manoharan, AVC, 1991-92 in Mundanthurai; Anitha Moorthy, 1992, 1994 in Neyyar Wildlife Sanctuary & Periyar Tiger Reserve, Kerala, considered a pest on rice, tuber crops, cardamon plantations. But has useful cativities too (A.K. Chakravarthy, 1985-97). **Threats:** Disease. **Trade:** No. **Other Comments:** Since it causes extensive crop damage human-wild boar conflicts occur. Culling and control needed immediately. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule III. **-RDB, National (1994):** Insufficiently known. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 5.2. **-Level of difficulty:** Not known. **Existing Captive Population:** 73.139.118 = 330 in 23 Indian zoos and 46.63.8 = 117 in 31 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 207 (xxiv). **Compilers:** J.C. Daniel, N. Sivaganesan, G. Ramaswamy, E.A. Jayson, W. Sunderraj,.R.S. Lal Mohan, M.M. Mansoor, V. Menon, A. Venkataraman, S. Paulraj,.S. Varman, A.K. Chakravarthy.

348. ***Tadarida aegyptiaca*** **(Geoffroy, 1818) — LRnt/N** — (Egyptian bat). **Family:** Molossidae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Crevices of buildings, ceilings. **Global Distribution:** India, Sri Lanka, Afghanistan, Southwest Asia. **Current Regional Distribution:** Throughout India. **-Elevation:** Plains. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Sinha, 1973 in Rajasthan); Museum/collection/records (ZSI Collection in Pune). **Recent Field Studies:** None. **Threats:** Human interference. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 297 (xxvii) . **Compilers:** P.O. Nameer, P. Padmanabhan Y. P. Sinha, G. Marimuthu, R. krishnan, M. Muni, A.K. Chakravarthy.

349. ***Tadarida teniotis*** **(Refinesque, 1814) — DD/N** — (European free-tail). **Family:** Molossidae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India and Afghanistan. **Current Regional Distribution:** Northeastern India. **-Elevation:** Not known. **-Range (Sq**. **Km):** Not known. **-Area Occupied (Sq**. **Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, P. Padmanabhan, A. K. Chakravarthy, .R. Krishnan.

350. ***Talpa leucura*** **Blyth, 1850 — VU/N (B1, 2c)** — (Assamese mole).Parascaptor leucura (Blyth). **Family:** Talpidae. **Taxonomic status:** Species. **Habit:** Terrestrial, subterranean. **Habitat:** Lives in montane forests at higher altitudes. **Global Distribution:** India, Myanmar, Laos, Yunnan. **Current Regional Distribution:** Northeastern India. **-Elevation:** 1000 - 2500 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 5 (Cherrapunji, Khasi Hills, Jaintia hills). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Loss of habitat because of fragmentation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Taxonomic and morphological genetic studies; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 85, 89, 98, 244, 272. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

351. ***Talpa micrura*** **(Hodgson, 1841) — LRlc/N** — (Short-tailed mole).Eurascaptor micrura (Hodgson). **Family:** Talpidae. **Taxonomic status:** Species. **Habit:** Terrestrial, Subterranean. **Habitat:** Lives at higher altitude in deep bed of black vegetable mould in areas where the original forest has been destroyed. .**Global Distribution:** India, Thailand, Laos, Vietnam, Malaysia. **Current Regional Distribution:** Assam, Sikkim, Central and eastern Himalayas including Arunachal Pradesh. **-Elevation:** 1525 -2040 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 5. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** No. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Monitoring; Survey; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 84, 85, 89, 98, 110, 244, 272. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

352. ***Tamiops macclellandi*** **(Horsefield, 1840) — LRnt/N** — (Himalayan striped squirrel). **Family:** Sciuridae. **Taxonomic status:** Species. **Habit:** Arboreal (canopy level), Terrestrial (occassionally). **Habitat:** Coffee plantations, Moist decidous and temperate forests. **Global Distribution:** India, Myanmar, Vietnam, Thailand and Malaya. .**Current Regional Distribution:** Northwestern Bengal, Sikkim Himalaya, Arunachal Pradesh, Mizoram, Nagaland. **-Elevation:** 300 - 3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Indirect information; Museum/records/collection. **Recent Field Studies:** Dutta, 1995 (WII Survey) in Arunachal Pradesh; Shankar Raman, 1995 (WII Survey) in Mizoram; ZSI Survey ongoing in entire range. **Threats:** Loss of habitat. **Trade:** Not known. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Limiting factor management; Life history studies; Habitat management. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Least difficult. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 95, 277, 336. **Compilers:** R. Borges, K.K. Ramachandran, S. Chattopadhyay, G.K. Joseph.

353. ***Taphozous longimanus*** **Hardwicke 1825 — LRlc/N** — (Long-winget tomb bat). **Family:** Emballonuridae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Old ruins, caves, tree holes. **Global Distribution:** India, Southeast Asia, Sri Lanka. **Current Regional Distribution:** Peninsular India upto Palandpur, Gujarat. **-Elevation:** Upto 200 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records (Sinha, 1976 in Gujarat; Sinha, 1973 Rajasthan; Sinha, 1984 in Bihar). **Recent Field Studies:** Bates *et al*., 1992 in Elephant Island, Maharashtra; Agarwal *et al*., 1992.in Midnapore, West Bengal . **Threats:** No. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Taxonomic and morphological genetic studies; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None

in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 19, 285, 286, 289, 297 (x). **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy, .P. Padmanabhan, R. Krishnan.

354. ***Taphozous melanopogon*** **Temminck 1841 — LRnt/N** — (Bearded short-tailed bat) — **Family:** Emballonuridae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Caves, old mine, tunnels, temples. **Global Distribution:** India, Sri Lanka and Southeast Asia. **Current Regional Distribution:** Peninsular India and Andaman & Nicobar Island. **-Elevation:** Up to 200 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records (Sinha, 1976 in Gujarat; Sinha 1977-81 in Bihar; Sinha, 1978 in Madurai; Sinha 1981 in Rajasthan). **Recent Field Studies:** Bates *et al.*, 1992 in Maharashtra; Vanitarani, 1992-96 in Tirunelveli; M.K. Chandrasekaran & R. Subbaraj, 1977-1990 in Madurai; ZSI, WRS, Pune, Collection. **Threats:** Human interference; Hunting. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Husbandry research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 20, 38, 39, 285, 286, 289, 297(ix), 303, 304, 305. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy, .P. Padmanabhan, R. Krishnan.

355. ***Taphozous nudiventris*** **Cretzschmar, 1830 — LRnt/N** — (Naked rumped tpmb bat). **Family:** Emballonuridae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Crevices of rocks and houses, tunnels. **Global Distribution:** India, Pakistan, Israel, Western Africa. **Current Regional Distribution:** Throughout India. **-Elevation:** Upto 100 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Sinha, 1976 in Gujarat; Sinha, 1974-76 in Rajasthan;Sinha 1978-81 in Bihar). **Recent Field Studies:** Marimuthu, 1978 in Madurai. **Threats:** Human interference. **Trade:** No. **Other Comments:** Madurai 20% decline in population (Marimuthu). **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** . **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 186, 285, 286, 287, 289, 297(xi), 302. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy, .P. Padmanabhan, R. Krishnan.

356. ***Taphozous perforatus*** **E. Geoffroy 1818 — LRnt/N** — (Egyptian tomb-bat) — **Family:** Emballonuridae. **Taxonomic status:** Species. **Habit:** Colonial. **Habitat:** Caves, old ruins, buildings, wells, tunnels. **Global Distribution:** India, Pakistan, Southwest Arabia, Africa. **Current Regional Distribution:** Rajasthan, Gujarat. **-Elevation:** 200 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** >10. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/collection/records (Sinha, 1981 in Gujarat; Sinha, 1980 in Rajasthan). **Recent Field Studies:** Bates *et al.*, 1992 in Ahmedabad, Gujarat. **Threats:** Human interference; Loss of habitat. **Trade:** No. **Other Comments:** According to Bates *et al*, 1994, it is vulnerable as it is collected only from few localities. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally).DATA DEFICEINT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** No. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 20, 285, 286, 287. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy, .P. Padmanaban, R. Krishnan.

357. ***Taphozous theobaldi*** **Dobson, 1872 — DD/N** — (Theobald's bat) — **Family:** Emballonuridae. **Taxonomic status:** Species. **Habit:** Not known. **Habitat:** Not known. **Global Distribution:** India and Southwest Asia. **Current Regional Distribution:** Central India. **-Elevation:** Not known. **-Range (Sq. Km):** Not known. **-Area Occupied (Sq. Km):** Not known. **-Number of location:** Not known. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records. **Recent Field Studies:** None. **Threats:** Not known. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: DATA DEFICIENT (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** G. Marimuthu, Y.P. Sinha, M. Muni, P.O. Nameer, A.K. Chakravarthy, .P. Padmanabhan, R. Krishnan.

358. ***Tatera indica*** **(Hardwicke, 1807) — LRlc/N** — (Indian gerbil or antelope rat). **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Fossorial. **Habitat:** Arid, uncultivated habitats and in cultivated grounds. **Global Distribution:** India, Nepal, Pakistan, Afghanistan, Sri Lanka, Iran, Iraq, Syria. **Current Regional Distribution:** Throughout India except eastern parts. **-Elevation:** 2000 m. **-Range (Sq. Km):** > 20,000. **-Area Occupied (Sq. Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Reliable census; General field study; Museum/collection/records. **Recent Field Studies:** PAU, 1992-97 in Ludhiana, Punjab; CAZRI,

1992-97 in Jodhpur, Rajasthan; Chakraborty, 1994-96 in Andhra Pradesh; Chakraborty, 1990-93 in Gujarat; Agarwal *et al*., 1992 in West Bengal; Pest on fruit orchards in Coorg, Karnataka (A.K. Chakravarthy, 1996 - Personal observation); M.S. Pradhan, 1983-85 in Western Ghats. **Threats:** Pesticides. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 30, 84, 99, 258. **Compilers:** S. Chakraborty, M.S. Pradhan, M. Muni, K.A. Subramanian.

359. ***Tetracerus quadricornis*** **(Blainville, 1816) — LRnt/N** — (Four horned antelope). **Family:** Bovidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Well wooded, watered, undulating dry deciduous forest, transition zone between scrub and dry deciduous forests. .**Global Distribution:** India and Nepal. **Current Regional Distribution:** Throughout India except northeast. **-Elevation:** <1000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 83 sites (10 states), Rajasthan, Gujarat, Tamil Nadu, Maharshtra, Orissa. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** 10 Yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** > 10000. **Data Quality:** General field study; Informal field sightings. **Recent Field Studies:** A. Rahmani, 1997, Antelopes of India; Rashid, 1986 in The Gir Asiatic Lion; Surendravarman & Sukumar, since 1988 in Mudumalai Wildlife Sanctuary; Field sightings by ZSI, since 1980 in WRS in Western Ghats and Melghat Tiger Project. **Threats:** Cattle grazing; Hunting; Loss of habitat; Trade. **Trade:** Domestic. **Other Comments:** None. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Habitat management; Limiting factor management; Survey; Monitoring; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 30.24.21 = 85 in 20 Indian zoos and 16.22.0 = 38 in 4 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 248 . **Compilers:** R.S. Lal Mohan, N. Sivaganesan, G. Ramaswamy, J.C. Daniel, M. Mishra, .Mir Mansoor.

360. ***Trachypithecus geei*** **(Khajuria, 1956) — CR/N (C2a)** — (Golden langur). **Family:** Sub Family Colobinae. **Taxonomic status:** Species. **Habit:** Highly Arboreal. **Habitat:** Dense riverine forests. **Global Distribution:** India and Bhutan. **Current Regional Distribution:** Assam . **-Elevation:** upto 100 m. in India. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** < 5 (Between rivers, Sankosh and Manas). **Population Trends - % change: -% Decline:** Decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** < 1,800 . **Regional Population:** < 250. **Data Quality:** Reliable census; General field study (Griffith, 1835). **Recent Field Studies:** A. K. Srivastava in Gauwhati; ZSI Survey; Alfred and his team. **Threats:** Hunting; Trade. **Trade:** Local; Domestic. **Other Comments:** Live animal capture is more for zoos. A viable population has recently (1991) been located at Dhubri, Assam which is South of Brahamaputra. **Status: -IUCN: CRITICALLY ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2a** (Restricted number of mature individuals in fragmented populations). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Data Deficient. **Recommendations: -Research management:** Survey; Monitoring; Life history studies; Limiting factor management. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 9.8.0 = 17 in 10 Indian zoos. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 334 . **Compilers:** J. C. Daniel, G. Ramaswamy, V. Menon, W. Sunderraj, G.K. Joseph,.D.K. Lahiri Choudhary, S. Chattopadhya, S. Varman.

361. ***Trachypithecus*** **johnii (Fischer, 1829) — VU (B1, 2c; C1a)** — (Nilgiri langur). **Family:** Cercopithecidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Moist decidious, Riverine forest, Rain forest and Teak Plantations. **Global Distribution:** ENDEMIC to Western Ghats (Kerala, Tamil Nadu, Karnataka upto Coorg hills). **Current Regional Distribution:** Western Ghats. **-Elevation:** 150 - 2500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** Many (Kerala, Tamil Nadu, Karnataka upto Coorg Hills); Fragmented. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** < 2,000 (40% of total populations). **Global Population:** 5000 - 7000 . **Data Quality:** Reliable census; General field study; Informal field sightings. **Recent Field Studies:** Mewa Singh; S. Wesley, Guj. Inst. Dest. Eco; Kerala Forest Dept., KFRI Gigi K. Joseph & Ramachandran 1993 - 96 in Silent Valley National Park; Manimozhi, AVC; Kerala University. **Threats:** Hunting for medicine; Hunting; Hunting for food; Loss of habitat; Trade for parts. **Trade:** Local; Domestic. **Other Comments:** Severe hunting for folk medicine. **Status: -IUCN: VULNERABLE**. **-Criteria based on: B1, 2c** (Restricted distribution, severely fragmented, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat); **C1a** (Population restricted in mature individuals). **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule I. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor management; Limiting factor research; Life history studies. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 13.9.4 = 26 in 9 Indian zoos. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 281 (i). **Compilers:** W. Sunderraj, G.K. Joseph, K.K. Ramachandran, V. Menon, G. Ramaswamy,.S. Paulraj, S. Varma.

362. ***Trachypithecus phayrei*** **(Blyth, 1847) — EN/N (C1, 2a)** — (Phayre's leaf monkey). **Family:** Circopithecidae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Mixed moist deciduous (Middle to upper story rarely at canopy) . **Global Distribution:** India, Bangladesh, Myanmar, Southeast Asia, China. **Current Regional Distribution:** Northeastern India. **-Elevation:** 50 -200 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** 5 -8 (Tripura, Sipatrijal, Alharmure, Trishna and Gumti - Assam (Mizo Hills in Mizoram? possibly extinct)); Very fragmented. **Population Trends - % change: -% Decline:** 10 %. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** > 500. **Global Population:** Not known . **Regional Population:** about 1500 fragmented. **Data Quality:** General

field study (A. Choudhury, 1986-89 in southern Assam). **Recent Field Studies:** Field study by ZSI from 1980- 92 in Tripura; A. K. Gupta in Tripura; V. Chakraborthy in Tripura; Arun K. Srivatsava & Mohnot. **Threats:** Human interference; Interspecific competition from exotics; Loss of habitat. **Trade:** No. **Other Comments:** Golden Langur has been introduced by forest dept. in Sipahijala, *Trsna* and *Gumti.* It is interesting to note now this species has changed its food habit in consuming twigs and leaves of *Havea brasilensis* or Rubber trees. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C1, 2a** (Population restricted in mature individuals and declining in severely fragmented locations). **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Vulnerable. -RDB, International (latest edition)**:** Data Deficient. **Recommendations: -Research management:** Survey, Monitoring. **-PHVA:** Pending. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India . **-Name of facilities:** —. **Sources (Refer Appendix):** 3, 52, 54, 58, 67, 68, 73, 82. . **Compilers:** S. Chattopadhyay, Mukerhi, J.C. Daniel, Lahiri Choudhary, S. Wesley, G.K. Joseph, Mukherji, K.K. Ramachandran, Ramaswami, Vivek Menon.

363. ***Trachypithecus pileatus*** **(Blyth, 1843) — LRnt/N** — (Capped langur). **Family:** Colobinae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Dense forests, Hill forests. **Global Distribution:** Bangladesh, Myanmar, India. **Current Regional Distribution:** Assam, Megalaya, Nagaland, Arunachal Pradesh. **-Elevation:** 100 -1000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable . **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** 5,000. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings. **Recent Field Studies:** A.K. Srivastava (Jodhpur Univ.). **Threats:** Hunting; Loss of habitat; Trade for parts; Trade. **Trade:** Domestic, Commercial; International. **Other Comments:** Sub-species *Trachypithecus pileatus brahmma* is considered locally endangered (Lahiri). **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I. **-RDB, National (1994):** Vulnerable. -RDB, International (latest edition)**:** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Limiting factor management. **-PHVA:** Pending . **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Moderate difficult. **Existing Captive Population:** 12.14.0 = 26 in 4 Indian zoos. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** —. **Compilers:** J. C. Daniel, Ramaswami, Vivek Menon, S. Wesley, Lahiri Choudary, .K. K. Ramachandran, G.K. Joseph, S. Chattopadhyay, S. Verma, Ravi.

364. ***Tupaia belangeri*** **(Wagner, 1841) — LRlc/N —** (Northern tree stream or Malay shrew).(*Tupaia glis assamensis* Wroughton). **Family:** Tupaiidae. **Taxonomic status:** Species. **Habit:** Terrestrial and arboreal. **Habitat:** Found in dry and moist deciduous forests. **Global Distribution:** India, Bangladesh, Myanmar, Nepal, Thailand, Yunnan, Vietnam. **Current Regional Distribution:** Naga Hills, Arunachal Pradesh, Assam, eastern Himalayas. **-Elevation:** 1830 m. **-Range (Sq**. **Km):** < 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** > 5. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Hunting for food; Predation. **Trade:** No. **Other Comments:** —. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 2, 84, 98, 110, 173, 244. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

365. ***Tupaia nicobarica*** **(Zelebor, 1869) — EN (B1, 2c)** — (Nicobar tree shrew). **Family:** Tupaiidae. **Taxonomic status:** Species. **Habit:** Terrestrial, arboreal and diurnal. **Habitat:** Lower and middle canopy of Rain forest. **Global Distribution:** ENDEMIC to Andaman & Nicobar islands. **Current Regional Distribution:** Andaman & Nicobar islands. **-Elevation:** Not known. **-Range (Sq**. **Km):** < 5,000. **-Area Occupied (Sq**. **Km):** < 500. **-Number of location:** 2 (Great and little Nicobar islands). **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Museum/records/collection. **Recent Field Studies:** None. **Threats:** Loss of habitat; Loss of habitat because of fragmentation. **Trade:** Not known. **Other Comments:** —. **Status: -IUCN: ENDANGERED**. **-Criteria based on: B1, 2c** (Restricted distribution, limited location, continuing decline observed in extent of occurrence, area of occupancy and/or quality of habitat). **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Taxonomic and morphological genetic studies; Survey; Monitoring; Limiting factor research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 28, 84, 98, 261. **Compilers:** S. Chakraborty, M.S. Pradhan, K.A. Subramanian.

366. ***Tursiops truncatus*** **(Montagu, 1821) — LRnt/N** — (Bottle nosed dolphin). **Family:** Delphinidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Oceanic. **Global Distribution:** Indian Pacific, Atlantic and Antartic oceans. **Current Regional Distribution:** Indian waters. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. .**Data Quality:** General field studies; Informal field sightings (R.S. Lal Mohan, 1985 in Indian coast; S. Leatherwood, 1987 in Sri Lanka). **Recent Field Studies:** None. **Threats:** Fishing. **Trade:** No. **Other Comments:** Caught in gillnets and purse seine. Along the Indian coast about 100 dolphin are killed along south west coast from Goa to Kanyakumari. Captive breeding in Hongkong sea world. In Madras there is an attempt to open an aquarium. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix II. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** Data Deficient. **Recommendations: -Research management:** Monitoring. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Pending. **-Level of**

difficulty: Not known. **Existing Captive Population:** None in India but 22.39.1 = 62 in zoos abroad. **-Name of facilities:** —. **Sources (Refer Appendix):** 198, 203. **Compilers:** R.S. Lal Mohan, J.C. Daniel, S. Paulraj.

367. ***Tylonycteris pachypus*** **(Temminck, 1840) — LRnt/N** — (Flat-headed bat). **Family:** Vespertilionidae. **Taxonomic status:** Species. **Habit:** Solitary to small colonies (10-20). **Habitat:** Bamboo forests. **Global Distribution:** India, China, Myanmar, Southeast Asia. **Current Regional Distribution:** Southern, northern and eastern India. **-Elevation:** 1600 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field studies (ZSI, 1981 in Meghalaya, Darjeeling, W. Bengal, Andaman,Manipur, Sikkim; BNHS, 1915-16 in Darjeeling; Brosset, 1962; in Kanara & Sikkim). **Recent Field Studies:** None. **Threats:** Human interference; Loss of habitat. **Trade:** Not known. **Other Comments:** Not known. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Taxonomic and morphological genetic studies; **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 38, 39. **Compilers:** G. Marimuthu, Y.P. Sinha, P.O. Nameer, M. Muni, R. Krishnan, P. Padmanabhan.

368. ***Uncia uncia*** **(Schreber, 1775) — EN/N (C2a)** — (Snow leopard). **Family:** Felidae. **Taxonomic status:** Species. **Habit:** Solitary alpine. **Habitat:** Alpine coniferous forests. **Global Distribution:** Siberia, Asia, Afghanistan, Mangolia, Nepal, Russia. **Current Regional Distribution:** Indiant Himalaya. **-Elevation:** 3000-5500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** < 20%. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** 4500-7500. **Regional Population:** 200-600. **Data Quality:** Reliable census; General field study (Greene, 1988). **Recent Field Studies:** Chundawat; Jackson, 1992-93; Fox, 1994; Schaller *et al*., 1994. **Threats:** Trade for parts; Trade. **Trade:** Commercial; International. **Other Comments:** None. **Status: -IUCN: ENDANGERED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: C2a** ((Population with very few mature individuals in fragmented locations and continuiing decline observed). **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Endangered. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor management; Limiting factor research. **-PHVA:** Yes. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Least difficult. **Existing Captive Population:** 4.4.0 = 8 in 1 Indian zoo and 222.250.4 = 476 in 137 zoos abroad (listed as *Panthera uncia*). A very organised conservation breeding programme in place in global zoo community. **-Name of facilities:** —. **Sources (Refer Appendix):** 13(iii). **Compilers:** M.M. Mansoor, J.C. Daniel, G. Ramaswamy, W. Sunderraj, N. Sivaganesan, G.K. Joseph, D.K. Lahiri Choudhury, A. Venkatraman, K.K. Ramachandran, S. Paulraj.

369. ***Ursus arctos*** **Linnaeus, 1758 — LRnt/N** — (Himalayan brown bear). **Family:** Ursidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** High altitudes of Himalaya, above tree line, alpine meadows. **Global Distribution:** India, Nepal, Bhutan, Europe, North America. **Current Regional Distribution:** High altitudes of Himalaya, Kashmir to Assam. **-Elevation:** 5000-6000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Records; General field studies (M. Greene, 1986). **Recent Field Studies:** None. **Threats:** Decline in prey species; Hunting; Hunting for medicine; Trade for parts; Trade. **Trade:** Commercial; International. **Other Comments:** Basic research is needed. Commercially threatened species. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** Schedule I, Part I. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 6.2.0 = 8 in 5 Indian zoos and 30.36.0 = 66 in 21 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix): —**. **Compilers:** J.C. Daniel, M.M. Mansoor, G. Ramaswamy, N. Sivaganesan,R.S. Lal Mohan, S. Paulraj, E.A. Jayson, W. Sunderraj.

370. ***Ursus thibetanus*** **(Baron) (Cuvier, 1823) — LRlc/N** — (Asiatic black bear). **Family:** Ursidae. **Taxonomic status:** Species. **Habit:** Terrestrial and Semi arboreal. **Habitat:** Heavily afforested hills. **Global Distribution:** India, Afghanistan, Pakistan, Myanmar, Thailand, China, Japan. **Current Regional Distribution:** High altitudes of Himalaya, Jammu & Kashmir to Assam. **-Elevation:** Upto 4000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable and increasing in protected areas. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Not known. **Recent Field Studies:** Schaller, 1969; Nima & Sabharwal, WII, 1989 on food habit. **Threats:** Human interference; Trade for parts; Trade. **Trade:** Commercial; International. **Other Comments:** Commercially threatened species. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix I. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Vulnerable. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Life history studies; Others (Radio telemetery and levels of exploitation). **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 73.67.10 = 150 in 39 zoos in India and 46.80.6 = 132 in 46 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 220, 267. **Compilers:** J.C. Daniel, N. Sivaganesan, A. Venkataraman, V. Menon, W. Sunderraj,.S. Paulraj, G. Ramaswamy, E.A. Jayson, R.S. Lal Mohan.

371. ***Vandeleuria oleracea*** **(Bennett, 1832) — LRlc/N** — (Palm/lion tailed tree-mouse) **Family:** Muridae. **Taxonomic status:** Species. **Habit:** Arboreal. **Habitat:** Forested tracts, adjacent to cultivated areas and human habitations. **Global Distribution:** India, Sri Lanka, Yunnan, Nepal, Myanmar, Thailand. **Current Regional Distribution:** Throughout India. **-Elevation:** about 1500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Stable. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/records/collection. **Recent Field Studies:** Pradhan, 1995-96 in Ujaini wetland survey in Maharashtra and In 1994-97 in .Melghat Tiger Reserve and in 1994-97 in Tadoba Tiger Reserve; Agarwal .Tiger Reserve, 1992 in West Bengal; Chakravarthy et al., 1993 in V.T.R. Bihar; Chakravarthy, 1993-96 in Andhra Pradesh. **Threats:** No. **Trade:** No. **Other Comments:** None. **Status: -IUCN: LOWER RISK - LEAST CONCERN (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** Schedule V. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** No. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 5, 84, 99, 324. **Compilers:** S. Chakraborthy; M.S. Pradhan; K.A. Subramanian.

372. ***Viverra civettina*** **Blyth, 1862 — CR (A1b, 2c)** — (Malabar civet). **Family:** Viverridae. **Taxonomic status:** Species. **Habit:** Terrestrial, Nocturnal. **Habitat:** Lowland Western Ghats (Costal). **Global Distribution:** ENDEMIC to Western Ghats. **Current Regional Distribution:** Western Ghats. **-Elevation:** 0-800 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** < 2,000. **-Number of location:** Elayur, Wandoor (Non forest areas). **Population Trends - % change: -% Decline:** 80% . **-Time / Rate (Yrs or gens):** 10 years. **-No of Mature Individuals:** Not known (Common in 1930's). **Global Population:** Not applicable. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Indirect information; Museum/records/collection; Hearsay/popular belief (Kurup, 1987 in Calicut). **Recent Field Studies:** Ashraf *et al*., 1990 in Malabar; KFRI, 1993 ongoing; Nithin & A. Kumar. **Threats:** Hunting; Loss of habitat; Loss of habitat because of fragmentation; Predation (domestic dogs). **Trade:** No. **Other Comments:** Hutton (1949) reported from Highway mountains at an elevation of more than 1000 m. Costal W. ghats species which now has very little natural habitat left & also has high human population densities. **Status: -IUCN: CRITICALLY ENDANGERED** . **-Criteria based on: A1b, 2c** (Population reduction due to decline in abandance, area of occupancy, extent of occurrence and/or quality of habitat). **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule I, Part II. **-RDB, National (1994):** Endangered. **-RDB, International (1996):** Critically endangered. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1 or Level 2 with cautionary remark that when this species is located there is likely to be a very small population and genuine expertise in capturing, breeding and keeping a similar species will be critical to the success of the recovery programme. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 10, 128, 140, 153, 166, 167, 229, 243, 270. **Compilers:** N.V.K. Ashraf, E.A. Jayson, G. Christopher, M.V. Ravikumar, S. Chattopadhyay,.D. Mudappa, Gopi.

373. ***Viverra zibetha*** **Linnaeus, 1785 — VU/N (A1c, 2d)** — (Large Indian civet). **Family:** Viverridae. **Taxonomic status:** Species. **Habit:** Terrestrial, Nocturnal. **Habitat:** Tropical dry forest-to rain forests. **Global Distribution:** India, Myanmar, China, Malaysia. **Current Regional Distribution:** Northeastern and eastern India. **-Elevation:** 0-3000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** > 20 %. **-Time / Rate (Yrs or gens):** 10 years. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study (Le Kagul & Mc Neelay, 1977); Informal field sightings; Indirect information. **Recent Field Studies:** Zoological Survey of India, 1982-97 ongoing in Arunachal Pradesh,Tripura, Mizoram; Athreya, 1994 in Arunachal Pradesh. **Threats:** Hunting; Hunting for food; Hunting for medicine; Loss of habitat; Trade for parts; Human interference. **Trade:** Domestic, International. **Other Comments:** Introduced in Andamans (1985). **Status: -IUCN: VULNERABLE (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on: A1c, 2d** (Population reduction due to decline in extent of occurrence, area of.occupancy and/or quality of habitat). **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Husbandry research (O) Ecological studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 1. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 1.0.1 = 2 in 2 Indian zoos and 2.1.2 = 5 in 3 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 207 (xxxvii). **Compilers:** E.A. Jayson, G. Chistopher, S. Chattopadhyay, M.V. Ravikumar, N.V.K. Ashraf,.D. Mudappa.

374. ***Viverricula indica*** **(Desmarest, 1804) — LRnt/N** — Small Indian civet. **Family:** Viverridae. **Taxonomic status:** Species. **Habit:** Terrestrial, Semi arboreal, Noctural. **Habitat:** All forests, human habitats, except deserts and high altitudes. **Global Distribution:** Southeast Asia and south Asia. **Current Regional Distribution:** All over India except deserts and high altitudes. **-Elevation:** 0-2500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Many. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings; Indirect information. **Recent Field Studies:** Divya, 1996 -97 in Kalakkad; KFRI, 1993-97 in North Malabar, Agasthiyamalai, Francis Xavier, 1989-92; Sreedevi, 1992 ongoing, Reproductive biology Dept. of Zoology, University of Kerala, Trivandrum; ZSI, 1982 ongoing in All over India; Ajith & Yoganand, 1995 in Siruvani ranges (NBR). **Threats:** Human interference; Hunting; Hunting for medicine; Loss of habitat; Trade; Trade for parts. **Trade:** Local, Commercial. **Other Comments:** Stable-Highly adaptable to live near human habitatious. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Monitoring; Husbandry research; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Moderately difficult. **Existing Captive Population:** 12.8.18 = 37 in 10 Indian zoos and 2.1.1. = 4 in 3 zoos abroad. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 25(iv), 44(v), 207(xxxi), 230. **Compilers:** N.V.K. Ashraf, S. Chattopadhyay, E.A. Jayson, G. Christopher, D. Muddappa, Gopi,.M.V. Ravikumar.

375. ***Vulpes bengalensis*** **(Shaw, 1800) — LRnt/N** — (Bengal fox) **Family:** Canidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** Upper country. **Global Distribution:** India, Bangladesh, Nepal . **Current Regional Distribution:** Throughout India. **-Elevation:** Largely at Sea level (Up to 900 metres on the Karnataka Plateau). **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many; Fragmented. **Population Trends - % change: -% Decline:** Declining. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Informal field sightings. **Recent Field Studies:** A.J.T. Johnsingh, 1975 & 76 in Tirunelveli Distrixt, Tamil Nadu. **Threats:** Human interference; Hunting; Hunting for medicine; Trade for parts; Trade. **Trade:** Commercial; International. **Other Comments:** —. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part. II. **-RDB, National (1994):** No. **-RDB, International (1996):** Data deficient. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research; Others (Trade regulation, Conservation education). **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** 14.16.11 = 41 in 19 zoos in India. **-Name of facilities:** Refer appendix. **Sources (Refer Appendix):** 142, 206(xv). **Compilers:** J.C. Daniel, V. Menon, A. Venkataraman, M.M. Mansoor, E.A. Jayson, G. Ramaswamy, R.S. Lal Mohan, N. Sivaganesan, D.K. Lahiri Choudhury.

376. ***Vulpes vulpes montanna*** **Linnaeus, 1758 — LRnt/N** — (Red fox/Hill fox. **Family:** Canidae. **Taxonomic status:** Species. **Habit:** Terrestrial. **Habitat:** High altitude desert, stream edges. .**Global Distribution:** Tibet, India, Europe. **Current Regional Distribution:** Indian Himalaya . **-Elevation:** Up to 4,500 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many (Kashmir to Sikkim). **Population Trends - % change: -% Decline:** General decline. **-Time / Rate (Yrs or gens):** 10 yrs. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Indirect information; Hearsay/popular belief; Informal field sightings. **Recent Field Studies:** None. **Threats:** Human interference; Trade for parts; Trade. **Trade:** Commercial; Internatioanl, Domestic. **Other Comments:** It is a carrier of Zoonotic importance, It is under great threat due to fur trade and is to be in Endangered list. (Same comment as desert fox) Commercially threatened. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part I. **-RDB, National (1994):** No. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Life history studies. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Least difficult. **Existing Captive Population:** None in India or abroad. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** J.C. Daniel, V. Menon, M.M. Mansoor, E.A. Jaison, G. Ramaswamy, A. Venkataraman, W. Sunderraj, R.S. Lal Mohan.

377. ***Vulpus vulpus pusilla*** **(Linnaeus, 1758) — LRnt/N** — White footed fox or desert fox. **Family:** Canidae. **Taxonomic status:** Sub-species. **Habit:** Terrestrial. **Habitat:** Hills of barren, desert and semi desert areas. **Global Distribution:** India, Pakistan, Iran, Iraq, . **Current Regional Distribution:** Not known. **-Elevation:** Upto 2000 m. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many (Rajasthan, Gujarat desert areas only) . **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** General field study; Museum/records/collection. **Recent Field Studies:** None. **Threats:** Human interference; Hunting for food; Trade for parts; Trade. **Trade:** Commercial; International. **Other Comments:** Fur trade felt. Since the participants do not have estimates of population reduction, the species is considered as Data Deficient according to IUCN 1994 categories. But the commercial exploitation makes it a threatened species which requires protection. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** Appendix III. **-IWPA (1972;91):** Schedule II, Part II. **-RDB, National (1994):** Vulnerable. **-RDB, International (1996):** No. **Recommendations: -Research management:** Survey; Monitoring; Limiting factor research. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** Level 3. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India or abroad. **-Name of facilities:** —. **Sources (Refer Appendix): —**. **Compilers:** J.C. Daniel, N. Sivaganesan, W. Sunderraj, M.M. Mansoor, A. Venkataraman,.V. Menon, E.A. Jaison, R.S. Lal Mohan, D.K. Lahiri Choudhury.

378. ***Ziphius cavirostris*** **G**. **Cuvier, 1823 — LRnt/N** — (Goose beak Whale). **Family:** Ziphiidae. **Taxonomic status:** Species. **Habit:** Marine. **Habitat:** Tropical and temperate seas. **Global Distribution:** Tropical and temperate waters. **Current Regional Distribution:** Indian waters. **-Elevation:** Not known. **-Range (Sq**. **Km):** > 20,000. **-Area Occupied (Sq**. **Km):** > 2,000. **-Number of location:** Many. **Population Trends - % change: -% Decline:** Not known. **-Time / Rate (Yrs or gens):** Not known. **-No of Mature Individuals:** Not known. **Global Population:** Not known. **Regional Population:** Not known. **Data Quality:** Informal field sightings (A. Alling, 1985); Indirect information. **Recent Field Studies:** None. **Threats:** Fishing. **Trade:** No. **Other Comments:** It is a very rare species in India. It is oceanic form. **Status: -IUCN: LOWER RISK - NEAR THREATENED (Nationally)**. **DATA DEFICIENT (Globally)**. **-Criteria based on:** —. **-CITES:** No. **-IWPA (1972;91):** No. **-RDB, National (1994):** No. **-RDB, International (1996):** Data deficient. **Recommendations: -Research management:** Not known. **-PHVA:** No. **Captive Breeding Recommendations: -Captive breeding:** No. **-Level of difficulty:** Not known. **Existing Captive Population:** None in India. **-Name of facilities:** —. **Sources (Refer Appendix):** 7, 134. **Compilers:** R.S. Lal Mohan, S. Paulraj, J.C. Daniel.

Six taxa were assessed but due to lack of information at the workshop were referred to other experts. Unfortunately, the requested information from the missing experts at the workshop did not materialise and hence the taxa were categorised as Not Evaluated. These include: *Amblonyx cinereus, Canis lupus chanco, Caprolagus hispidus, Equus hemionus khur, Lutra lutra* and *Lutragale perspicillata*.

SOURCES

Taxon Data Sheets

1. Abey (1977). *J. Bom. Nat. Hist. Soc*. 53(2): 234 -235
2. Agarwal, V.C. (1975). Taxonomic study of the Indo-Burmese sub-species of the common tree-shrew, *Tupaia glis* Diard. pp. 385-394 in Dr. B.S. Chauhan Commemoration volume, 1975, Orissa, Eds. Tiwari, K.K. & Srivastava, C.B. Publ. Zoological Survey of India
3. Agarwal, V.C. (1994 -1995) ZSI, Status Survey Report.
4. Agarwal & Ghosal (1969)
5. Agrawal, V.C., P.K. Das, S. Chakraborty, R.K.Ghosh, A.K. Mandal and T.K. Chakraborty. (1992). Mammalia State Fauna Series 3: Fauna of West Bengal (Ed. Director, ZSI.) Part 1. 27-169. *Publ. Zool. Surv. of India, Calcutta*.
6. Alling, A. (1983). A preliminary report of marine fisheries in Djibouti, Oman and Sri Lanka. Paper NARA/SMMIO/SP32 presented to the symposium marine mammals of the Indian Ocean, Sri Lanka : 8pp .
7. Alling, A. (1986). Records of odontocetes in northern Indian Ocean (1981-1982) and off the coast of Sri Lanka (1982-1984). *JBNHS*, 83(2): 376-394 .
8. Angermann, R. (1966). Beitrage zur Kenntuis der Galling Lepus (Legomorpha, Leporidae) II Der taxiomische status von Lepus brachyuru's Temminck Lepus mardshuricus Redda Mitt. Zool. Mus Berlin 42: 321-335 .
9. Annandale, N. (1915). *Fauna of Chilka lake, Mammal, Reptiles, and Batracian Mem. Ind. Mus*. 5: 165-174
10. Ashraf, N.V.K., Kumar, A and A.J.T. Johnsing (1993). On the relative abundance of two sympatric flying squirrels of Western Ghats. *JBNHS* Vol 90 (2): 158-163.

10a. Ashraf, et al. (1996) Report on Population and Habitat Viability Assesment for asiatic lions. Zoo/CBSG, India.

11. Aswathanarayan et al., (1987).
12. Audet, D., Krull, D., Marimuthu, G., Sumithran, S. and Balasingh, J. (1991). Foraging behaviour of the Indian false vampire bat Megaderma lyra (Chiroptera: Megadermatidae), Biotropica, 23: 63-67 .
13. Bahuguna. N.C. (1997). Unpublished Biological Information Sheets. *(i) Ailurus fulgens. (ii) Elephas maximus. (iii) Uncia uncia. (iv) Rhinoceros unicornis. (v) Panthera pardus. (vi) Panthera tigris*.
14. Balasingh, J. John Koilraj, A. and Kunz, T.H. (1995). Tent construction by the short-nosed fruit bat, *Cynopterus sphinx* (Chiroptera: Pteropodidae) in Southern India. *Ethology*, 100: 210-229.
15. Balasingh, J., Suthakar Isaac, S. and Subbaraj, R. (1993). Tentroosting by the frugivorous bat *Cynopterus sphinx* (Vahl 1797) in Southern India. *Current Science*, 65(5): 418 .
16. Banerjee, S.K. BSI Survey of the food plants of Rhino .
17. Barua. M. (1997). Unpublished Biological Information Sheets. *(i) Rhinoceros unicornis. (ii) Nycticebus coucang.*
18. Bates et al., (1992). *JBNHS.* 91(1): 1-50.
19. Bates et al., (1994). *Bonn. Zool. Beit.* 45 (2): 89-98.
20. Bates, P.J.J., Harrison. D.C., & Muni, M., (1994). Bats of Western India Part I. *JBNHS*. Vol. 91, 1:1-15.
21. Bharos, A.M. (1996). *JBNHS*. Vol. 93: 3.
22. Bhat, (1992). Production losses due to rodents
23. Bhat, H.R. (1994). Observations on the food and feeding behaviour of *Cynopterus sphinx* Vahl (Chiroptera, Pteropodidae) at Pune, India. *Mammalia*. 58: 363-370.
24. Bhat, H.R. and Kunz, T.H. (1995). Altered flower/fruit clusters of the kitul palm used as roosts by the short-nosed fruit bat, *Cynopterus sphinx* (Chiroptera: Pteropodidae). *J. Zool., Lond.*, 235: 597-604.
25. Bhatnagar. Y.V. (1997) Unpublished Biological Information Sheets. (i) *Capra ibex sibirica*. (ii) *Pseudois Nayaur. (iii) Panthera nucia. (iv) Viverricula indica. (v) Hemitragus jemlahicus.*
26. Biswas & Khajuria (1955).
27. Blanford, W.T.(1888)The Fauna of British India, including Ceylon & Burma. *Mammalia*, Taylor and Francis, Red Lion Cout Fleet Street, London. 250p.
28. Blanford, W.T.(1891) The Fauna of British India, including Ceylon & Buarma. *Mammalia*. Taylor & Francis, Red Lion Court Fleet Street, London. 251-617p.
29. BNHS Mammals Survey Report No. 23.
30. BNHS Mammal Survey of India - 11.
31. Borges, R.M. (1989). Resource heterogenity and the foraging ecology of the Malabar Gaint Squirrel *Ratufa indica* Ph.d Dissertation. University of Miami, Florida.
32. Borges, R.M. (1990). Sexual and site differences in calcium consumption by the Malabar Gaint Squirrel *Ratufa indica. Oecologia* 85:80-86.
33. Borges,R.M. (1992). A Nutritional analysis of foraging in the Malabar Giant Squirrel *Ratufa indica. Biological Journal of the Linnean society* 47: 1-21.

34. Borges,R.M. (1993). Figs and Malabar Gaint Squirrel in two tropical forests in India. *Biotropica* 25: 183-190.

35. Borges,R.M. (1997). Spatiotemporal heterogeneity of food resources availability and dietary variation between individual Malabar Gaint Squirrel. In Ecology of Tree Squirrels M.A. Steele and D.A. Zegers (eds) proceeding of International Colloquim on Tree Squirrel Ecology , Powdermill Biological Station, Pennsylvania. Carnegie Museum Monographs (in press)

36. Borges, R.M., Mali.S., S.Ranganathan (1992). Technical Report No:1 Gaint Squirrel Project Wildlife Institute of India

37. Borges, R.M., Mali.S., & H. Somanathan 1998 the status ecology and conservation of the Malabar Gaint Squirrel *(Ratufa indica)* in India. Final report. wildlife Institute of India in collaboration with United States Fish and Wildlife Service

38. Brosset, A. (1962). The Bats of Central and Western India Part 1-3. *J. Bombay. Nat. Hist. Soc.,* (Maharashtra & Karnataka). *Bull. Cent. Marine Fish. Res. Inst.*

39. Brosset, A., (1962). The bats of Central Western India. *J. Bombay Nat Hist Soc.,*59 Part I,1-57.

40. Chakraborty, S. (1977-81).

41. Chakraborty, S. (1981).

42. Chakraborthy, S. (1992).

43. Chakraborty, S. (1983). Contribution to the knowledge of the Mammalian fauna of Jammu and Kashmir, India. Rec. Zool. Surv. India.Occ.Paper,No:38:i-iii +1-129.

44. Chakraborthy. S. (1997) Unpublished Biological Information Sheets. *(i) Melagole personata. (ii) Nycticebus coucang. (iii) Macaca assamensis. (iv) Hylobates hoolock. (v) Viverricula indica*.

45. Chakravarthy (1982).

46. Chakravarthy, A.K. (1997). Vertebrate pest management. Final report of ICAR Adhoc project UAS, GKVK, Bangalore pp.170.

47. Chandawat, L.S. (1991).

48. Chandrashekaran, M.K. (1981). An unusual circadian rhythm with a precise 24-hour period. *Curr. Sci.*, 50: 1082-1083

49. Chatterjee., S. (1997). Unpublished Biological Information Sheets. *(i) Bos gaurus*.

50. Chattopadhyay. S. (1997) Unpublished Biological Information Sheets. *(i) Herpestes urva. (ii) Nycticebus coucang. (iii) Hyaena Hyaena. (iv) Canis lupus. (v) Naemorhedus goral.*

51. Choudhury, A.U. (1985). Distribution of Indian one-horned rhinoceros*. Tiger Paper*. XII(2):25-30.

52. Choudhury. A.U. (1987). Note on the distribution & Conservation of phayre's leaf monkey & *Hoolock gibbon* in India. *Tiger paper*. XIV(2):2-6.

53. Choudhury. A.U. (1987). Railway threat to Kaziranga*. Oryx* 21:160-163.

54. Choudhury. A.U. (1988). Phayre's leaf monkey in cachas. *JBNHS.* 85(3):485-492.

55. Choudhury. A.U. (1988). The Marauders of Meleng. The Setinel 12 June. Gawahati.

56. Choudhury. A.U. (1989). Pabitora, Assam's rhino reserve. *The India Magazine* 9:46-54.

57. Choudhury. A.U. (1989). Primates of Assam: Their distribution, habitat and Status. Ph.D. thesis., Guwahati University.

58. Choudhury. A.U. (1990). Over lapping distribution of Capped lagnas & Phayre's leaf monkey. *JBNHS*. 87(1):8.

59. Choudhury. A.U. (1990). Population dynamics of *Hoolock gibbon* in Assam, India. *American J. Promatology*. 20:37-41.

60. Choudhury. A.U. (1991). Ecology of the *Hoolock gibbon* a lesser ape in the tropical forests of NE India*. J. Tropical Ecology*. 7:147-153.

61. Choudhury. A.U. (1991). Indian rhino, What's that: The Telegraph color Map. 27 Oct. Pp.6-10.

62. Choudhury. A.U. (1991). Status of Wild elephants in Cachar and Cachar Hills, Assam.- a Preliminary Survey. *JBNHS*. 88(2): 215-221.

63. Choudhury. A.U. (1992). Trunk routes. WWF - Quarterly 3(1):14.

64. Choudhury. A.U. (1993). A Naturalist in Karbi Anglong. Gibbon Books. Guwahati.

65. Choudhury. A.U. (1993). Elephants on the War path. *Indian Magazine*. February. Pp.66-67.

66. Choudhury. A.U. (1993). The clouded leopard in Assam. *Oryx*. 27:51-53.

67. Choudhury. A.U. (1994). Further Observation on Phayre's leaf monkey in Cacher, Assam. *JBNHS*. 91(2):203-210.

68. Choudhury. A.U. (1994). Phayre's leaf monkey in north eastern India*. Tiger paper*. XXI(3):1-4.

69. Choudhury. A.U. (1995). Mammals of Southern district of Assam. *Cheetal*. 34(2):10-17.

70. Choudhury. A.U. (1995). Primate of Namdapha National Park. IPPL News. 22(2): 23-24.

71. Choudhury. A.U. (1995). Status of Wild elephants in Dibang Valley of Assam. *JBNHS*. 92(3):417.

72. Choudhury. A.U. (1996). A survey of Hoolock gibbon in Southern Assam, India. Primate Report. 4:77-85.

73. Choudhury. A.U. (1996). Primates in Assam - Status & Conservation. *Tiger paper*.XXIII(3):14-17.

74. Choudhury. A.U. (1996). Survey of primate in some parts of Eastern and Central Assam. Final report to *ASTEC.* Guwahati.

75. Choudhury. A.U. (1996). The Marbled Cat in Assam- Some recent records. *JBNHS*. 93:583-584.

76. Choudhury. A.U. (1996). The greater one-horned rhino outside the protected areas in Assam, India. *Pachyderm*. 22:7-9.

77. Choudhury, A. U. (1997). The status of the Sumatran Rhinoceros in northeastern India, *Oryx* 31 (2): 151-152

78. Choudhury. A.U. (1997). Unpublished Biological Information Sheets. *(i) Macaca arctoides. (ii) Macaca nemistrina*

79. Choudhury. A.U. (1997). Checklist of the Mammals of Assam, *Gibbon Books & ASTEC*. Revised 2nd edition , Guwahati.

80. Choudhury. A.U. (1997). The Clouded leopard in Manipur and Nagaland. *JBNHS*. 94(2):389-391.

81. Choudhury. A.U. (1997). The Status of the Sumatran rhinoceros in north-eastern India. *Oryx*. 31(2):151-152.

82. Choudhury. A.U. (1997). Corrections to the Taxon data sheet. i) *Dicerorhinus sumatrensis* ii) *Elephas maximus* iii) *Rhinoceros unicornis* iv) *Trachypethecus phayrei* v) *Hylobates hoolock* vi) *Neofelis nebulosa vii) Pardofelis marmorata*

83. Christopher, G. E.A. Jayson. (1996). "Sightings of Nilgiri marten in Peppara Wildlife Sanctuary and Silent Valley National Park, Kerala.Smallcornivore conservation 15: 3-4.

84. Corbet & Hill (1992) The mammals of Indomalayan Region. A Systematic review. *Natural History Museum Publication*. Oxford University Press, UK. 488P.

85. Cranbrook (1962).

86. Dandapani, P. (1992). Status of lrravady dolphin *Orcaella brevirostris* in chilka lake. *JMA* 1: 34-90-93.

87. Das, J.K. (1984).

88. Das, P.K. (1986). Studies on the taxonomy and geographical distribution of the species of bats obtained by the Silent Valley (Kerala, India) Expedition, 1980. *Rec. Zool. Surv. India*, 84: 259-276.

89. Das, P.K. (1995).

90. Datta. A. (1997). Unpublished Biological Information Sheets. (i) *Ratufa indica*.

91. Davidar (1983). Short note on feeding habits *JBNHS*

92. Deoras (1965).

93. Digreerendrasingh (1995). *JBNHS*: 92(3).

94. Dutta (1993). Space - use pattern of the Indian gaint squirrel *(Ratufa indica centralis Erxleben)* inrelation to food availability in Bori wildlife sanctuary M.P, India M.Sc thesis Saurashtra University.

95. Dutta (1995). WII Survey reports, Arunachal Pradesh.

96. Easa, P.S. K.F.R.I (1990 -93).

97. Easa. P.S. (1997). Unpublished Biological Information Sheets*. (i) Presbytis Johnii. (ii) Loris tardigradus. (iii) Macaca silenus. (iv) Macaca radiata. (v) Presbytis entellus. (vi) Panthera tigris. (vii) Panthera pardus. (viii) Cuon alpinus. (ix) Melursus ursinus. (x) Prionailurus rubiginosa*.

98. Ellerman,J.R, & Morrison - Scott, T.C.S. (1951) Check list of Palaearctic and Indian Mammals 1758-1949:British Museum, London.

99. Ellerman, J.R. (1961). *The Fauna of India, Mammalia*, Vol. 3, *Rodentia* (in two parts). Manager of publication, New Delhi.

100. Ellerman (1963).

101. Ellerman (1964).

102. Finn, F. (1980). Sterndalis mammalia of India Forest Dept., Census report of West Bengal, Assam, Uttar Pradesh .

103. Fox et al., The mountain ungulates of Ladakh

104. Fox, M. Studies on diseases affecting wild Canids

105. Fox et al., (1991).

106. Frick (1969).

107. George et al., (1980).

108. Ghosh (1964).

109. Ghosh (1965). Records of ZSI (New description)

110. Ghosh, A.K. (1987).

111. Ghosh (1989).

112. Glatston, A.R. (1994). Status survey and conservation action plan (IUCN) for Procyonids and Ailurids The Red Panda , Olingos, Coatis, Racoons and their relatives. IUCN/SSC Mustelids, Viverrids and Procyonid Specialist Group

113. Gokula, V. & N.K. Ramachandran. (1996). "A record of the Nilgiri marten in Upper Bhavani". *J. Bombay Nat. Hist. Society* 93(1): 82.

114. Gong et al., (1989).

115. Goulds bury, C.J. (1949). "Ambush to capture crows by yellow threatened marten. *J. Bombay Nat. Hist. Society*. 48: 802.

116. Green, M.J.B. 1978. The ecology & feeding behaviour of Himalayan Tahr *(Hemitragus jemlahicus*) in the Langtay vally, Nepal,M.Sc Dessertation University of Durham.

117. Green, M.J.B. 1987. Ecological separation of Himalayan ungulates. *J. zool. Land*. 1, Pp. 693-719 (269)

118. Gregori & Petrob (1976).

119. Habersetzer, J. (1981). Adaptive echolocation sounds in the bat *Rhinopoma hardwickii. J. Comp. Physiol.,* 144: 559-566.

120. Habersetzer, J. (1983). Ethooekologische untersuchungen an echoortenden Fledernaeusen Suedindiens. Ph.D. Thesis, JW Goethe-Universitaet Frankfurt am Main Germany.

121. Habersetzer, J. Schuller, G. and Neuweiler, G. (1984). Foraging behaviour and Doppler shift compensation in echolocating hipposiderid bats, *Hipposideros bicolor* and *Hipposideros speoris. J. Comp. Physiol*. A, 155: 559-567.

122. Harrison (1961).

123. Hill, J.E. (1967). The bats of Andaman & Nicobar Islands. *J. Bombay nat. Hist. Soc.* 64: 1-9. (42)

124. Hill (1987). *JBNHS.* Vol. 83.

125. Hinton (1918).

126. Hoffman (1986).

127. Hoffman (1987).

128. Hutton, A.F. (1949). "Snakes and Mammals of the high wavy mountains". *J. Bombay Nat. Hist. Soc*. 48: 681-694.

129. Inayadullah, M (1981).

130. IUCN Action Plan (1989).

131. J & K Forest Dept., Wildlife census

132. J & K Wildlife Dept., Report.

133. James, P.S.B.R. and Soundararajan (1982). On a sperm whale Phyeter macrocephalus Linnaeus stranded at Krusadi Island in Gulf of Mannar with an up to date list and diagnostic features of whales stranded along Indian Coast. *J. Marine Biol. Asso. India.,* 21: 17-40

134. James, P.S.B.R. and R.S. Lal Mohan (1987). The Marine Mammals of India. *Mar. Fish inform Res. Ser*. (Cochin): 71: 1-13. Fig. 1-29.

135. James, P.S.B.R. & R.S. Lal Mohan (1990). Ecology and conservation of marine mammals of Antarctic region. Proc. Symp. antarctict expedition Goa: 501-509; Fig. 1-27

136. Jayson & Ramachanadran (1990). *JBNHS*

137. Jayson & Christopher (1995). *JBNHS*

138. Jayson & Ramachandran. (1995). Habitat Utilization larger mammals in Chinnar WLS. KFRI report.

139. *JBNHS.* 82(3): 648-653.

140. Jerdon (1874). *Mammalia.*

141. Johnsingh, A.J.T. (1997). Revision of the Taxon Data Sheet.

142. Johnsingh, A.J.T. (1997). Correction to the Taxon data sheet. i) *Cuon alpinus adjustes* ii) *Cuon alpinus laniger* iii) *Cuon alpinus primaevus* iv) *Vulpes bengalensis* v) *Neofelis nebulosa*

143. Jones, S. (1964). Observation on a pair of Dugongs in captivity *J. Mar. Assoc. India* 1: 198-202

144. Jones, S. (1976). Dolphins and porpoises caught in seine nets along the coast of India. *Paper ACMAR/MM/SC/*17, Bergen 1976.

145. Jones, S. (1981). Distribution & Status of Dugongs dugon in the Indian region. Proc. James Cookluni., 1979. 43-54.

146. Jones, G., Sripathi, K., Waters, D.A. and Marimuthu, G. (1994). Individual variation in the echolocation calls of three sympatric Indian hipposiderid bats, and an experimental attempt to jam bat echolocation. *Folia Zooligica,* 43(4): 347-362.

147. Joseph. G.K. (1997). Unpublished Biological Information Sheets. (i) *Mecaca silenus*.

148. Joshu .J (1996). Interbreeding between grizzled gaint squirrel, *Ratufa macrourd* (pennant) and malabar gaint squirrel, *Ratufa indica* (Erxleben) *JBNHS*.

149. Juliet Vanitharani, T. (1997). Studies on the changes of wing morphology and body weight in few species of South Indian bats. Ph.D. Thesis, Madurai Kamaraj University, Madurai.

150. Kankane, P.L. (1995). Status survey of Chinkara and Desert.

151. Kankane, P.L. (1997). *Sanctuary*. XVII(1): 45-49.

152. Karanth, K.U. (1984). Conservation plan for LTM & its rain forest habitats in Karnataka.

153. Karanth (1986). A possible sighting record of Malabar civet *(Viverra megaspila)* from Karnataka. *JBNHS* 83, 192-193.

154. KFRI & KFD (1993). A Report Wildlife Census Kerala,

155. KFRI Collection (1997). From Chavakad.

156. KFRI Report (1995).

157. KFRI Report (1996).

158. Khajuria (1959).

159. Khajuria, H. (1980). Taxonomical and ecological studies on the bats of Jabalpur District. (Part.2 Family: Megadermatidae Rhinalephidae and Vespertilionidae). *Rec. ZSI. Occ. Paper* 19 pp 1-69,

160. Khajuria (1981).

161. Khan. Asian Rhino - *An Action Plan Indian Zoo Year Book* (1996) Vol.1

162. Klinowska, M. (1991). Dolphins porpoises and whales of the world. *The IUCN Red Data Book*, Cambridge, UK pp. 338-340

163. Kock and Posamentier (1983).

164. Kumar, A. (1987) Ph.D thesis. The ecology & population Dynamics of the Lion Tailed Macaque *(Macaca silenus)* in South India.

165. Kumar, A., Molur, S., & Walker, S (1995) Report of the population and Habitat Viability Assesment for lion tailed Macaques, Zoo/CBSG, India.

166. Kurup. G.U. (1989). Rediscovery of the Small Travancore Flying Squirrel. *Oryx.* 23:2-3.

167. Kurup. G.U. (1989). The rediscovery of the Malabar civet, *(Viverra megaspila civettina Blyth)* in India. *Tiger Paper*, 16, 13-14.

168. Leatherwood, S. and R.R. Reeves (1989). Marine mammals research and conservation in Sri Lanka 1985-86. *UNEP Marine mammals Tech. Rep.* 1:(vi), 1-138.

169. Leatherwood, S. and G.P. Donovan (eds.) (1991). Marine mammal technical report. 3, Cetaceans and Cetacean research in the Indian Ocean Sanctuary. *UNEP* Nairobi, Kenya, 287 pp.

170. Lindsay (1929).

171. Link, A., Marimuthu, G. and G. Neuweiler. (1986). Movement as a specific stinulus for prey catching behaviour in rhinolophid and hipposiderid bats. *J. Comp. Physiol A*., 159: 403-413

172. Linnaeus (1966).

173. Lyon (1913).

174. Madusudan, M.D. (1995). Sighting of Nilgiri Marten at Eranakulam National park, Kerala, India. Small carnivore conservation. 13: 6-7.

175. Majupurian (1981).

176. Mallon (1985).

177. Mammals survey Report No. 10 & 12.

178. Mandal (1986).

179. Mandal & Gosh (1981).

180. Manjrekar. N. (1997). Unpublished Biological Information Sheets. *(i) Budorcas taxicolor.*

180a. Manjrekar. N. (1997). Correction to the Taxon data sheet i) *Capra ibex* ii) *Caracal caracal*

181. Mansoor, Mir . Report Dept. of Wildlife Preservation , J & K

182. Mansoor, M. (1990).

183. Mansoor, Mir. (1997). Indian mammal working group reference manual.

184. Marimuthu, G. Several publication from Dept. Animal Behav., M.K. University

185. Marimuthu, G. (1982). Social behaviour and social timing of the biological clock of a tropical bat *Hipposideros speoris* Schneider 1800. Ph.D. Thesis, Madurai Kamaraj University, Madurai.

186. Marimuthu, G. and Chandrashekaran, M.K. (1983). Social cues of a hipposiderid bat inside a cave fail to entrain the circadian rhythm of an emballonurid bat. *Naturwissenschaften*, 70: 620.

187. Marimuthu, G. and Neuweiler, G. (1987). The use of acoustical cues for prey detection by the Indian false vampire bat, Megaderma lyra. *J. Comp. Physiol A*, 160: 509-515.

188. Marimuthu, G. and Chandrashekaran, M.K. (1991). A rare sighting of a python ingesting a flying fox *Pteropus giganteus* from a natural ecology. *Bat Research News,* 31(4): 49-50.

189. Marimuthu, G., Habersetzer, J. and Leippert, D. (1995). Active acoustic gleaning from the water surface by the Indian false Vampire Bat, *Megaderma lyra. Ethology,* 99: 61-74.

190. Marimuthu, G., Rajan, K.E., John Koilraj, A., Suthakar Isaac, S. and Balasingh, J. (In press, 1998) Observations on the foraging behaviour of a tent roosting megachiropteran bat *Cynopterus sphinx. Biotropica.*

191. Marshall (1976).

192. Marshall (1977).

193. Mason (1908).

194. Menon, Vivek (1992-95). *Traffic-India*

195. Menon, Vivek (1994-95) Forest Dept Census report of west Bengal, Assam, Uttar Pradesh.

196. Mishra & Dhanda (1975).

197. Mohan, R.S. Lal (1964). Occurrence of Dugong in Gulf of Kutch *JMBAI*: 5: 152.

198. Mohan, R.S. Lal (1985). Observation on the by-catch of dolphins *Stenella longirostris, Tursiops aduncus, Sousa chinensis and Delphinus delphis tropicalis* in the gill nets off Calicut coast, India pp. 78-83 in E.G. Silas (eds.). Proceedings of the Symposium on endangered marine animals and marine Parks, Cochin, India 12-16, Jan 1985. *Mar. Biol. Assoc. India,* Cochin, 508 pp.

199. Mohan, R.S. Lal. (1985). Some observations on the sea-cow, *Dugong dugon* in Gulf of Mannar and Palk Bay during 1971-1975. *Jour. Mar. Gel. Asso. India.* 17: 391-396.

200. Mohan, R.S. Lal. (1989). Conservation & Management of Ganges river dolphin *Platanista gangetica. Occ. Pap. IUCN .Sp. Surv Commn* No.3: 64-69.

201. Mohan, Lal, R.S. (1992). Observations on the whales *Balaenoptera edeni*, B. musculus and *Megaptera novaeangliale* washed ashore along the Indian Coast with a note on their Osteology. 34 (1&2): 253-255.

202. Mohan, Lal, R.S. *et al*., (1993). Ecology and population of ganges river dolphin *Platanista gangetica* of Brahmaputra Annual report, CNT, Calicut: 1-20.

203. Mohan, R.S. Lal (1994). Review of gillnet fishery and Catacean by catch in Northeastem Indian ocean. *Rep. Int. Whal Commn. Sp. issue* 15: 329-343, Fig. 1-5.

204. Mohan, R.S. Lal and K.V. Mohammed Kunhi (1996). Fish oil as alternative to dolphin oil for fishing *Clupisoma garua. BNHS.,* 93(1): 86-89.

205. Mohan. R.S. Lal (1996). Fish oil as alternative to dolphin oil for fishing *Clupisoma garua. BNHS.*93 (1): 86-89.

206. Mondal & Das (1969).

207. Mukherjee. K. (1997) Unpublished Biological Information Sheets. *(i) Felis marmorata chartloni. (ii) Felis temmincki temmincki. (iii) Meofelis nebulosa macroscelorites. (iv) Herpestes smithi smithi. (v) Herpestes edwardsi nyula. (vi) Lutra lutra. (vii) Presbytis phayrei phayrei. (viii) Macaca assamensis (ix) Panthera uncia. (x) Panthera pardus. (xi) Cuon pinus primaevus. (xii) Cuon alpinus dekhanensis. (xiii) Canis lupus pallipes. (xiv) Canis aureus indicus/nucia. (xv) Vulpes bengalensis. (xvi) Hyaena hyaena hyaena. (xvii) Axis porcinus porcinus. (xviii) Axis axis. (xix) Cervus unicolor. (xx) Cervus duvauceli duvauceli. (xxi) Cervus duvauceli branderi. (xxii) Cenvus duvauceli (xxiii) Sus scrofa cristatus. (xxiv) Sus salvanius. (xxv) Bubalis bubalis. (xxvi) Bos gaurus gaurus. (xxvii) Muntiacus muntjak. (xxviii) Melursus ursinus ursinus. (xxix) Felis chans kutas. (xxx) Felis viverrina (xxxi) Viverricula indica benglensis. (xxxii) Felis bengalensis bengalensis. (xxxiii) Herpestes urva. (xxxiv) Herpestes auropunctutus auropunctuatus. (xxxv) Paguma larvata neglecta (xxxvi) Paradoxurus hermaphroditus. (xxxvii) Viverra Zibetta*.

207a. Mukherjee (1997) Correction to the Taxon data sheet. i) *Panthera tigris*

208. Muni, M. (1995). *Hornbill*

209. Muni, M. et al., (1994). *JBNHS*

210. Musser (1981).

211. Musser & Califria (1982).

212. Musser and Heaney (1985).

213. Nair, R.V., R.S. Lal Mohan, V.S. Rao (1975). The Dugong, *Dugong dugon. Bull. Cent. Marine Fish. Res. Inst.* 28:1-45.

214. Nameer, P.O. (1997).

215. Natarajan. P. (1997) Unpublished Biological Information Sheets. *(i) Pristilepis Malabarica.*

216. Nath (1987). *JBNHS*

217. Nauscer (1996). Peechi Wildlife Sanctuary report

218. Neuweiler, G. (1969). Verhaltensbeobachtungen an einer indischen Flughundkolonie *(Pteropus g. giganteus Briinn). Z. Tierpsychol.,* 26: 166-199

219. Niethammmer (1970).

220. Nima & Sabharwal (1989). Home range & food habits report

221. Nowell & Jackson (1996) Wild Cats: Status survey and conservation action plan. IUCN. Gland, Switzerland.

222. Nowell & Jackson (1996). Wild cats. Sightings records in India- Short notes in JBNHS. Small Carnivore news letter.

223. Osgood (1932).

224. Panwar, H.S. & R. Gopal, 1984. IUCN Cat Specialist meeting

225. Paulraj, S., N. Sundararajan, A. Manimozhi and Sally walker (1992) Reproduction of the Indian wild dog *(Cuon alpinus)* in capitivity. *Zoo Biology* 11: 235-241.

226. Paulraj.S. & Kasinathan. (1993). Scartly known grizzled giant squirrel *(Ratufa macroura)* of India. Status Conservation Indian forester 119 (10): 828-833

227. Perrin, W.F., G.P. Donovan and J. Barlow (Eds.) (1994). Report of the workshop on mortality of cetaceans in passive fishing nets and traps (IWC Special issue # 15): 1-72

228. Phillips (1980).

229. Pocock (1934).

230. Pocock (1938). *JBNHS*

231. Pocock (1939). The Fauna of British India: Mammals Vol.1. Reprinted in 1975. Today and Tomorrow's Printers and Publishers, New Delhi

232. Pocock (1941). Fauna of British India. *Mammalia* Vol.2.

233. Pradhan, M.S. (1975).

234. Pradhan (1991-92).

235. Prakash, I (1959). *J. Mammology* Taxonomical and ecological studies on the bats of Jabalpur Dist (Part 2). Family Magadermatidae Rhinalophidae and Vespertilionidae)

236. Prakash, I. (1963). Taxonomic and biological observation on the bats of the Rajasthan desert. Rec. India-Mus., 59 (1961): 149-170.

237. Prakash (1977).

238. Prakash, I. et al., (1992). Rodents in Indian Agriculture. Scientific Publishers, Jodhpur, 17-24.

239. Prakash, I. (1994).

240. Prakash, Ishwar (1995). *J. Mammology.*

241. Prakash, I. (1997) Corrections to the Taxon data sheet. i) *Funambulus palmarum* ii) *Funambulus layardi* iii) *Funambulus tristriatus*

242. Prater (1947). The Book of Indian Animals

243. Prater (1948). Book of Indian Animals, *BNHS*, Bombay.

244. Prater (1980). The book of Indian Animals, *BNHS,* Oxford University Press

245. Prater, S.H. (1988). The book of Indian animals.

245a. Primate camp report (1994)

245b. Qureshi, Q., S S. Rani Shankaran, U.S. Seal., S.Walker & S. Molur (eds) (1997). Report of Population and Habitat Viability Assesment workshop on *Cervus duvaucelli*. *Zoo/CBSG.* India.

246. Rabinowitz. A. (1991). Thailand. *Biotropica.*

247. Rahmani, Asad (1992 -96). Grassland project. *BNHS*

248. Rahmani,A.R.(1997). Antelopes of India,Draft.

249. Ramachandran. (1989). Endangered grizzled giant squirrel habitat. *JBNHS*

250. Ramachandran, K.K. (1992). Certain aspects of ecology and behaviour of Malabar giant squirrel. *(Ratufa indica maxima)* Ph.D thesis, University of kerala.

251. Ramachandran. (1993). *Journal of Indian Forestry*.

252. Ramachandran. (1995). Distribution of birds and mammals the Chinnar Wildlife Sanctuary, *KFRI report*.

253. Ramaswamy, G. AVC (1990 -95).

254. Rana (1986).

255. Ranjit Singh, Lahiri Choudhury *Bengal Nat. Hist. Soc.*

256. Ryley (1913). Bombay Natural History Society's Mammal Survey of India, Report 11. *Bombay nat. Hist. Soc.* 22(3): 486-513.

257. Ryley, K.V. (1914). Bombay Natural History Society's Mammal Survey of India: Reports. *Bombay Nat. Hist. Soc.* 22(4): 684-725

258. Roberts, TJ. (1977)

259. Roonwall (1948).

260. Roonwal (1949, 1950).

261. Roonwal & Mohnot (1977).

262. Saha, S.S. (1985). *Mammalia.* In: Fauna of Namdapha: Proposed Biosphere Reserve. *Rec. Zool. Surv. India.* 82: 321-330.

263. Sankaran (1992 -96).

264. Sathyakumar, 1994, Ph.D thesis

265. Satish Chandran (1991).

266. Saxena, Rajiv (1995 *JBNHS* 92(3): 410.

267. Schaller (1969).).

268. Schaller, G.B. (1977) Mountain monarchs: Wild goats and sheep of the Himalaya: Chicago: University of Chicago press.

269. Schlitter & Thonghongya (1971)

270. Schreiber, A., Wirth, R., Riffel, M., and Van Rompaey. (1989). An action plan for the conservation of Mustelids & Viverids. IUCN, Gland Switzerland.

271. Schuller, G. (1980). Hearing characteristics and Doppler Shift compensation in South Indian CF-FM bats. *J. Comp. Physiol.,* 139: 349-356.

272. Schwarz (1948)

273. Seal & Baneerjee. (1965).

274. Shackleton & the IUCN/SSC Caprinae Specialist Group (1997). Wild Sheep and goats & their relatives: Status survey Shah, & conservation Action plan for Caprinae IUCN, Gland, Switzerland & Cambridge, UK , 390 + viipp

275. Shah, N. Survey report -Aerial survey of high altitude ungulates

276. Shaller & Khan (1975).

277. Shankar Ram (1995). WII Survey reports Mizoram

278. Sharma, I.K. (1979). *JBNHS* 76(3): 498-499 Short notes in *JBNHS*.

279. Sharma. I.K. (1997). Unpublished Biological Information Sheets. *(i) Ardeotis negriceps. (ii) Antelope cervicapri. (iii) Boselaphus traqocamelus. (iv) Fazella gazeith.*

280. Singh, L.A.K. & R.K. Sharma. (1986). Gangetic dolphin, *Platanista gangetica* observations on habits and distribution pattern in National Chambal Sanctuary. JBNHS 82(3): 648-653

281. Singh. M. (1997). Unpublished Biological Information Sheets. *(i) Trachypithecvs Johnii. (ii) Semnopithecus entellus. (iii) Mecaca Radiata. (iv) Mecaca silenus. (v) Loris tesdigradus.*

282. Sinha, R.K. (1992). "Bioconservation of the gangetic dolphin *Platanista gangetica* and Turtle Kachunga tecturn No.J-39011/5/91.GPD Ann. Proq. Report. June 1991-June 1992. Patna University, Patna

283. Sinha, R.K. (1993). Biomonitoring of Ganges river dolphin

284. Sinha, Y.P. (1973). Taxonomic studies on the Indian Horseshoe bats of the genus *Rhinolophus Lacepede.* Mammalia 37: 603-630.

285. Sinha, Y.P. (1980). Bats of Rajasthan: Taxonomy & Zoogeography. *Rec.ZSI*.76:7-63.

286. Sinha, Y.P. (1981). Studies on bats of Gujarat. *Rec. Zoo. Surv. India* 78: 101-112.

287. Sinha, Y.P. (1981b). Further observations on the field ecology of Rajasthan bats. JBNHS 77: 465-470. (43)

288. Sinha, Y.P. (1983). Occurrence of *Pipistrellus paterculus thomas*, 1915 (Chiroptera: Vespertilionidae) in Bihar: An addition to the Indian Mammal fauna. *J. Bombay nat. Hist. Soc.* 80: 206.

289. Sinha, Y.P. (1986). The Bats of Bihar : Taxonomy and ecology. *Rec.ZSI.OccassionalPaper*,77

290. Sinha, Y.P. (1990). Occurrence of Dobson's Long Tongued Fruit Bat Eonycteris spelaea (Dobson, 1871) (Chiroptera: Pteropodidae) in Meghalaya. *J. Bombay nat. Hist. Soc.* 87: 134-135.

291. Sinha, Y.P. (1994). Occurrence of the Kashmir Cave Bat *Myotis longipes* (Dobson, 1873), in Maghalaya, India. *Geobios new Report* 13: 72-73.

292. Sinha, Y.P. (1994). Occurrence of Long-winged Bat *Pliniopterus Miniopterus schreibersi fuliginosus* (Hodgson, 1835) (Chiroptera: Nespertilionidae) in Maghalaya, with some observations on its ecology. *Rec. Zool. surv. India,* 94: 211-215.

293. Sinha, Y.P. (1995). Occurrence of Borneo Short-Nosed Fruit Bat, *Cynopterus brachyotis* (Miiller:1838) in Nagaland and Dormer's Bat, *Pipistreplus dormeri* (Dobson:1875) in Meghalaya, India. *Geobios news report* Vol. 14: 168-170.

294. Sinha, Y.P. (1996). On some behavioural activities of Indian Flying Fox, *Pteropus giganteus giganteus* (Briinhich, 1782) in Bihar India. Cheetal 34: 55-57.

295. Sinha, Y.P. (in press). Contribution to the knowledge of Bats (Mammalia: Chiroptera) of North East Hills, India. *Rec. Zool. Surv. India. Occ. Paper* No. 174.

296. Sinha, Y.P., Chakraborty, S. (1971). Taxonomic status of the Vespertilionid Bat, *Nycticejus emarginatus* Dobson. *Proc. Zool. Soc. Calcutta.* 24: 53-59.

297. Sinha. Y.P. (1997). Unpublished Biological Information Sheets. (i) *Pteropus.giganteus giganteus* . (ii) *Rousettus leschenaulti* (iii) *Cynopterus brachyotis* (iv) *Cynopterus sphinx*. (v) *Sphaerias blanfordi*. (vi) *Eonycteris spelaea.* (vii) *Rhinophoma microphyllum*. (viii) *Rhinopoma hardwickii*. (ix) *Taphozous melanopogan.* (x) *Taphozous longimanum* (xi) *Taphozous nudiventris* (xii) *Megaderma lyra.* (xiii) *Rhinolophus lepidus.* (xiv) *Hipposideros fulvus.* (xv*) Hipposideros speoris. (xvi) Hipposideros lankadiva* (xvii) *Myotis longipes. (xviii) Scotophilus kuhlii*. (xix) *Scotophilus heathi. (*xx*) Pipistrellus mimus*. (xxi) *Pipistrellus coromandra.* (xxii) *Pipistrellus dormeri.* (xxiii) *Pipistrellus ceylonicus. (xxiv) Ia io. (*xxv*) Scotocus Pallidus*. (xxvi) *Miniopterus schreribersii.* (xxvii) *Tadarida aegyptiaca*. (xxviii) *Suncus murinus.* (xxix*) Platanista gangetica.* (xxx) *Manis Crassicaudata.* (xxi*) Lepus nigricollis*. (xxxii) *Bos gaurus.* (xxxiii) *Herpestes edwardsii nyula.* (xxxiv) *Nesokia indica indica*. (xxxv) *Presbytis entellus entellus.* (xxxvi) *Macaca mulatta.*

298. Spillet. (1961).

299. Spillet (1966).

300. Sree Kumar (1989-1995). ZSI

301. Srihari, K. and A.K. Chakravarthy, 1992. Production lesses due to rodents. Cardomom. In “Rodents in Indian Agriculture” Scientific Publishers, Jodhpur. 289-308

302. Sripathi, K. (1982). Light relations of the circadian rhythm in the tropical bat *Taphozous nudiventris kachhensis* Dobson under natural and lab conditions. Ph.D. Thesis, Madurai Kamaraj University, Madurai. (49)

303. Subbaraj, R. (1979). Circadian organization in the behaviour of *bats (Taphozous melanopogon,* Temminc*k*). Ph.D. Thesis, Madurai Kamaraj University, Madurai.

304. Subbaraj, R. and Chandrashekaran, M.K. (1977).Rigid' internal timing in the circadian rhythm of flight activity in a tropical bat. *Oecologia,* 29: 341-348

305. Subbaraj, R. and Chandrashekaran, M.K. (1978). Pulses of darkness shift the phase of a circadian rhythm in an insectivorous bat. *J. Comp. Physiol.* A, 127-243

306. Subbaraj, R. and Balasingh, J. (1996). Night roosting and lunar phobia' in Indian false vampire bat Megaderma lyra*. J. Bombay Nat. Hist. Soc.* 93(1): 1-7

307. Sudakar & Marimuthu (1996). *J. Mammal.*

308. Sudakar & Marimuthu (1997). *J. Bio. Science*

309. Sunderraj. F.W. (1997) Unpublished Biological Information Sheets. (i) *Presbytis Johnii.* (ii*) Mecaca silenus.* (iii*) Elephas maximus.*

310. Surendravarman (1995). (Tiger Paper) Makuruth Park Nilgiri Tahr Population count

311. Suthakar Isaac, S. (1993). Activity pattern, parturition and postnatal development in the Indian pygmy bat. Ph.D. Thesis, Madurai Kamaraj University, Madurai.

312. Suthakar Isaac, S. and Marimuthu, G. (1993). Early outflying and late homeflying in the Indian pygmy bat under natural conditions. *Oecologia*, 96: 426-430.

313. Suthakar Isaac, S., Kumaraswamy, P. and Marimuthu, G. (1993). In: Pollination in Tropics - Proc. Intl. Sym. Polln. Trop. (Eds. G.K. Veeresh, R. Uma Shaanker and K. Ganeshaiah). IUSSI, Indian Chapter, Bangalore.

314. Suthakar Isaac, S. and Marimuthu, G. (1994). Fecundity in the Indian pygmy bat (*Pipistrellus mimus*). J. Zool., Lond., 234: 665-668.

315. Suthakar Isaac, S. and Marimuthu, G. (1996). postnatal growth and age estimation in the Indian pygmy bat Pipistrellus mimus. *J. Mammal*., 77(1): 199-204

316. Suthakar Isaac, S. and Marimuthu, G. (1997). Development of wing morphology in the Indian pygmy bat Pipistrellus mimus. *J. Biosci.,* 22: 193-202.

317. Tehsin (1980). *JBNHS*

318. Usman, K. (1981). Ecological and ethological studies on the insectivorous bat, *Rhinopoma hardwickii* Gray, 1831. Ph.D. Thesis, Madurai Kamaraj University, Madurai.

319. Vairavel. S.M. (1997). Unpublished Biological Information Sheets. (i) *Bos gaurus gaurus*.

320. Vanitarani (1996). Ph.D. these M.K. Univiersity.

321. Varman, S. (1990 -95).

321a. Walker, S. (ed) (1995). Report of Population and Habitat Viability Assesment workshop on *Cervus eldi eldi*. Zoo/CBSG, India.

322. WII Survey report.

323. Williams. C. (1997). Unpublished Biological Information Sheets. (i) *Macaca silenus.* (ii) *Macaca assamensis.*

324. Wilson & Reeder (1994).

325. Wroughton (1912) Scientific Results from the Mammal Survey. Nos 1-49. *J.Bombay nat. Hist Soc*. Vol. 21, No.2.

326. Wronghton, R.C. (1915). Bombay Natural History Society's Mammal Survey of India, Burma and Ceylon, Report No.19. *J. Bombay nat. Hist. Soc*., 24: 96-110.

327. Wroughton. *BNHS*. Vol. 23

328. Xavier, F.S., Joseph, G.K. & M. Bindhu., (1996). Morphometry and feeding habits of small Travancore flying squirrel. 11(7); 4-5.

329. Xavier. F.S. (1997). Unpublished Biological Information Sheets. (i) *Viverricula indica*

330. Yoganand, T.R.K. & Kumar, A. (1995). "The Institution of small carnivore in the Nilgiri Brosphere Reserve. Small carnivore conservation. 13: 1-2.

331. Yoganand. B.D.K. (1997). Unpublished Biological Information Sheets. (i) *Melursus ursinus.*

332. Zheng & Wang (1985)

333. ZSI (1992) Fauna of West Bengal, Part.1.

334. ZSI 1995, Report

335. ZSI ongoing survey in the entire area of distribution

336. ZSI survery report.

337. ZSI Survey reports, 1970 -94

338. ZSI Surveys in Northeast India

Indian mammals in Indian zoos

Antelope Four Horned - Chowsingha (*Tetracerus quadricornis*) 1. Nehru Zoo; 2. Sakkarba baug Zoo; 3. Sri Chamarajendra Zoos; 4. Veermata Jijabai Bhosale Udyan Zoo; 5. Nandankanan Biological Park; 6. Arignar Anna Zoo; 7. Kanpur Zoo; 8. Van Vihar National Park; 9. Jaipur Zoo; 10. Dadra & Nagar Haveli Deer Park; 11. Khanvel Deer Park & Nagar Haveli; 12. Silvassa & Nagar Haveli Mini Zoo; 13. Amte's Animal Park & Orphanage Cum Rescue Home; 14. Pal Wild Animal Orphanage; 15. Indira Gandhi Park Zoo & Deer Park; 16. Kapilash Zoo; 17. Panchwati Deer Park; 18. Sri Venkateswara Zoo; 19. Surat Nature Park; 20. Kota Zoo;

Ass Wild Indian - Ghorkhar (*Equus heminous khur*) 1. Nehru Zoo; 2. Kamla Nehru Zoo; 3. Sakkarbaug Zoo; 4. Nandankanan Biological Park; 5. Arignar Anna Zoo

Badger Chinese Ferret (*Melogale Moschata*) 1. Assam State Zoo Cum Botanical Garden

Bear Himalayan Black (*Selenarctos thibetanus*) 1. Nehru Zoo; 2. Assam Zoo; 3. Sanjay Gandhi Biological Park; 4. Delhi Zoo; 5. Kamla Nehru Zoo; 6. Sakkarbaug Zoo; 7. Mysore Zoo; 8. Veermata Jijabai Bhosale Udyan & Zoo (East); 9. Nandankanan Biological Park; 10. Mahendra Chaudhury Zoo; 11. Arignar Anna Zoo; 12. Kanpur Zoo; 13. Prince Of Wales Zoos; 14. Alipore Zoo; 15. Itanagar Zoo; 16. Jawaharlal Nehru Biological Park; 17. Sayaji Baug Zoo; 18. Thiruvananthapuram Zoo; 19. Gandhi Zoo; 20. Maitri Baagh Zoo; 21. Manipur Zoo; 22. Jaipur Zoo; 23. Jodhpur Zoo; 24. V.O.C. Park Mini Zoo; 25. Sepahijala Zoo; 26. Miao Mini Zoo; 27. Bhiwani Mini Zoo; 28. Dhauladhar Nature Park; 29. Himalayan Zoo; 30. Tata Steel Zoo; 31. Rajkot Municipal Corporation Zoo; 32. Rohtak Zoo; 33. Thrissur Zoo; 34. Kamla Nehru Prani Sanghrahalay; 35. Peshwe Park Zoos; 36. Sanjay Gandhi National Park (East); 37. Lady Hydari Park; 38. Udaipur Zoo; 39. Padmaja Naidu Himalayan Zoo

Bear Himalayan Brown (*Ursus arctos arctos*) 1. Assam State Zoo Cum Botanical Garden; 2. Mysore Zoo; 3. Jaipur Zoo; 4. Himalayan Nature Park; 5. Thrissur Zoo

Bear Sloth (*Melursus ursinus*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Sanjay Gandhi Biological Park; 5. Delhi Zoo; 6. Kamla Nehru Zoo; 7. Sakkarbaug Zoo; 8. Mysore Zoo; 9. Veermata Jijabai Bhosale Udyan & Zoo (East); 10. Nandankanan Biological Park; 11. Mahendra Chaudhury Zoo; 12. Arignar Anna Zoo; 13. Kanpur Zoo; 14. Prince Of Wales Zoos; 15. Alipore Zoo; 16. National Park; 17. Maitri Baagh Zoo; 18. Van Vihar National Park; 19. Jaipur Zoo; 20. Gunindy Children's Corner; 21. Pillalamarri Deer Park; 22. Bhiwani Mini Zoo; 23. Jind Mini Zoo; 24. Shimoga Children's Park Mini Zoo; 25. Dharwad Childrens Mini Zoo; 26. Mini Zoo A. M. Gudi Balvana; 27. Indira Udyan; 28. Kanan Pandari; 29. Nandan Van; 30. Amte's Animal Park & Orphanage Cum Rescue Home; 31. Somnath Prakalpa Zoo; 32. Kohima Zoo; 33. Kapilash Zoo; 34. Motijharan Deer Park; 35. Punjab Mini Zoo; 36. Almore Deer Park; 37. Jhargram Deer Park; 38. Bhagwan Birsa Biological Park; 39. Tata Steel Zoo; 40. Bondla Zoo; 41. Bellary Childrens Park-Cum-Zoo; 42. Thrissur Zoo; 43. Kamla Nehru Prani Sanghrahalay; 44. Aurangabad Municipal Zoo; 45. Maharajbag Zoo; 46. Aizawl Zoo; 47. Kota Zoo; 48. Bikaner Zoo

Binturong (*Arctictis binturong*) 1. Assam State Zoo Cum Botanical Garden; 2. Kamla Nehru Zoo; 3. Mysore Zoo; 4. Nandankanan Biological Park; 5. Arignar Anna Zoo; 6. Itanagar Zoo; 7. Sepahijala Zoo; 8. Lady Hydari Park

Black Buck - Krishna Mrig (*Antilope cervicapra*) . Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Sanjay Gandhi Biological Park; 5. Delhi Zoo; 6. Kamla Nehru Zoo; 7. Sakkarbaug Zoo; 8. Mysore Zoo; 9. Veermata Jijabai Bhosale Udyan & Zoo (East); 10. Nandankanan Biological Park; 11. Mahendra Chaudhury Zoo; 12. Arignar Anna Zoo; 13. Kanpur Zoo; 14. Prince Of Wales Zoos; 15. Alipore Zoo; 16. Itanagar Zoo; 17. Jawaharlal Nehru Biological Park; 18. Sayaji Baug Zoo; 19. Bannerghatta National Park; 20. Thiruvananthapuram Zoo; 21. Maitri Baagh Zoo; 22. Van Vihar National Park; 23. Jaipur Zoo; 24. Jodhpur Zoo; 25. Gunindy Children's Corner; 26. Deer Park; 27. Fertilizer Nagar Deer Park; 28. S.I.Works Querry Pvt Limited; 29. Chandra Mandir Deer Park; 30. Deer Park; 31. Deer Park; 32. Bhiwani Mini Zoo; 33. Jind Mini Zoo; 34. Mini Zoo; 35. Rewalsar Wildlife Zoo; 36. Indira Priyadarshini Sangrahalaya; 37. Kaiwara Tapowana Chintamani Talluk; 38. Mini Zoo A. M. Gudi Balvana; 39. Mini Zoo At Induval Nature Park (Prakruti Vana); 40. Mini Zoo At Kondajji Deer Park; 41. Namadachilume Deer Park; 42. Sorakayalahalli Children & Deer Park; 43. Tungabhadra Dam Mini Zoo; 44. Mrignayani Deer Park; 45. Hutatma Bag Prani Sangrahalya; 46. Maharaja Shahaji Chhatrapati Zoo; 47. Mahatma Gandhi Rastriya Udyan Zoo; 48. Rani Bag Zoo; 49. Seminery Hills Deer Park; 50. Shri Ganjanan Vatika; 51. Indira Gandhi Park Zoo & Deer Park; 52. Kapilash Zoo; 53. Motijharan Deer Park; 54. Palm Beach Zoo; 55. Taptapani Deer Park; 56. Patiala Deer Park; 57. Deer Park; 58. Deer Park; 59. Bansar Bagh Mini Zoo; 60. Panchwati Deer Park; 61. Aranaya Bhawan; 62. Deer Park; 63. Indira Manoranjan Van (Deer Park); 64. Van Prani Udyan I.V.R.I.; 65. Deer Park (Mini Zoo); 66. Sri Venkateswara Zoo; 67. Tata Steel Zoo; 68. Indroda Nature Park; 69. Surat Nature Park; 70. Rajkot Municipal Corporation Zoo; 71. Rohtak Zoo; 72. Bellary Childrens Park-Cum-Zoo; 73. Thrissur Zoo; 74. Kamla Nehru Prani Sanghrahalay; 75. Aurangabad Municipal Zoo; 76. Peshwe Park Zoos; 77. Udaipur Zoo; 78. Bikaner Zoo; 79. Kamla Nehru Zoo; 80. Sakkarbaug Zoo; 81. Sayaji Baug Zoo; 82. Maitri Baagh Zoo

Cat Fishing (*Felis viverrina*) 1. Assam State Zoo Cum Botanical Garden; 2. Sanjay Gandhi Biological Park; 3. Nandankanan Biological Park; 4. Arignar Anna Zoo; 5. Alipore Zoo; ; Cat Golden (Felis temmincki); 1. Assam State Zoo Cum Botanical Garden; 2. Sanjay Gandhi Biological Park; Cat Jungle (Felis chaus); 1. Indira Gandhi Zoo; 2. Assam State Zoo Cum Botanical Garden; 3. Sanjay Gandhi Biological Park; 4. Kamla Nehru Zoo; 5. Nandankanan Biological Park; 6. Arignar Anna Zoo; 7. Kanpur Zoo; 8. Sayaji Baug Zoo; 9. National Park; 10. Thiruvananthapuram Zoo; 11. Manipur Zoo; 12. Gunindy Children's Corner; 13. V.O.C. Park Mini Zoo; 14. Sepahijala Zoo; 15. Children's Park Sirsi Division; 16. Mini Zoo A. M. Gudi Balvana; 17. Parassinikkadavu Snake Park; 18. Mahatma Gandhi Rastriya Udyan Zoo; 19. Amirdhi Zoo; 20. Kurumbapatti Zoo; 21. Bhagwan Birsa Biological Park; 22. Thrissur Zoo; 23. Lady Hydari Park; 24. Aizawl Zoo

Cat Leopard (*Felis bengalensis*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Sanjay Gandhi Biological Park; 5. Delhi Zoo; 6. Kamla Nehru Zoo; 7. Nandankanan Biological Park; 8. Alipore Zoo; 9. Itanagar Zoo; 10. Manipur Zoo; 11. Sepahijala Zoo; 12. Miao Mini Zoo; 13. Roing Mini Zoo; 14. Parassinikkadavu Snake Park; 15. Kohima Zoo; 16. Himalayan Zoo; 17. Malsi Deer Park; 18. Bhagwan Birsa Biological Park; 19. Bondla Zoo; 20. Lady Hydari Park

Chinkara - Indian *Gazelle (Gazella gazella bennetti)* 1. Delhi Zoo; 2. Kamla Nehru Zoo; 3. Sakkarbaug Zoo; 4. Mysore Zoo; 5. Nandankanan Biological Park; 6. Mahendra Chaudhury Zoo; 7. Kanpur Zoo; 8. Alipore Zoo; 9. Sayaji Baug Zoo; 10. Gandhi Zoo; 11. Jaipur Zoo; 12. Jodhpur Zoo; 13. S.I.Works Querry Pvt Limited; 14. Bhiwani Mini Zoo; 15. Tungabhadra Dam Mini Zoo; 16. Pal Wild Animal Orphanage; 17. Patiala Deer Park; 18. Panchwati Deer Park; 19. Sri Venkateswara Zoo; 20. Indroda Nature Park; 21. Kamla Nehru

Prani Sanghrahalay; 22. Aurangabad Municipal Zoo; 23. Udaipur Zoo; 24. Bikaner Zoo

Civet Common Palm - Cat Toddy (*Paradoxurus hermaphroditus*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Kamla Nehru Zoo; 5. Mysore Zoo; 6. Veermata Jijabai Bhosale Udyan & Zoo (East); 7. Nandankanan Biological Park; 8. Arignar Anna Zoo; 9. Kanpur Zoo; 10. Itanagar Zoo; 11. Jawaharlal Nehru Biological Park; 12. National Park; 13. Thiruvananthapuram Zoo; 14. Gandhi Zoo; 15. Manipur Zoo; 16. Jaipur Zoo; 17. Gunindy Children's Corner; 18. Miao Mini Zoo; 19. Rewalsar Wildlife Zoo; 20. Shimoga Children's Park Mini Zoo; 21. Kadri Hill Deer Children & Snake Park; 22. Kodanadu Mini Zoo; 23. Kodanadu Mini Zoo; 24. Parassinikkadavu Snake Park; 25. Amte's Animal Park & Orphanage Cum Rescue Home; 26. Punjab Mini Zoo; 27. Baguwa Pheasant Farm; 28. Haddo Mini Zoo; 29. Tata Steel Zoo; 30. Bondla Zoo; 31. Bellary Childrens Park-Cum-Zoo; 32. Thrissur Zoo; 33. Aurangabad Municipal Zoo; 34. Calcutta Snake Park

Civet Himalayan Palm / Masked (*Paguma larvata*) 1. Kamla Nehru Zoo; 2. Itanagar Zoo; 3. Manipur Zoo; 4. Sepahijala Zoo

Civet Indian Large (*Viverra zibetha*) 1. Assam State Zoo Cum Botanical Garden; 2. Delhi Zoo; Civet Indian Small (Viverricula indica); 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Mysore Zoo; 5. Nandankanan Biological Park; 6. Arignar Anna Zoo; 7. Thiruvananthapuram Zoo; 8. Manipur Zoo; 9. Jodhpur Zoo; 10. Gunindy Children's Corner; 11. V.O.C. Park Mini Zoo; 12. Sepahijala Zoo; 13. Gulbarga Mini Zoo cum Children Park; 14. Mahatma Gandhi Rastriya Udyan Zoo; 15. Amirdhi Zoo; 16. Shivganga Garden Mini Zoo; 17. Deer Park Dow Hill; 18. Thrissur Zoo; 19. Lady Hydari Park

Deer Barking - Muntjac (Kakar*) (Muntiacus muntjak*) 1. Nehru Zoo; 2. Assam State Zoo Cum Botanical Garden; 3. Delhi Zoo; 4. Kamla Nehru Zoo; 5. Sakkarbaug Zoo; 6. Mysore Zoo; 7. Nandankanan Biological Park; 8. Mahendra Chaudhury Zoo; 9. Arignar Anna Zoo; 10. Kanpur Zoo; 11. Prince Of Wales Zoos; 12. Alipore Zoo; 13. Itanagar Zoo; 14. Sayaji Baug Zoo; 15. National Park; 16. Thiruvananthapuram Zoo; 17. Maitri Baagh Zoo; 18. Manipur Zoo; 19. Sepahijala Zoo; 20. Miao Mini Zoo; 21. Roing Mini Zoo; 22. Dhauladhar Nature Park; 23. Rewalsar Wildlife Zoo; 24. Children's Park Sirsi Division; 25. Deer Park At Haliyal Town; 26. Kodanadu Mini Zoo; 27. Kanan Pandari; 28. Amte's Animal Park & Orphanage Cum Rescue Home; 29. Rani Bag Zoo; 30. Seminery Hills Deer Park; 31. Shri Ganjanan Vatika; 32. Kohima Zoo; 33. Papadahandi Deer Park; 34. Indira Gandhi Park Zoo & Deer Park; 35. Kapilash Zoo; 36. Palm Beach Zoo; 37. Patiala Deer Park; 38. Baguwa Pheasant Farm; 39. Himalayan Zoo; 40. Rustomji Deer Park; 41. Udhagai Deer Park; 42. Patichari Deer Park; 43. Moradabad Deer Park; 44. Almore Deer Park; 45. Malsi Deer Park; 46. Vinod Van Mini Zoo; 47. Jhargram Deer Park (Mini Zoo); 48. Bhagwan Birsa Biological Park; 49. Tata Steel Zoo; 50. Himalayan Nature Park; 51. Thrissur Zoo; 52. Peshwe Park Zoos; 53. Lady Hydari Park; 54. Aizawl Zoo

Deer Brow-Antlered - Sangai - Manipur (*Cervus eldi*) 1. Nehru Zoo; 2. Assam State Zoo Cum Botanical Garden; 3. Delhi Zoo; 4. Kamla Nehru Zoo; 5. Mysore Zoo; 6. Nandankanan Biological Park; 7. Mahendra Chaudhury Zoo; 8. Arignar Anna Zoo; 9. Kanpur Zoo; 10. Prince Of Wales Zoos; 11. Alipore Zoo; 12. Thiruvananthapuram Zoo; 13. Maitri Baagh Zoo; 14. Manipur Zoo

Deer Hog *(Axis porcinus)* 1. Nehru Zoo; 2. Assam State Zoo Cum Botanical Garden; 3. Sanjay Gandhi Biological Park; 4. Delhi Zoo; 5. Kamla Nehru Zoo; 6. Sakkarbaug Zoo; 7. Mysore Zoo; 8. Veermata Jijabai Bhosale Udyan & Zoo (East); 9. Nandankanan Biological Park; 10. Mahendra Chaudhury Zoo; 11. Arignar Anna Zoo; 12. Kanpur Zoo; 13. Prince Of Wales Zoos; 14. Alipore Zoo; 15. Itanagar Zoo; 16. Sayaji Baug Zoo; 17. Thiruvananthapuram Zoo; 18. Gandhi Zoo; 19. Jaipur Zoo; 20. Sepahijala Zoo; 21. Deer Park; 22. Pipli Mini Zoo; 23. Dhauladhar Nature Park; 24. Rewalsar Wildlife Zoo; 25. Patiala Deer Park; 26. Almore Deer Park; 27. Indira Manoranjan Van (Deer Park); 28. Malsi Deer Park; 29. Nawabganj Deer Park; 30. Van Prani Udyan I.V.R.I.; 31. Haddo Zoo; 32. Bhagwan Birsa Biological Park; 33. Tata Steel Zoo; 34. Surat Nature Park; 35. Thrissur Zoo; 36. Kamla Nehru Prani Sanghrahalay

Deer Mouse (*Tragulus meminna*) 1. Nehru Zoo; 2. Kamla Nehru Zoo; 3. Nandankanan Biological Park; 4. Sepahijala Zoo;

Deer Musk - Kasturi Mrig (*Moschus moschiferus*) 1. Himachal Pradesh Pheasantry & Aviary & Musk Deer Form; 2. Musk Deer Breeding Centre; 3. Himalayan Nature Park

Deer Sambar (*Cervus unicolor)* 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Sanjay Gandhi Biological Park; 5. Delhi Zoo; 6. Kamla Nehru Zoo; 7. Sakkarbaug Zoo; 8. Mysore Zoo; 9. Veermata Jijabai Bhosale Udyan & Zoo (East); 10. Nandankanan Biological Park; 11. Mahendra Chaudhury Zoo; 12. Arignar Anna Zoo; 13. Kanpur Zoo; 14. Prince Of Wales Zoos; 15. Alipore Zoo; 16. Itanagar Zoo; 17. Jawaharlal Nehru Biological Park; 18. Sayaji Baug Zoo; 19. National Park; 20. Thiruvananthapuram Zoo; 21. Gandhi Zoo; 22. Maitri Baagh Zoo; 23. Van Vihar National Park; 24. Manipur Zoo; 25. Jaipur Zoo; 26. Guindy Children's Corner; 27. V.O.C. Park Mini Zoo; 28. Sepahijala Zoo; 29. Tirumala Hills Deer Park; 30. Himabindu Deer Park (Pullaiah Deer Park); 31. Miao Mini Zoo; 32. Birsa Mrig Vihar; 33. Dadra & Nagar Haveli Deer Park; 34. Daman Deer Park & Diu; 35. Diu Deer Park & Diu; 36. Chandra Mandir Deer Park; 37. Hissar Deer Park; 38. Panipat Deer Park; 39. Bhiwani Mini Zoo; 40. Dhauladhar Nature Park; 41. Rewalsar Wildlife Zoo; 42. Shimoga Children's Park Mini Zoo; 43. Children's Park Sirsi Division; 44. Kadri Hill Deer Children & Snake Park; 45. Indira Priyadarshini Sangrahalaya; 46. Kempambudi Deer Park; 47. Kittur Rani Cannamma Nisarg Dhama; 48. Kudremukh Mini Zoo; 49. Chickmaglur Mini Deer Park; 50. Mandya Mini Zoo At Induval Nature Park (Prakruti Vana); 51. Tungabhadra Dam Mini Zoo; 52. Hill Palace Zoo; 53. Kodanadu Mini Zoo; 54. Nandan Van; 55. Maharaja Shahaji Chhatrapati Zoo; 56. Pal Wild Animal Orphanage; 57. Rambagh Cheetal Park; 58. Seminery Hills Deer Park; 59. Kohima Zoo; 60. Indira Gandhi Park Zoo & Deer Park; 61. Kapilash Zoo; 62. Palm Beach Zoo; 63. Taptapani Deer Park; 64. Patiala Deer Park; 65. Bir Talab Deer Park; 66. Bansar Bagh Mini Zoo; 67. Punjab Mini Zoo; 68. Deer Park; 69. Gangaikondan Deer Park; 70. Aranaya Bhawan; 71. Cheetal Park; 72. Deer Park; 73. Almore Deer Park; 74. Malsi Deer Park; 75. Sri Venkateswara Zoo; 76. Bhagwan Birsa Biological Park; 77. Tata Steel Zoo; 78. Bondla Zoo; 79. Surat Nature Park; 80. Himalayan Nature Park; 81. Thrissur Zoo; 82. Kamla Nehru Prani Sanghrahalay; 83. Aurangabad Municipal Zoo; 84. Peshwe Park Zoos; 85. Lady Hydari Park; 86. Aizawl Zoo; 87. Udaipur Zoo; 88. Bikaner Zoo

Deer Spotted - (Chital) (*Axis axis*) 1. Indira Gandhi Zoo; 3. Assam Zoo; 4. Sanjay Gandhi Biological Park; 5. Delhi Zoo; 6. Kamla Nehru Zoo; 7. Sakkarbaug Zoo; 8. Mysore Zoo; 9. Veermata Jijabai Bhosale Udyan & Zoo (East); 10. Nandankanan Biological Park; 11. Mahendra Chaudhury Zoo; 12. Arignar Anna Zoo; 13. Kanpur Zoo; 14. Prince Of Wales Zoos; 15. Alipore Zoo; 6. Jawaharlal Nehru Biological Park; 17. Sayaji Baug Zoo; 18. Bannerghatta National Park; 19. Thiruvananthapuram Zoo; 20. Gandhi Zoo; 21. Maitri Baagh Zoo; 22. Van Vihar National Park; 23. Manipur Zoo; 24. Jaipur Zoo; 25. Jodhpur Zoo; 26. Gunindy Children's Corner; 27. V.O.C. Park Mini Zoo; 28. Sepahijala Zoo; 29. Alisagar Deer Park; 30. Chitoor Deer Park; 31. Kesoram Cement Deer Park; 32. Rajahmundry Deer Park; 33. Kakinada Deer Park; 34. Tirumala Hills Deer Park; 35. Himabindu Deer Park (Pullaiah Deer Park); 36. Jawahar Lake Tourist Complex; 37. Kinnerasari Deer Park; 38. Mrugaya-Ni Chilkur Deer Park; 39.

Pillalamarri Deer Park; 40. Birsa Mrig Vihar; 41. Chacha Nehru Island; 42. Chandrapura Deer Park; 43. Maithon Dam Deer Park; 44. Jaiprakash Park; 45. Satsang Zoo For Children Education; 46. Dadra & Nagar Haveli Deer Park; 47. Hauz Khas Deer Park; 48. Baroda Fertilizer Nagar Deer Park; 49. S.I.Works Querry Pvt Limited; 50. Hissar Deer Park; 51. Bhiwani Mini Zoo; 52. Pipli Mini Zoo; 53. Madhuban Mini Zoo H.A.P; 54. Rewalsar Wildlife Zoo; 55. Antharagange Children Park; 56. Shimoga Children's Park Mini Zoo; 57. Children's Park Sirsi Division; 58. Dharwad Childrens Mini Zoo; 59. Kadri Hill Deer Children & Snake Park; 60. Deer Park At Haliyal Town; 61. Indira Priyadarshini Sangrahalaya; 62. Kaiwara Tapowana Chintamani Talluk; 63. Kempambudi Deer Park; 64. Kempegowda Vanadhana; 65. Kittur Rani Cannamma Nisarg Dhama; 66. Kudremukh Mini Zoo; 67. Lalbagh Deer Park; 68. Chickmaglur Mini Deer Park; 69. Chitradurga Mini Zoo A. M. Gudi Balvana; 70. Mandya Mini Zoo At Induval Nature Park (Prakruti Vana); 71. Chitradurga Mini Zoo At Kondajji Deer Park; 72. Mini Zoo At Minakanagurkai; 73. Gulbarga Mini Zoo cum Children Park; 74. Namadachilume Deer Park; 75. Sorakayalahalli Children & Deer Park; 76. Shimoga Tiger & Lion Safari; 77. Tungabhadra Dam Mini Zoo; 78. Hill Palace Zoo; 79. Kodanadu Mini Zoo; 80. Dewas Deer Park Tata Export Ltd; 81. Indira Udyan; 82. Kanan Pandari; 83. Nandan Van; 84. S.F.R.I. Zoo; 85. Amte's Animal Park & Orphanage Cum Rescue Home; 86. Maharaja Shahaji Chhatrapati Zoo; 87. Mahatma Gandhi Rastriya Udyan Zoo; 88. Pal Wild Animal Orphanage; 89. Rambagh Cheetal Park; 90. Rani Bag Zoo; 91. Seminery Hills Deer Park; 92. Somnath Prakalpa Zoo; 93. Vasant Smruti Mrig Vihar; 94. Vivekanand Vidya Mandir Zoo; 95. Chilka Deer Park; 96. Berhampur Deer Park; 97. Papadahandi Deer Park; 98. Gandhamardan Deer Park; 99. Tikarapara Gharial Research & Conservation Unit; 100. H.A.L. Deer Park; 101. Indira Gandhi Park Zoo & Deer Park; 102. Kapilash Zoo; 103. Kuanria Deer Park Nayagarh Forest Division; 104. Motijharan Deer Park; 105. Cuttack Municipality Deer Park; 106. Palm Beach Zoo; 107. Taptapani Deer Park; 108. Patiala Deer Park; 109. Bir Talab Deer Park; 110. Neelon Deer Park; 111. Bansar Bagh Mini Zoo; 112. Punjab Mini Zoo; 113. Udaipur Deer Park; 114. Udaipur Safari Park-Ki-Magri; 115. Rustomji Deer Park; 116. Amirdhi Zoo; 117. Udhagai Deer Park; 118. Gangaikondan Deer Park; 119. Kurumbapatti Zoo; 120. Courtallam Mini Zoo; 121. Montfort School Mini Zoo; 122. Shivganga Garden Mini Zoo; 123. Patichari Deer Park; 124. Aranaya Bhawan; 125. Khatoli Cheetal Park; 126. Moradabad Deer Park; 127. Uttar Pradesh Air Force Deer Park; 128. Deer Park.; 129. Almore Deer Park; 130. Indira Manoranjan Van (Deer Park); 131. Malsi Deer Park; 132. Nawabganj Deer Park; 133. Rampur Mandi Deer Park & Aviary; 134. Van Prani Udyan I.V.R.I.; 135. Vinod Van Mini Zoo; 136. Bellilius Park; 137. Jhargram Deer Park; 138. Kurseong Deer Park; 139. Kumari Kangsabuti Deer Park; 140. Haddo Mini Zoo; 141. Mahavir Harina Vanasthali Deer Park; 142. Sri Venkateswara Zoo; 143. Bhagwan Birsa Biological Park; 144. Tata Steel Zoo; 145. Bondla Zoo; 146. Indroda Nature Park; 147. Surat Nature Park; 148. Rajkot Municipal Corporation Zoo; 149. Rohtak Zoo; 150. Bellary Childrens Park-Cum-Zoo; 151. Thrissur Zoo; 152. Kamla Nehru Prani Sanghrahalay; 153. Aurangabad Municipal Zoo; 154. Maharajbag Zoo; 155. Peshwe Park Zoos; 156. Lady Hydari Park; 157. Kota Zoo; 158. Udaipur Zoo; 159. Bikaner Zoo; 160. Calcutta Snake Park; 161. Padmaja Naidu Himalayan Zoo

Deer Swamp (Barasingha) (*Cervus duvauceli*) 1. Nehru Zoo; 2. Delhi Zoo; 3. Mysore Zoo; 4. Mahendra Chaudhury Zoo; 5. Kanpur Zoo; 6. Prince Of Wales Zoos; 7. Indira Manoranjan Van (Deer Park); 8. Van Prani Udyan I.V.R.I.

Dog Wild (Dhole) (*Cuon alpinus*) 1. Indira Gandhi Zoo; 2. Arignar Anna Zoo; 3. Itanagar Zoo; 4. Sri Venkateswara Zoo;

Elephant Indian (*Elephas maximus*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam Zoo; 4. Sanjay Gandhi Biological Park; 5. Delhi Zoo; 6. Kamla Nehru Zoo; 7. Mysore Zoo; 8. Veermata Jijabai Bhosale Udyan & Zoo (East); 9. Nandankanan Biological Park; 10. Mahendra Chaudhury Zoo; 11. Arignar Anna Zoo; 12. Prince Of Wales Zoos; 13. Alipore Zoo; 14. Itanagar Zoo; 15. Bannerghatta National Park; 16. Thiruvananthapuram Zoo; 17. Gandhi Zoo; 18. Guindy Children's Corner; 19. Sepahijala Zoo; 20. Khanvel Deer Park & Nagar Haveli; 21. Silvassa & Nagar Haveli Mini Zoo; 22. Shri Ganjanan Vatika; 23. Sri Venkateswara Zoo; 24. Bondla Zoo; 25. Kamla Nehru Prani Sanghrahalay; 26. Peshwe Park Zoos; ; Fox Common (Vulpes bengalensis); 1. Nehru Zoo; 2. Sanjay Gandhi Biological Park; 3. Sakkarbaug Zoo; 4. Nandankanan Biological Park; 5. Kanpur Zoo; 6. Itanagar Zoo; 7. Jawaharlal Nehru Biological Park; 8. Sayaji Baug Zoo; 9. Thiruvananthapuram Zoo; 10. Guindy Children's Corner; 11. Khanvel Deer Park & Nagar Haveli; 12. Kadri Hill Deer Children & Snake Park; 13. Mahatma Gandhi Rastriya Udyan Zoo; 14. Kurumbapatti Zoo; 15. Shivganga Garden Mini Zoo; 16. Kurseong Deer Park; 17. Rajkot Municipal Corporation Zoo; 18. Kamla Nehru Prani Sanghrahalay; 19. Bikaner Zoo

Fox Flying (*Pteropus giganteus*) 1. Nehru Zoo; 2. Kamla Nehru Zoo; ; Gaur - Indian Bison (Bos gaurus); 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Mysore Zoo; 4. Thiruvananthapuram Zoo; 5. Bondla Zoo

Gibbon Hoolock (*Hylobates hoolock*) 1. Assam State Zoo Cum Botanical Garden; 2. Sanjay Gandhi Biological Park; 3. Delhi Zoo; 4. Prince Of Wales Zoos; 5. Manipur Zoo; 6. Sepahijala Zoo; 7. Roing Mini Zoo; 8. Sanjay Gandhi National Park (East)

Goat Wild (*Capra hircus*) 1. Nandankanan Biological Park; 2. Bannerghatta National Park; 3. Jodhpur Zoo; 4. Himalayan Nature Park; 5. Thrissur Zoo; 6. Udaipur Zoo; 7. Bikaner Zoo

Goral (*Nemorhaedus goral*) 1. Delhi Zoo; 2. Kanpur Zoo; 3. Dhauladhar Nature Park; 4. Rewalsar Wildlife Zoo; 5. Almore Deer Park; 6. Himalayan Nature Park; 7. Thrissur Zoo

Hare (*Lepus nigricollis*)1. Sanjay Gandhi Biological Park; 2. Satsang Zoo For Children Education; 3. Kanan Pandari; 4. Kohima Zoo; 5. Almore Deer Park; 6. Lady Hydari Park; 7. Udaipur Zoo; ; Hedge Hog (Hemiechinus auritus); 1. Kamla Nehru Zoo; 2. Jodhpur Zoo

Hyaena Stripped (*Hyaena hyaena*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Sanjay Gandhi Biological Park; 5. Delhi Zoo; 6. Kamla Nehru Zoo; 7. Sakkarbaug Zoo; 8. Mysore Zoo; 9. Veermata Jijabai Bhosale Udyan & Zoo (East); 10. Nandankanan Biological Park; 11. Mahendra Chaudhury Zoo; 12. Arignar Anna Zoo; 13. Kanpur Zoo; 14. Prince Of Wales Zoos; 15. Alipore Zoo; 16. Jawaharlal Nehru Biological Park; 17. Sayaji Baug Zoo; 18. National Park; 19. Thiruvananthapuram Zoo; 20. Gandhi Zoo; 21. Maitri Baagh Zoo; 22. Jaipur Zoo; 23. Jodhpur Zoo 2; 24. Gunindy Children's Corner; 25. V.O.C. Park Mini Zoo; 26. Sepahijala Zoo; 27. Khanvel Deer Park & Nagar Haveli; 28. Silvassa & Nagar Haveli Mini Zoo; 29. Shimoga Children's Park Mini Zoo; 30. Kadri Hill Deer Children & Snake Park; 31. Gulbarga Mini Zoo cum Children Park; 32. Amte's Animal Park & Orphanage Cum Rescue Home; 33. Mahatma Gandhi Rastriya Udyan Zoo; 34. Somnath Prakalpa Zoo; 35. Sri Venkateswara Zoo; 36. Bhagwan Birsa Biological Park; 37. Rajkot Municipal Corporation Zoo; 38. Bellary Childrens Park-Cum-Zoo; 39. Kamla Nehru Prani Sanghrahalay; 40. Aurangabad Municipal Zoo; 41. Maharajbag Zoo; 42. Peshwe Park Zoos; 43. Sanjay Gandhi National Park (East); 44. Kota Zoo; 45. Udaipur Zoo

Jackal (*Canis aureus*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Delhi Zoo; 4. Kamla Nehru Zoo; 5. Mysore Zoo; 6. Veermata Jijabai Bhosale Udyan & Zoo (East); 7. Nandankanan Biological Park; 8. Arignar Anna Zoo; 9. Kanpur Zoo; 10. Prince Of Wales Zoos; 11. Itanagar Zoo; 12. Jawaharlal Nehru Biological Park; 13. Sayaji Baug Zoo; 14. Bannerghatta National Park; 15. Thiruvananthapuram Zoo; 16. Gandhi Zoo; 17. Maitri Baagh Zoo; 18. Jaipur Zoo; 19. Guindy Children's

Corner; 20. V.O.C. Park Mini Zoo; 21. Sepahijala Zoo; 22. Silvassa & Nagar Haveli Mini Zoo; 23. Bhiwani Mini Zoo; 24. Shimoga Children's Park Mini Zoo; 25. Dharwad Childrens Mini Zoo; 26. Gulbarga Mini Zoo cum Children Park; 27. Kodanadu Mini Zoo; 28. Amte's Animal Park & Orphanage Cum Rescue Home; 29. Mahatma Gandhi Rastriya Udyan Zoo; 30. Amirdhi Zoo; 31. Sri Venkateswara Zoo; 32. Bhagwan Birsa Biological Park; 33. Bondla Zoo; 34. Surat Nature Park; 35. Rajkot Municipal Corporation Zoo; 36. Rohtak Zoo; 37. Bellary Childrens Park-Cum-Zoo; 38. Thrissur Zoo; 39. Kamla Nehru Prani Sanghrahalay; 40. Aurangabad Municipal Zoo; 41. Maharajbag Zoo; 42. Kota Zoo; 43. Udaipur Zoo; 44. Bikaner Zoo

Langur Capped *(Presbytis pileatus)* 1. Nehru Zoo; 2. Assam State Zoo Cum Botanical Garden; 3. Sanjay Gandhi Biological Park; 4. Kamla Nehru Zoo; 5. Mahendra Chaudhury Zoo; 6. Arignar Anna Zoo; 7. Kanpur Zoo; 8. Prince Of Wales Zoos; 9. Jawaharlal Nehru Biological Park; 10. Sayaji Baug Zoo; 11. Bannerghatta National Park; 12. Thiruvananthapuram Zoo; 13. Jaipur Zoo; 14. Sepahijala Zoo; 15. Kohima Zoo

Langur Common (*Presbytis entellus*) 1. Indira Gandhi Zoo; 2. Assam Zoo; 3. Sanjay Gandhi Biological Park; 4. Delhi Zoo; 5. Kamla Nehru Zoo; 6. Sakkarbaug Zoo; 7. Mysore Zoo; 8. Veermata Jijabai Bhosale Udyan & Zoo (East); 9. Nandankanan Biological Park; 10. Mahendra Chaudhury Zoo; 11. Arignar Anna Zoo; 12. Kanpur Zoo; 13. Prince Of Wales Zoos; 14. Alipore Zoo; 15. Jawaharlal Nehru Biological Park; 16. Thiruvananthapuram Zoo; 17. Gandhi Zoo; 18. Maitri Baagh Zoo; 19. Gunindy Children's Corner; 20. Abubshahar Mini Zoo; 21. Bhiwani Mini Zoo; 22. Pipli Mini Zoo; 23. Kanan Pandari; 24. Hutatma Bag Prani Sangrahalya; 25. Rani Bag Zoo; 26. Kohima Zoo; 27. Bir Talab Deer Park; 28. Bansar Bagh Mini Zoo; 29. Kurumbapatti Zoo; 30. Aranaya Bhawan; 31. Malsi Deer Park; 32. Jhargram Deer Park; 33. Tata Steel Zoo; 34. Rohtak Zoo; 35. Kamla Nehru Prani Sanghrahalay; 36. Padmaja Naidu Himalayan Zoo

Langur Golden (*Presbytis geei*) 1. Nehru Zoo; 2. Assam Zoo; 3. Sanjay Gandhi Biological Park; 4. Kanpur Zoo; 5. Jawaharlal Nehru Biological Park; 6. Bannerghatta National Park; 7. Sepahijala Zoo; 8. Roing Mini Zoo; 9. Kohima Zoo; 10. Sanjay Gandhi National Park (East)

Langur Nilgiri (*Presbytis johni*) 1. Nehru Zoo; 2. Mysore Zoo; 3. Nandankanan Biological Park; 4. Arignar Anna Zoo; 5. Kanpur Zoo; 6. Thiruvananthapuram Zoo; 7. V.O.C. Park Mini Zoo; 8. Kodanadu Mini Zoo; 9. Parassinikkadavu Snake Park

Leopard / Panther (*Panthera pardus*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam Zoo; 4. Sanjay Gandhi Biological Park; 5. Delhi Zoo; 6. Kamla Nehru Zoo; 7. Sakkarbaug Zoo; 8. Mysore Zoo; 9. Veermata Jijabai Bhosale Udyan & Zoo (East); 10. Nandankanan Biological Park; 11. Mahendra Chaudhury Zoo; 12. Arignar Anna Zoo; 13. Kanpur Zoo; 14. Prince Of Wales Zoos; 15. Alipore Zoo; 16. Jawaharlal Nehru Biological Park; 17. Sayaji Baug Zoo; 18. Bannerghatta National Park; 19. Thiruvananthapuram Zoo; 20. Gandhi Zoo; 21. Maitri Baagh Zoo; 22. Van Vihar National Park; 23. Manipur Zoo; 24. Jaipur Zoo; 25. Jodhpur Zoo; 26. Guindy Children's Corner; 27. Sepahijala Zoo; 28. Bhiwani Mini Zoo; 29. Dhauladhar Nature Park; 30. Dharwad Childrens Mini Zoo; 31. Shimoga Tiger & Lion Safari; 32. Kanan Pandari; 33. Nandan Van; 34. Amte's Animal Park & Orphanage Cum Rescue Home; 35. Seminery Hills Deer Park; 36. Somnath Prakalpa Zoo; 37. Vasant Smruti Mrig Vihar; 38. Kohima Zoo; 39. Amirdhi Zoo; 40. Almore Deer Park; 41. Sri Venkateswara Zoo; 42. Bhagwan Birsa Biological Park; 43. Tata Steel Zoo; 44. Bondla Zoo; 45. Rajkot Municipal Corporation Zoo; 46. Rohtak Zoo; 47. Himalayan Nature Park; 48. Bellary Childrens Park-Cum-Zoo; 49. Thrissur Zoo; 50. Kamla Nehru Prani Sanghrahalay; 51. Aurangabad Municipal Zoo; 52. Maharajbag Zoo; 53. Peshwe Park Zoos; 54. Sanjay Gandhi National Park (East); 55. Kota Zoo; 56. Udaipur Zoo; 57. Bikaner Zoo; 58. Padmaja Naidu Himalayan Zoo; 59. Nehru Zoo; 60. Mysore Zoo; 61.. Kanpur Zoo; 62. Prince Of Wales Zoos; 63. Thrissur Zoo; 64. Lady Hydari Park

Leopard Clouded (*Neofelis nebulosa*) 1. Assam Zoo; 2. Sanjay Gandhi Biological Park; 3. Itanagar Zoo; 4. Manipur Zoo; 5. Jaipur Zoo; 6. Sepahijala Zoo; 7. Lady Hydari Park

Leopard Snow (*Panthera uncia*) 1. Padmaja Naidu Himalayan Zoo; ; Lion Indian (Panthera leo persica); 1. Nehru Zoo; 2. Delhi Zoo; 3. Kamla Nehru Zoo; 4. Sakkarbaug Zoo; 5. Mysore Zoo; 6. Veermata Jijabai Bhosale Udyan & Zoo (East); 7. Mahendra Chaudhury Zoo; 8. Arignar Anna Zoo; 9. Kanpur Zoo; 10. Alipore Zoo; 11. Sayaji Baug Zoo; 12. Bannerghatta National Park; 13. Thiruvananthapuram Zoo; 14. Gandhi Zoo; 15. Van Vihar National Park; 16. Jaipur Zoo; 17. Sepahijala Zoo; 18. Shimoga Tiger & Lion Safari; 19. Rajkot Municipal Corporation Zoo; 20. Peshwe Park Zoos

Loris Slender (*Loris tardigradus*) 1. Nehru Zoo; 2. Mysore Zoo; 3. Arignar Anna Zoo

Loris Slow (*Nyeticebus coveang)* 1. Nehru Zoo; 2. Assam Zoo; 3. Sanjay Gandhi Biological Park; 4. Kamla Nehru Zoo; 5. Nandankanan Biological Park; 6. Alipore Zoo; 7. Itanagar Zoo; 8. Manipur Zoo; 9. Miao Mini Zoo; 10. Lady Hydari Park; 11. Aizawl Zoo

Lynx (*Felis lynx isabellinus)* 1. Kurumbapatti Zoo

Macaque Assamese (*Macaca Assamensis*) 1. Assam State Zoo Cum Botanical Garden; 2. Sanjay Gandhi Biological Park; 3. Delhi Zoo; 4. Nandankanan Biological Park; 5. Mahendra Chaudhury Zoo; 6. Alipore Zoo; 7. Itanagar Zoo; 8. National Park; 9. Maitri Baagh Zoo; 10. Jaipur Zoo; 11. V.O.C. Park Mini Zoo; 12. Sepahijala Zoo; 13. Miao Mini Zoo; 14. Roing Mini Zoo; 15. Hutatma Bag Prani Sangrahalya; 16. Mahatma Gandhi Rastriya Udyan Zoo; 17. Rustomji Deer Park

Macaque Bonnet (*Macaca radiata*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Delhi Zoo; 5. Kamla Nehru Zoo; 6. Sakkarbaug Zoo; 7. Mysore Zoo; 8. Nandankanan Biological Park; 9. Mahendra Chaudhury Zoo; 10. Arignar Anna Zoo; 11. Kanpur Zoo; 12. Prince Of Wales Zoos; 13. Alipore Zoo; 14. Jawaharlal Nehru Biological Park; 15. Sayaji Baug Zoo; 16. Thiruvananthapuram Zoo; 17. Gandhi Zoo; 18. Maitri Baagh Zoo; 19. Manipur Zoo; 20. Jaipur Zoo; 21. Jodhpur Zoo; 22. Gunindy Children's Corner; 23. V.O.C. Park Mini Zoo; 24. Abubshahar Mini Zoo; 25. Bhiwani Mini Zoo; 26. Jind Mini Zoo; 27. Pipli Mini Zoo; 28. Dharwad Childrens Mini Zoo; 29. Gulbarga Mini Zoo cum Children Park; 30. Kodanadu Mini Zoo; 31. Parassinikkadavu Snake Park; 32. Mahatma Gandhi Rastriya Udyan Zoo; 33. Shri Ganjanan Vatika; 34. Malsi Deer Park; 35. Sri Venkateswara Zoo; 36. Tata Steel Zoo; 37. Bondla Zoo; 38. Surat Nature Park; 39. Rohtak Zoo; 40. Bellary Childrens Park-Cum-Zoo; 41. Kamla Nehru Prani Sanghrahalay; 42. Maharajbag Zoo; 43. Peshwe Park Zoos; 44. Bikaner Zoo; ; Macaque Crab-Eating / Long Tailed (Macaca irus umbrosa); 1. Haddo Mini Zoo

Macaque Lion-Tailed (*Macaca silenus*) 1. Nehru Zoo; 2. Assam State Zoo Cum Botanical Garden; 3. Sanjay Gandhi Biological Park; 4. Delhi Zoo; 5. Mysore Zoo; 6. Nandankanan Biological Park; 7. Mahendra Chaudhury Zoo; 8. Arignar Anna Zoo; 9. Kanpur Zoo; 10. Alipore Zoo; 11. National Park; 12. Thiruvananthapuram Zoo; 13. Maitri Baagh Zoo; 14. Jaipur Zoo; 15. Sepahijala Zoo; 16. Dharwad Childrens Mini Zoo; 17. Kodanadu Mini Zoo; 18. Parassinikkadavu Snake Park; 19. Indira Gandhi Park Zoo & Deer Park; 20. Bellary Childrens Park-Cum-Zoo; 21. Thrissur Zoo; 22. Peshwe Park Zoos

Macaque Pig Tailed (*Macaca nemestrina)* 1. Assam State Zoo Cum Botanical Garden; 2. Kamla Nehru Zoo; 3. Mahendra Chaudhury Zoo; 4. Kanpur Zoo; 5. Prince Of Wales Zoos; 6. Alipore Zoo; 7. Thiruvananthapuram Zoo; 8. V.O.C. Park Mini Zoo; 9. Sepahijala Zoo

Macaque Rhesus (*Macaca mulatta*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Sanjay Gandhi Biological Park; 5. Delhi Zoo; 6. Kamla Nehru Zoo; 7. Sakkarbaug Zoo; 8. Mysore Zoo; 9. Veermata Jijabai Bhosale Udyan & Zoo (East); 10. Nandankanan Biological Park; 11. Mahendra Chaudhury Zoo; 12. Arignar Anna Zoo; 13. Kanpur Zoo; 14. Prince Of Wales Zoos; 15. Alipore Zoo; 16. Itanagar Zoo; 17. Jawaharlal Nehru Biological Park; 18. Sayaji Baug Zoo; 19. Bannerghatta National Park; 20. Thiruvananthapuram Zoo; 21. Gandhi Zoo; 22. Maitri Baagh Zoo; 23. Manipur Zoo; 24. Jodhpur Zoo; 25. Guindy Children's Corner; 26. V.O.C. Park Mini Zoo; 27. Pillalamarri Deer Park; 28. Satsang Zoo For Children Education; 29. Khanvel Deer Park & Nagar Haveli; 30. Silvassa & Nagar Haveli Mini Zoo; 31. Fertilizer Nagar Deer Park; 32. Jamnagar Nature Education Centre; 33. Sundervan Nature Discovery Centre; 34. Pipli Mini Zoo; 35. Shimoga Children's Park Mini Zoo; 36. Kadri Hill Deer Children & Snake Park; 37. Kudremukh Mini Zoo; 38. Nandan Van; 39. Amte's Animal Park & Orphanage Cum Rescue Home; 40. Hutatma Bag Prani Sangrahalya; 41. Mahatma Gandhi Rastriya Udyan Zoo; 42. Pal Wild Animal Orphanage; 43. Shri Ganjanan Vatika; 44. Somnath Prakalpa Zoo; 45. Vivekanand Vidya Mandir Zoo; 46. Indira Gandhi Park Zoo & Deer Park; 47. Motijharan Deer Park; 48. Regional Science Centre; 49. Bir Talab Deer Park; 50. Punjab Mini Zoo; 51. Baguwa Pheasant Farm; 52. Amirdhi Zoo; 53. Kurumbapatti Zoo; 54. Montfort School Mini Zoo; 55. Almore Deer Park; 56. Jhargram Deer Park; 57. Kurseong Deer Park; 58. Haddo Zoo; 59. Sri Venkateswara Zoo; 60. Bhagwan Birsa Biological Park; 61. Tata Steel Zoo; 62. Indroda Nature Park; 63. Surat Nature Park; 64. Rohtak Zoo; 65. Bellary Childrens Park-Cum-Zoo; 66. Thrissur Zoo; 67. Kamla Nehru Prani Sanghrahalay; 68. Aurangabad Municipal Zoo; 69. Maharajbag Zoo; 70. Sanjay Gandhi National Park (East); 71. Lady Hydari Park; 72. Aizawl Zoo; 73. Kota Zoo; 74. Udaipur Zoo; 75. Bikaner Zoo; 76. Calcutta Snake Park

Macaque Stump Tailed (*Macaca speciosa*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Sanjay Gandhi Biological Park; 5. Kamla Nehru Zoo; 6. Mysore Zoo; 7. Kanpur Zoo; 8. Prince Of Wales Zoos; 9. Itanagar Zoo; 10. Jawaharlal Nehru Biological Park; 11. Manipur Zoo; 12. Miao Mini Zoo; 13. Sri Venkateswara Zoo; 14. Sanjay Gandhi National Park (East);

Marten Yellow Throated (*Martes flavigula*) 1. Manipur Zoo

Mongoose Common (*Herpestes edwardsi*) 1. Nandankanan Biological Park; 2. Alipore Zoo; 3. Maitri Baagh Zoo; 4. Gunindy Children's Corner; 5. V.O.C. Park Mini Zoo; 6. Kodanadu Mini Zoo; 7. Safari Park-Ki-Magri; 8. Bondla Zoo; 9. Udaipur Zoo

Mongoose Crabeating (*Herpestes urva)* 1. Assam State Zoo Cum Botanical Garden

Nilgai - Blue Bull (*Boselaphus tragocamelus)* 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Sanjay Gandhi Biological Park; 5. Delhi Zoo; 6. Kamla Nehru Zoo; 7. Sakkarbaug Zoo; 8. Mysore Zoo; 9. Veermata Jijabai Bhosale Udyan & Zoo (East); 10. Nandankanan Biological Park; 11. Mahendra Chaudhury Zoo; 12. Arignar Anna Zoo; 13. Kanpur Zoo; 14. Prince Of Wales Zoos; 15. Alipore Zoo; 16. Itanagar Zoo; 17. Jawaharlal Nehru Biological Park; 18. Sayaji Baug Zoo; 19. Bannerghatta National Park; 0. Thiruvananthapuram Zoo; 21. Gandhi Zoo; 22. Maitri Baagh Zoo; 23. Van Vihar National Park; 24. Manipur Zoo; 25. Jaipur Zoo; 26. Jodhpur Zoo; 27. Sepahijala Zoo; 28. Dadra & Nagar Haveli Deer Park; 29. Chandra Mandir Deer Park; 30. Hissar Deer Park; 31. Kittur Rani Cannamma Nisarg Dhama; 32. Tungabhadra Dam Mini Zoo; 33. Pal Wild Animal Orphanage; 34. Rambagh Cheetal Park; 35. Seminery Hills Deer Park; 36. Shri Ganjanan Vatika; 37. Somnath Prakalpa Zoo; 38. Vivekanand Vidya Mandir Zoo; 39. Motijharan Deer Park; 40. Patiala Deer Park; 41. Bansar Bagh Mini Zoo; 42. Udaipur Deer Park; 43. Nawabganj Deer Park; 44. Vinod Van Mini Zoo; 45. Sri Venkateswara Zoo; 46. Bhagwan Birsa Biological Park; 47. Tata Steel Zoo; 48. Indroda Nature Park; 49. Surat Nature Park; 50. Rajkot Municipal Corporation Zoo; 51. Thrissur Zoo; 52. Kamla Nehru Prani Sanghrahalay; 53. Aurangabad Municipal Zoo; 54. Maharajbag Zoo; 55. Peshwe Park Zoos; 56. Kota Zoo; 57. Udaipur Zoo

Otter Common (*Lutra lutra*) 1. Nehru Zoo; 2. Assam State Zoo Cum Botanical Garden; 3. Sanjay Gandhi Biological Park; 4. Delhi Zoo; 5. Kamla Nehru Zoo; 6. Mysore Zoo; 7. Arignar Anna Zoo; 8. Kanpur Zoo; 9. Sayaji Baug Zoo; 10. Gunindy Children's Corner; 11. Punjab Mini Zoo; 12. Deer Park; 13. Thrissur Zoo

Otter Smooth Indian (*Lutra perspicillata*) 1. Nandankanan Biological Park; 2. Jaipur Zoo; 3. Kukrail Deer Park & Gharial Rehabilitation Centr

Panda Red / Lesser (*Ailurus fulgens*) 1. Sundervan Nature Discovery Centre; 2. Padmaja Naidu Himalayan Zoo

Pangolin (*Manis crassicaudata*) 1. Assam State Zoo Cum Botanical Garden; 2. Mysore Zoo; 3. Nandankanan Biological Park; 4. Alipore Zoo; 5. Sepahijala Zoo; 6. Bellary Childrens Park-Cum-Zoo

Pig Wild - Wild Boar (*Sus scrofa)* 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Delhi Zoo; 4. Kamla Nehru Zoo; 5. Mysore Zoo; 6. Veermata Jijabai Bhosale Udyan & Zoo (East); 7. Nandankanan Biological Park; 8. Mahendra Chaudhury Zoo; 9. Arignar Anna Zoo; 10. Thiruvananthapuram Zoo; 11. Maitri Baagh Zoo; 12. Van Vihar National Park; 13. Jaipur Zoo; 14. Jodhpur Zoo; 15. Amte's Animal Park & Orphanage Cum Rescue Home; 16. Motijharan Deer Park; 17. Safari Park-Ki-Magri; 18. Haddo Mini Zoo; 19. Tata Steel Zoo; 20. Bondla Zoo; 21. Thrissur Zoo; 22. Kota Zoo; 23. Udaipur Zoo

Porcupine (*Hystrix indica*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam Zoo; 4. Sanjay Gandhi Biological Park; 5. Delhi Zoo; 6. Kamla Nehru Zoo; 7. Sakkarbaug Zoo; 8. Mysore Zoo; 9. Veermata Jijabai Bhosale Udyan & Zoo (East); 10. Nandankanan Biological Park; 11. Arignar Anna Zoo; 12. Kanpur Zoo; 13. Prince Of Wales Zoos; 14. Alipore Zoo; 15. Jawaharlal Nehru Biological Park; 16. National Park; 17. Thiruvananthapuram Zoo; 18. Manipur Zoo; 19. Jaipur Zoo; 20. Jodhpur Zoo; 21. Guindy Children's Corner; 22. V.O.C. Park Mini Zoo; 23. Sepahijala Zoo; 24. Miao Mini Zoo; 25. Satsang Zoo For Children Education; 26. Khanvel Deer Park & Nagar Haveli; 27. Silvassa & Nagar Haveli Mini Zoo; 28. Fertilizer Nagar Deer Park; 29. Sundervan Nature Discovery Centre; 30. Rewalsar Wildlife Zoo; 31. Shimoga Children's Park Mini Zoo; 32. Children's Park Sirsi Division; 33. Kadri Hill Deer Children & Snake Park; 34. Kodanadu Mini Zoo; 35. Parassinikkadavu Snake Park; 36. Amte's Animal Park & Orphanage Cum Rescue Home; 37. Mahatma Gandhi Rastriya Udyan Zoo; 38. Kohima Zoo; 39. Indira Gandhi Park Zoo & Deer Park; 40. Patiala Deer Park; 41. Amirdhi Zoo; 42. Tata Steel Zoo; 43. Bondla Zoo; 44. Indroda Nature Park; 45. Surat Nature Park; 46. Rajkot Municipal Corporation Zoo; 47. Thrissur Zoo; 48. Kamla Nehru Prani Sanghrahalay; 49. Peshwe Park Zoos; 50. Aizawl Zoo; 51. Kota Zoo; 52. Udaipur Zoo; 53. Bikaner Zoo; 54. Veermata Jijabai Bhosale Udyan & Zoo (East)

Porcupine Brush Tailed (*Atherurus macrourus*) 1. Kamla Nehru Zoo; 2. Sayaji Baug Zoo

Ratel (*Mellivora capensis*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Sanjay Gandhi Biological Park; 4. Kamla Nehru Zoo; 5. Sakkarbaug Zoo; 6. Mysore Zoo; 7. Nandankanan Biological Park; 8. Itanagar Zoo; 9. Amte's Animal Park & Orphanage Cum Rescue Home; 10. Malsi Deer Park; 11. Udaipur Zoo

Rhinoceros Indian One Horned (*Rhinoceros unicornis*) 1. Nehru Zoo; 2. Assam State Zoo Cum Botanical Garden; 3. Sanjay Gandhi Biological Park; 4. Delhi Zoo; 5. Mysore Zoo; 6. Veermata Jijabai Bhosale Udyan & Zoo (East); 7.

Nandankanan Biological Park; 8. Mahendra Chaudhury Zoo; 9. Kanpur Zoo; 10. Prince Of Wales Zoos; 11. Alipore Zoo; 12. Sepahijala Zoo

Serow (*Capricornis sumataensis*) 1. Assam Zoo

Sheep Blue - Bharal (*Pseudois nayaur*) 1. Himachal Pradesh Pheasantry & Aviary & Musk Deer Form

Squirrel Albino Five *Stripped (Funambulus pennanti*) 1. Kamla Nehru Zoo

Squirrel Giant Flying Common (*Petaurista petaurista*) 1. Assam State Zoo Cum Botanical Garden; 2. Manipur Zoo

Squirrel Giant Grizzled (*Ratufa macroura*) 1. Indira Gandhi Zoo; 2. Delhi Zoo; 3. Arignar Anna Zoo; 4. S.I.Works Querry Pvt Limited; 5. Dharwad Childrens Mini Zoo; 6. Motijharan Deer Park

Squirrel Giant Malabar / Indian (*Rutufa indica*) 1. Nehru Zoo; 2. Arignar Anna Zoo; 3. Alipore Zoo; 4. Sayaji Baug Zoo; 5. Thiruvananthapuram Zoo; 6. Sepahijala Zoo; 7. Snake Park & Aviary

Squirrel Malayan (*Ratufa bicolor*) 1. Assam Zoo; 2. Arignar Anna Zoo; 3. Bannerghatta National Park; 4. Sepahijala Zoo

Stag Kashmiri - Hangul (*Cervus elaphus hanglu*) 1. Himalayan Nature Park

Takin - Mishmi Takin (*Budorcas taxicolor*) 1. Roing Mini Zoo

Thar Himalayan (*Hemitragus jemlahicus*) 1. Kohima Zoo; 2. Himalayan Nature Park

Thar Nilgiri (*Hemitragus hylocrius*) 1. Thiruvananthapuram Zoo

Tiger Bengal (*Panthera tigris tigris*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Assam State Zoo Cum Botanical Garden; 4. Sanjay Gandhi Biological Park; 5. Kamla Nehru Zoo; 6. Sakkarbaug Zoo; 7. Nandankanan Biological Park; 8. Mahendra Chaudhury Zoo; 9. Arignar Anna Zoo; 10. Kanpur Zoo; 11. Alipore Zoo; 12. Itanagar Zoo; 13. Jawaharlal Nehru Biological Park; 14. Sayaji Baug Zoo; 15. Bannerghatta National Park; 16. Gandhi Zoo; 17. Maitri Baagh Zoo; 18. Sepahijala Zoo; 19. Shimoga Tiger & Lion Safari; 20. Kohima Zoo; 21. Ludhiana Tiger Safari; 22. Bhagwan Birsa Biological Park; 23. Tata Steel Zoo; 24. Rajkot Municipal Corporation Zoo; 25. Thrissur Zoo; 26. Kamla Nehru Prani Sanghrahalay; 27. Maharajbag Zoo; 28. Peshwe Park Zoos; 29. Kota Zoo; 30. Udaipur Zoo; 31. Bikaner Zoo

Tiger Bengal White (*Panthera tigris tigris*) 1. Nehru Zoo; 2. Assam State Zoo Cum Botanical Garden; 3. Delhi Zoo; 4. Kamla Nehru Zoo; 5. Mysore Zoo; 6. Nandankanan Biological Park; 7. Alipore Zoo; 8. Maitri Baagh Zoo; 9. Van Vihar National Park; 10. Jaipur Zoo; 11. Peshwe Park Zoo

Wolf Indian (*Canis lupus pallipes*) 1. Indira Gandhi Zoo; 2. Nehru Zoo; 3. Delhi Zoo; 4. Kamla Nehru Zoo; 5. Sakkarbaug Zoo; 6. Arignar Anna Zoo; 7. Kanpur Zoo; 8. Prince Of Wales Zoo; 9. Jawaharlal Nehru Biol. Park; 10. Sayaji Baug Zoo; 11. Jaipur Zoo; 12. Jodhpur Zoo; 13. Jhargram Deer Park (Mini Zoo); 14. Sri Venkateswara Zoo; 15. Himalayan Nature Park; 16. Udaipur Zoo

Wolf Tibetan (*Canis lupus chanco*) 1. Padmaja Naidu Himalayan Zoo

Yak Wild (*Bos grunniens*) 1. Mysore Zoo; 2. Alipore Zoo; 3. Kurseong Deer Park Dow Hill; 4. Himalayan Nature Park; 5. Padmaja Naidu Himalayan Zoo

Indian mammals in international zoos

Macaque, Crab eating (*Macaca fascularis umbrosa*) 1. Givskud zoo; 2. Kolding zoo; 3. Lafronti zoo; 4. Lisieux zoo; 5. Lodz zoo; 6. Rotterdam zoo; 7. Leon zoo; 8. Bowmanvil zoo; 9. Houston zoo; 10. Quebec zoo; 11. Guadaljr zoo; 12. Hanoi zoo; 13. Moscow zoo; 14. Riga zoo; 15. Riyadh zoo; 16. Saigon zoo; 17. Singapore zoo; 18. St. Peters zoo; 19. Taipei zoo; 20. Sydney zoo

Lion, Asiatic *(Panthera leo persica)* 1. Antwerp zoo; 2. Augsburg zoo; 3. Bristol zoo; 4. Burford zoo; 5. Chester zoo; 6. Dudley zoo; 7. Heidelbrg zoo; 8. Helsinki zoo; 9. Lodz zoo; 10. London zoo; 11. Nurnberg zoo; 12. Poznan zoo; 13. Twycross; 14. Zurich zoo; 15. Bloomingt zoo; 16. Granby zoo; 17. Jackson zoo; 18. Kansascty zoo; 19. Knoxville zoo; 20. Rio Grand zoo; 21. Sacramnto zoo; 22. Scottsblu zoo; 23. Sd-Wap zoo; 24. Syracuse zoo; 25. Jerusalem zoo; 26. Singapore zoo

Porcupine, Brush tailed (*Atherurus macrourus*) 1. Bangkok zoo; 2. Saigon zoo

Takin (*Budorcas taxicolor*) 1. Antwerp zoo; 2. Dresden zoo; 3. Munich zoo; 4. Wuppertal zoo; 5. Sandiegoz zoo; 6. Tokyotama zoo; 7. Cincinnat zoo; 8. Minnesota zoo; 9. Colo sprg zoo; 10. St. Louis zoo

Deer, Swamp (*Cervus duvauceli duvauceli*) 1. Augsburg zoo; 2. Pret Lich zoo; 3. Frederick zoo; 4. Sd-Wap zoo

Tahr, Nilgiri (*Hemitragus hylocrius*) 1. Capemay zoo; 2. knwzville zoo; 3. Memphis zoo; 4. Minnesota zoo; 5. Ptovidnce zoo; 6. Sandiegoz zoo

Macaque, Lion tailed (*Macaca silenus*) 1. Belfast zoo; 2. Berlin zoo; 3. Bristor zoo; 4. Chesingtn zoo; 5. Chester zoo; 6. Colchestr zoo; 7. Dresden zoo; 8. Duisburg zoo; 9. Edinburgh zoo; 10. Fontaine zoo; 11. Fota zoo; 12. Frankfurt zoo; 13. Leipzig zoo; 14. Lisbon zoo; 15. Lodz zoo; 16. Magdeburg zoo; 17. Rostock zoo; 18. Szeged zoo; 19. Usti zoo; 20. Wuppertail zoo; 21. Baltimore zoo; 22. Batonroug zoo; 23. Cincinnat zoo; 24. Colo sprg zoo; 25. Columbia zoo; 26. Detroit zoo; 27. Duluth zoo; 28. Elpaso zoo; 29. Evansvlle zoo; 30. Jackson zoo; 31. Jacksonvl zoo; 32. Knoxville zoo; 33. Memphis zoo; 34. Menroe zoo; 35. Nzp-wash zoo; 36. P. Primate zoo; 37. San Fran zoo; 38. Sandiegoz zoo; 39. Sd-Wap zoo; 40. Seattle zoo; 41. St. Louis zoo; 42. Stcathern zoo; 43. Toronto zoo; 44. Tucson zoo; 45. Winnipeg; 46. Ramat Gan zoo; 47. Singapore zoo; 48. Veermata zoo; 49. Adelaide zoo; 50. Melbourne zoo

Badger, Chinese ferret (*Melogale moschata*) 1. Taipei zoo

Tiger, Bengal (*Panthera tigris*) 1. Boras zoo; 2. Glasgow zoo; 3. La Fronti zoo; 4. Lis bon zoo; 5. Lisieux zoo; 6. Paris zoo; 7. Touroparc zoo; 8. Pretoria zoo; 9. Cincinnat zoo; 10. Columbus zoo; 11. Greenvisc zoo; 12. Houston zoo; 13. Knox ville zoo; 14. Los angele zoo; 15. Miami zoo; 16. Washington National zoo; 17. Oakhill zoo; 18. Omaha zoo; 19. Pittsbord zoo; 20. Redwood zoo; 21. San Anton zoo; 22. San Fran zoo; 23. Yulee zoo; 24. Leon zoo; 25. Mayaguez zoo; 26. Yokohama zoo; 27. Dubbo zoo; 28. Orana zoo

Rhino, Indian (*Rhinoceros unicornis*) 1. Antwerp zoo; 2. Chester zoo; 3. Koln zoo; 4. Munich zoo; 5. Nurnberg zoo; 6. Planckndl zoo; 7. Rotterdam zoo; 8. Stuttgart zoo; 9. Whipsnade zoo; 10. Buffalo zoo; 11. Cincinnat zoo; 12. Fortworth zoo; 13. Gulf Brez zoo; 14. Losangele zoo; 15. Lowry zoo; 16. Miami zoo; 17. Ny Bronx zoo

Panda, Red (*Ailurus fulgens fulgens*) 1. Aalborg zoo; 2. Agrate zoo; 3. Amsterdam zoo; 4. Antwerp zoo; 5. Barcelona zoo; 6. Belfast zoo; 7. Burford zoo; 8. Colchestr zoo; 9. De campo zoo; 10. Dresden zoo; 11. Duisburg zoo; 12. Edinburgh zoo; 13. Fontaine zoo; 14. Fota zoo; 15. Givskud zoo; 16. Hannover zoo; 17. Heidelbrg zoo; 18. Helsinki zoo; 19. Hunbstrnd zoo; 20. Kobenhavn zoo; 21. Koln zoo; 22. Krefeld zoo; 23. La Fronti zoo; 24. La Palmyr zoo; 25. Leipzig zoo; 26. Lisbon zoo; 27. Marwell zoo; 28. Odense zoo; 29. Paignton zoo; 30. Peaugres zoo; 31. Planckndl zoo; 32. Poznan zoo; 33. Praha zoo; 34. Rhenen zoo; 35. Rotterdam zoo; 36. Vienna zoo; 37. Warsaw zoo; 38. Whipsnade zoo; 39. Zurich zoo; 40. Johansbrg zoo; 41. Pretoria zoo; 42. Greenvisc zoo; 43. Indianapl zoo; 44. Knoxville zoo; 45. Lansing zoo; 46. Lincoln C zoo; 47. Manhattan zoo; 48. Memphis zoo; 49. Mill Moun zoo; 50. Minnesota zoo; 51. Nashvillz zoo; 52. Ny Bronx zoo; 53. Omaha zoo; 54. Philadelp zoo; 55. Portland zoo; 56. Providnce zoo; 57. Rio Gand zoo; 58. Santa Barbara zoo; 59. Sandiegoz zoo; 60. Scottsblu zoo; 61. Sioux Fal zoo; 62. St. Louis zoo; 63. Syracuse zoo; 64. Toronto zoo; 65. Wheeling zoo; 66. Sydney zoo; 67. Adelaide zoo; 68. Auckland zoo; 69. Hamilton zoo; 70. Melbourne zoo; 71. Perth zoo; 72. Baltimore zoo; 73. Buffalo zoo; 74. Centralpk zoo; 75. Colorado Spring zoo; 76. Dallas zoo

Elephant, Asian (*Elephas maximus*) 1. Amersfoor zoo; 2. Amsterdam zoo; 3. Antwerp zoo; 4. Arnhem zoo; 5. Augsburg zoo; 6. Barcelona zoo; 7. Belfast zoo; 8. Bristol zoo; 9. Budapest zoo; 10. Chard zoo; 11. Chester zoo; 12. De Campo zoo; 13. Dresden zoo; 14. Dublin zoo; 15. Emmen zoo; 16. Givskud zoo; 17. Hannover zoo; 18. Karlsruhe zoo; 19. Kobenhavn zoo; 20. Krefeld zoo; 21. La Palmyr zoo; 22. Lodz zoo; 23; London zoo; 24. Lympne zoo; 25. Magdeburg zoo; 26. Munich zoo; 27. Munster zoo; 28. Nurnburg zoo; 29. Opole zoo; 30. Paignton zoo; 31. Paris zoo; 32. Poznan zoo; 33. Roma zoo; 34. Rostock zoo; 35. Rotterdam zoo; 36. Touroparc zoo; 37. Twycross zoo; 38. Warsaw zoo; 39. Whipsnade zoo; 40. Wuppertal zoo; 41. Zurich zoo; 42. Audubon zoo; 43. Batonroug zoo; 44. Birmingham zoo; 45. Bowmanvil zoo; 46. Buffalo zoo; 47. Busch Tam zoo; 48. Coal Val zoo; 49. Columbus zoo; 50. Denver zoo; 51. Detroit zoo, 52. Dickerson zoo; 53. El Paso zoo; 54. Evansvlle zoo; 55. Fort worth zoo; 56. Frensno zoo; 57. Hawthorn zoo; 58. Hogle zoo; 59. Honolulu zoo; 60. Houston zoo; 61. Independc zoo; 62. Littleroc zoo; 63. Losangele zoo; 64. Louisvill zoo; 65. Madison zoo; 66. Marriotts zoo; 67. Memphis zoo; 68. Miami zoo; 69. Monroe zoo; 70. Washington National zoo; 71. Oklahoma zoo; 72. Santa Barbara zoo; 73. Perris zoo; 74. Philadelp zoo; 75. Portland zoo; 76. Redwood zoo; 77. Rio Grand zoo; 78. Rockton zoo; 79. San Anton zoo; 80. Sanford zoo; 81. St. Louis zoo; 82. Syracuse zoo; 83. Tacoma zoo; 84. Topeka zoo; 85. Tulsa zoo; 86. Puebla zoo; 87. Bangkok zoo; 88. Hanoi zoo; 89. Jerusalem zoo; 90. Moscow zoo; 91. Ramat Gan zoo; 92. Riga zoo; 93. Riyadh zoo; 94. Saigon zoo; 95. Taipei zoo; 96. Adelaide zoo; 97. Auckland zoo; 98. Melbourne zoo; 99. Sydney zoo

Mongoose, Crab eating (*Herpestes urva*) 1. Taipei zoo

Bear, Sloth (*Melursus ursinus*) 1. Singapore zoo; 2. Warsaw zoo; 3. Attleboro zoo; 4. Detroit zoo; 5. Jackson zoo; 6. Lowry zoo; 7. Miami zoo; 8. Smoky Mo zoo

Squirrel, Malayan giant (*Ratufa bicolor gigantea*) 1. Cincinnat zoo; 2. Cleveland zoo; 3. Houston zoo; 4. Philadelp zoo; 5. Sandiegoz zoo; 6. Topeka zoo; 7. Singapore zoo

Squirrel, Indian giant (*Ratufa indica indica*) 1. Singapore zoo

Civet, Large Indian (*Viverra zibetha*) 1. Hanoi zoo; 2. Saigon zoo

Gaur (*Bos gaurus*) 1. Hamburg zoo; 2. Kobenhavn zoo; 3. Lympne zoo; 4. Munster zoo; 5. Whipsnade zoo; 6. Battle Creek zoo; 7. Brownsvil zoo; 8. Buffalo zoo; 9. Memphis zoo; 10. Ny Bronx zoo; 11. Oklahoma zoo; 12. Omaha zoo; 13.

Toronto zoo; 14. Yulee zoo; 15. Bangkok zoo; 16. Saigon zoo; 17. Singapore zoo

Dhole, Wild dog (*Cuon alpinus*) 1. Bekesbrne zoo; 2. Praha zoo; 3. Toronto zoo; 4. Singapore zoo; 5. Tokyoueno zoo; 6. Yokohama zoo; 7. Sydney zoo

Cat, Jungle (*Felis Chaus*) 1. Bekesbrne zoo; 2. Chester zoo; 3. Edinburgh zoo; 4. Heidelbrg zoo; 5. Magdeburg zoo; 6. Olomouc zoo; 7. Rotterdam zoo; 8. Szeged zoo; 9. Usti zoo; 10. Greenvisc zoo; 11. San Fran zoo; 12. Southbend zoo; 13. Leon zoo; 14. Riga zoo; 15. Singapore zoo

Tahr, Himalayan ((*Hemitragus jemlahicus*) 1. Dresden zoo; 2. Halle zoo; 3. Helsinki zoo; 4. Olomouc zoo; 5. Opole zoo; 6. Paris zoo; 7. Roma zoo; 8. Vienna zoo; 9. Johansbrg zoo; 10. Pret Lich zoo; 11. Ny Bronx zoo; 12. Washington National zoo; 13. Quebec zoo; 14. Rockton zoo; 15. San Anton zoo; 16. Sd-Wap zoo; 17. Toronto zoo; 18. Trevor zoo; 19. Riyadh zoo; 20. Singapore zoo; 21. Sydney zoo; 22. Wellingtn zoo

Hyaena, Striped (*Hyaena hyaena*) 1. Budapest zoo; 2. De Campo zoo; 3. Lodz zoo; 4. Olomouc zoo; 5. Usti zoo; 6. Warsaw zoo; 7. Milwaukee zoo; 8. Guadaljr zoo; 9. Leon zoo; 10. Taipei zoo; 11. Moscow zoo; 12. Ramat Gan zoo; 13. Riga zoo; 14.Riyadh zoo; 15 Singapore zoo; 16 St. Peters zoo; 17 Tallin zoo; 18. Knoxville zoo; 19. Kraaifont zoo; 20. Brownsvil zoo; 21. Detroit zoo

Badger, Honey; Ratel (*Mellivora capensis*) 1. Bekesbrne zoo; 2. Lympne zoo; 3. Johansbrg zoo; 4. Ramat Gan zoo; 5. Riyadh zoo

Leopard, Clouded (*Neofelis nebulosa*) 1. Agrate zoo; 2. Bekesbrne zoo; 3. Belfast zoo; 4. Dresden zoo; 5. Glasgow zoo; 6. Leipzig zoo; 7. Praha zoo; 8. Rotterdam zoo; 9. Wupertal zoo; 10. Zurich zoo; 11. Audubon zoo; 12. Boise zoo; 13. Buffalo zoo; 14. Capemay zoo; 15. Chicagobr zoo; 16. Cincinnat zoo; 17. Cleveland zoo; 18. Columbia zoo; 19. Denver zoo; 20. Evansville zoo; 21. Hogle zoo; 22. Jackson zoo; 23. Lufkin zoo; 24. Memphis zoo; 25. Miami zoo; 26. Minnesota zoo; 27. Monroe zoo; 28. Nashvillz zoo; 29. Duisburg zoo

Loris, Slow (*Nycticebus coucang*) 1. Chester zoo; 2. London zoo; 3. Szeged zoo; 4. Chincinnat zoo; 5. Cleveland zoo; 6. Dukeprim zoo; 7. Duluth zoo; 8. El Paso zoo; 9. Evansvlle zoo; 10. Garden City zoo; 11. Minnesota zoo; 12. Monroe zoo; 13. Norfolk zoo; 14. Ny Bronx zoo; 15. Omaha zoo; 16. Santa Barbara zoo; 17. San Fran zoo; 18. Seattle zoo; 19. Moscow zoo; 20. Singapore zoo; 21. Syracuse zoo. 22. Trevor zoo; 23. Wheeling zoo; 24. Wild Wrld zoo; 25. Hanoi zoo; 26. Taipei zoo; 27. Tokyoueno zoo; 28. Yokohama zoo; 29. Melbourne zoo; 30. Perth zoo

Panther (*Panthera pardus*) 1. Amsterdam zoo; 2. Barcelona zoo; 3. Budapest zoo; 4. Chester zoo; 5. Colchestr zoo; 6. Colwybay zoo; 7. Duisburg zoo; 8. Frankfurt zoo; 9. Glasgow zoo; 10. Hannover zoo; 11. Karlsrruhe zoo; 12. Kobenhavn zoo; 13. La Palmyr zoo; 14. Leipzig zoo; 15. Lisbon zoo; 16. Munich zoo; 17. Olomouc zoo; 18. Opole zoo; 19. Poznan zoo; 20. Roma zoo; 21. Salzburg zoo; 22. Santillan zoo; 23. Tourparc zoo; 24. Usti zoo; 25. Vienna zoo; 26. Warsaw zoo; 27. Wuppertal zoo; 28. Johansbrg zoo; 29. Alexandri zoo; 30. Asheboro zoo; 31. Baltimore zoo; 32. Birminghm zoo; 33. Bridgeton zoo; 34. Brownsvil zoo; 35. Cape May zoo; 36. Chicagolp zoo; 37. Coal Val zoo; 38. Columbus zoo; 39. Crown zoo; 40. Engessers zoo; 41. Erie zoo; 42. Franklinp zoo; 43. Frederick zoo; 44. Fresno zoo; 45. Hogle zoo; 46. Houston zoo; 47. Kansascty zoo; 48. Littleroc zoo; 49. Lodi zoo; 50. Magnum zoo; 51. Memphis zoo; 52. Nashvillz zoo; 53. Ny Bronx zoo; 54. Washington National zoo; 55. Oakhill zoo; 56. Okalahoma zoo; 57. P. Primate zoo; 58. Pittsboro zoo; 59. Rochester zoo; 60. Rosamond zoo; 61. Sacramanto zoo; 62. San Fran zoo; 63. Sanford zoo; 64. Southbend zoo; 65. Toledo zoo; 66. West Orange zoo; 67. Gudalajara zoo; 68. Leon zoo; 69. Bangkok zoo; 70. Hyderabad zoo; 71. Jerusalem zoo; 72. N.S. Trade, Tokyo; 73. Ramat Gan zoo; 74. Riyadh zoo; 75. Singapore zoo; 76. Taipei zoo; 77. Veermata zoo; 78. Yokohama zoo; 79. Melbourne zoo; 80. Whyalla zoo

Sheep, Blue (*Pseudois nayaur*) 1. Mulhouse zoo; 2. Paris JP; 3. Singapore zoo

Antelope, Four horned (*Tetracerus guadricornis*) 1. Bekesbrne zoo; 2. Berlin zoo; 3. Paris JP; 4. Paris zoo

Bear, Himalayan Brown (*Ursus arctos*) 1. Lodz zoo; 2. Santilan zoo; 3. Philadelp zoo; 4. Jerusalem zoo; 5. St. Peters zoo

Civet, Small Indian (*Viverricula indica*) 1. Losangele zoo; 2. Hyderabad zoo; 3. Saigon zoo

Black Buck (*Antilope cervicapra*) 1. Amsterdam zoo; 2. Aywaille zoo; 3. Barcelona zoo; 4. Belfast zoo; 5. Boras zoo; 6. Chester zoo; 7. Colchestr zoo; 8. De Campo zoo; 9. Dresden zoo; 10. Dublin zoo; 11. Duisburg zoo; 12. Edinburgh zoo; 13. Fota zoo; 14. Givskud zoo; 15. Hamburg zoo; 16. Heidelbrg zoo; 17. Koln zoo; 18. Lisbon zoo; 19. Lodz zoo; 20. Magdeburg zoo; 21. Norrhopin zoo; 22. Odemse zoo; 23. Paris JP; 24. Hilvarenb zoo; 25. Puntaverd zoo; 26. Roma zoo; 27. Rostock zoo; 28. Rotterdam zoo; 29. Touroparc zoo; 30. Usti zoo; 31. Vienna zoo; 32. Whipsnade zoo; 33. Johansbrg zoo; 34. Pret Pot zoo; 35. Pretoria zoo; 36. Audubon zoo; 37. Boise zoo; 38. Bowmanvil zoo; 39. Cape May zoo; 40. Columbus zoo; 41. Edmond zoo; 42. El Paso zoo; 43. Evansvlle zoo; 44. Gulf Brez zoo; 45. Lufkin zoo; 46. Monroe zoo; 47. Montgomry zoo; 48. Ny Bronx zoo; 49. Panamacty zoo; 50. Phoenix zoo; 51. Portland zoo; 52. San Fran zoo; 53. SD-Wap, Escondido; 54. West Palm Beach; 55. Wild Wrld zoo; 56. Winston zoo; 57. Guadalajara zoo; 58. Leon zoo; 59. Puebla zoo; 60. Cali zoo; 61. Riyadh zoo; 62. Singapore zoo; 63. Adelaide zoo; 64. Auckland zoo; 65. Dubbo zoo; 66. Hamilton zoo; 67. Melbourne zoo; 68. Monarto zoo; 69. Tipp Stat, Winnellie; 70. Wellingtn zoo; 71. Werribee zoo

Nilgai (*Boselaphus tragocamelus*) 1. Amsterdam zoo; 2. Augsburg zoo; 3. Aywaille zoo; 4. Barcelona zoo; 5. Bekesbrne zoo; 6. Boras zoo; 7. Budapest zoo; 8. Chester zoo; 9. De campo zoo; 10. Dresden zoo; 11. Givskud zoo; 12. La Fronti zoo; 13. Lisbon zoo; 14. Lodz zoo; 15. Norrhopin zoo; 16. Opole zoo; 17. Paris JP; 18. Peaugres zoo; 19. Roma zoo; 20. Rostock zoo; 21. Rotterdam zoo; 22. Usti zoo; 23. Vienna zoo; 24. Warsaw zoo; 25. Whipsnade zoo; 26. Johansbrg zoo; 27. Pretoria zoo; 28. Bowmanvil zoo; 29. Coal val zoo; 30. Columbus zoo; 31. Detroit zoo; 32. Edmond zoo; 33. El Paso zoo; 34. Evansvlle zoo; 35. Good day zoo; 36. Monroe zoo; 37. Montgomry zoo; 38. Nashvillz zoo; 39. Noble zoo; 40. Rockton zoo; 41. Rolling H zoo, Salina; 42. Sandiegoz zoo; 43. SD-Wap, Escondido; 44. Silver Springs zoo; 45. West Orange zoo; 46. Winston zoo; 47. Guadalajara zoo; 48. Leon zoo; 49. Puebla zoo; 50. Ramat Gan zoo; 51. Singapore zoo; 52. Dubbo zoo; 53. Hamilton zoo; 54. Monarto zoo; 55. Orana zoo; 56. Tipp Stat, Winnellie

Jackal (*Canis aureus*) 1. Agrate zoo; 2. Olomouc zoo; 3. Khaokheow zoo; 4. Saigon zoo

Deer, Sambar (*Cervus unicolor*) 1. Barcelona zoo; 2. Ny Bronx zoo; 3. Hanoi zoo; 4. Saigon zoo; 5. Singapore zoo; 6. Dubbo zoo; 7. Tipp Stat, Winnellie; 8. Werribee zoo; 9. Winnellie zoo

Squirrel, Five striped palm (*Funambulus pennantii*) 1. Perth Zoo

Hedgehog, Longeared (*Hemiechinus collaris*) 1. Poznan; 2. Warsaw zoo; 3. Columbus zoo; 4. Franklinp zoo; 5. Omaha zoo; 6. Palm Des zoo; 7. Smoky Mo zoo; 8. Wild wrld zoo; 9. Tallin zoo; 10. Tokyoueno zoo

Porcupine (*Hystrix indica*) 1. Amsterdam zoo; 2. Halle zoo; 3. Heidelbrg zoo; 4. Karlsruh zoo; 5. Leipzig zoo; 6. Lodz zoo;

7. Opole zoo; 8. Szeged zoo; 9. Vienna zoo; 10. Warsaw zoo; 11. Buffalo zoo; 12. Ny Bronx zoo; 13. Moscow zoo; 14. Riga zoo; 15. Singapore zoo; 16. Tallin zoo; 17. Adelaide zoo; 18. Melbourne zoo; 19. Perth zoo

Macaque, Rhesus (*Macaca mulatta*) 1. Banham zoo; 2. De Campo zoo; 3. Dresden zoo; 4. Heidelbrg zoo; 5. Hilvarenb zoo; 6. Leipzig zoo; 7. Roma zoo; 8. Rotterdam zoo; 9. Kraaifont zoo; 10. Folsom zoo; 11. Milwaukee zoo; 12. Rolling H zoo; 13. Univmiami zoo; 14. Guadala Jara zoo; 15. Cali zoo; 16. Hanoi zoo; 17. Moscow zoo; 18. Riga zoo; 19. Riyadh zoo; 20; Singapore zoo; 21. Whyalla zoo

Macaque, Bonnet (*Macaca radiata)* 1. Hamburg zoo; 2. Usti zoo; 3. Kraaifont zoo; 4. St. Peters zoo; 5. Auckland zoo; 6. Whyalla zoo

Martin, Yellow throated (*Martes flavigula*) 1. Dresden zoo; 2. Winnipeg zoo; 3. Bankok zoo; 4. Moscow zoo; 5. Singapore zoo; 6. St. Peters zoo

Deer, Barking (*Muntiacus muntjak*) 1. Antwerp zoo; 2. Roma zoo; 3. Busch Tam zoo; 4. Dickerson zoo; 5. Evansvlle zoo; 6. Madison zoo; 7. Nashvillz zoo; 8. Panamacty zoo; 9. Saigon zoo; 10. Singapore zoo

Civet, Himalayan Palm (*Paguma larvata)* 1. Milwaukee zoo; 2. Bangkok zoo; 3. Hanoi zoo; 4. Saigon zoo; 5. Singapore zoo; 6. Yokohama zoo

Civet, Common Palm (*Paradoxurus hermaphroditus*) 1. Antwerp zoo; 2. Budapest zoo; 3. Frakfurt zoo; 4. Halle zoo; 5. Leipzig zoo; 6. Rotterdam zoo; 7. Pittsboro zoo; 8. Bangkok zoo; 9. Hanoi zoo; 10. Khaokheow zoo; 11. Saigon zoo; 12. Singapore zoo; 13. St. Peters zoo

Boar, Wild (*Sus scrofa*) 1. De Campo zoo; 2. Halle zoo; 3. Innsbruck zoo; 4. Lisbon zoo; 5. Munster zoo; 6. Olomouc zoo; 7. Opole zoo; 8. Roma zoo; 9. Twycross zoo; 10. Audubon zoo; 11. Bowmanvil zoo; 12. Bridgeprt zoo; 13. Cape May zoo; 14. Chicagobr zoo; 15. Erie zoo; 16. Granby zoo; 17. Gulf Brez zoo; 18. Kansascity zoo; 19. Knowland zoo; 20. Madison zoo; 21. Philadelp zoo; 22. Scovill F zoo; 23. SD-Wap zoo; 24. Silver Springs zoo; 25. St. Louis zoo; 26. Wheeling zoo; 27. Leon zoo; 28. Khaokheow zoo; 29. Saigon zoo; 30. Tokyotama zoo; 31. Winnellie zoo

Binturong (*Arctictis binturong*) 1. Amsterdam zoo; 2. Antwerp zoo; 3. Banham zoo; 4. Colchestr zoo; 5. De Campo zoo; 6. Dresden zoo; 7. Halle zoo; 8. La Plaine zoo; 9. London RP zoo; 10. Olomouc zoo; 11. Usti zoo; 12. Attleboro zoo; 13. Batonroug zoo; 14. Buffalo zoo; 15. Calgary zoo; 16. Chicagobr zoo; 17. Cincinnati zoo; 18. Cleveland zoo; 19. Columbus zoo; 20. Emporia zoo; 21. Evansvlle zoo; 22. Ft Wayne zoo; 23. Glen Oak zoo; 24. Grandsle zoo; 25. Houston zoo; 26. Kanascity zoo; 27. Knoxville zoo; 28. Lansing zoo; 29. Littleroc zoo; 30. Memphis zoo; 31. Minnesota zoo; 32. Nashvillz zoo; 33. Norfolk zoo; 34. Ny Bronx zoo; 35. Pittsboro zoo; 36. Pittsburg zoo; 37. Redwood zoo; 38. Rochester zoo; 39. Rolling zoo; 40. San Anton zoo; 41. Scottsblu zoo; 42. Scovill F zoo; 43. Silver Springs zoo; 44. Smoky Mo zoo; 45. Springfie zoo; 46. Winston zoo; 47. Saigon zoo; 48. Singapore zoo; 49. Taipei zoo; 50. Melbourne zoo; 51. Sydney zoo

Wolf, Tibetan (*Canis lupus chanco*) 1. Zurich zoo; 2. Sandiegoz zoo; 3. Tokyotama zoo

Bear, Sun (*Helarctos malayanus*) 1. Berlin zoo; 2. De Campo zoo; 3. Dresden zoo; 4. Hilvarenb zoo; 5. Koln zoo; 6. La Plaine zoo; 7. Munster zoo; 8. Olomous zoo; 9. Paris zoo; 10. Roma zoo; 11. Saarbruck zoo; 12. Touroparc zoo; 13. Usti zoo; 14. Audubon zoo; 15. Baltimore zoo; 16. El Paso zoo; 17. Fortworth zoo; 18. Fresno zoo; 19. Honolulu zoo; 20. Independc zoo; 21. Knowland zoo; 22. Littleroc zoo; 23. Memphis zoo; 24. Miami zoo; 25. Minnesota zoo; 26. Omaha zoo; 27. Pittsboro zoo; 28. Portland zoo; 29. Pueblo zoo; 30. Seattle zoo; 31. Smoky Mo zoo; 32. St. Louis zoo; 33. Topeka zoo; 34. Tucson zoo; 35. Mayaguez zoo; 36. Bangkok zoo; 37. N.S. Trade Tokyo; 38. Saigon zoo; 39. Singapore zoo; 40. Taipei zoo; 41. Tokyotama zoo; 42. Tokyoueno zoo; 43. Sydney zoo

Macaca, Pig tailed (*Macaca nemestrina*) 1. Budapest zoo; 2. Hannover zoo; 3. Lodz zoo; 4. Odense zoo; 5. Opole zoo; 6. Szeged zoo; 7. Quebec zoo; 8. Hanoi zoo; 9. Moscow zoo; 10. Ramat Gan zoo; 11. Riga zoo; 12. Singapore zoo; 13. St. Peters zoo; 14. Taipei zoo; 15. Auckland zoo; 16. Melbourne zoo; 17. Wellingtn zoo

Takin (*Budorcas taxicolor*) 1. Antwerp zoo; 2. Dresden zoo; 3. Munich zoo; 4. Wuppertal zoo; 5. Sandiegoz zoo

Wold, Indian (*Canis lupus pallipes*) 1. Koln zoo; 2. WCSRC Eureka zoo; 3. Guadala Jara zoo; 4. Ramat Gan zoo; 5. Singapore zoo

Otter, Common (*Lutra lutra)* 1. Colwynbay zoo; 2. Innsbruck zoo; 3. Krefeld zoo; 4. Rhenen zoo; 5. Salzburg zoo

Macaque, Stump tailed (*Macaca arctoides)* 1. Budapest zoo; 2. Edinburgh zoo; 3. Heidelbrg zoo; 4. Hilvarenb zoo; 5. Opole zoo; 6. Roma zoo; 7. Wuppertal zoo; 8. Brownsvil zoo; 9. Chattanog zoo; 10. Independc zoo; 11. Guadala Jara zoo; 12. Hanoi zoo; 13. Moscow zoo; 14. St. Peters zoo

Macaque, Assamese (*Macaca assamensis*) 1. Roma zoo

Goral (*Naemorhedus goral*) 1. Singapore zoo