



Status and Conservation of Mammalian Diversity in Indian Himalaya

Gaurav Sharma*, Kamalakannan M.*, Debashree Dam* and Akhlaq Husain**

*Zoological Survey of India, M Block, Prani Vigyan Bhawan, New Alipore, Kolkata (WB), INDIA

**41, Hari Vihar, Vijay Park, Dehra Dun (Uttarakhand), INDIA

(Corresponding author: Gaurav Sharma)

(Received 11 September, 2014, Accepted 14 November, 2014)

ABSTRACT: The Himalaya is the great range of mountains that spreads over a west-northwest to east-southeast distance of about 2,500 km covering political administrative regions of Afghanistan, Pakistan, India, Nepal, Bhutan and China. About 5,416 species of mammal have been reported from the globe and 427 species from India, in that about 290 species of Mammals recorded so far from Indian Himalaya. From the different zones of Himalaya, the studies reported 40 species of Mammals from Indian Trans-Himalaya, 77 species from North-West Himalaya, 102 species from Western Himalaya and 172 species from Eastern Himalaya. Most of the Mammalian species of India are given protection in different Schedules of Indian Wildlife (Protection) Act, 1972, listed in different categories of IUCN Red List of Threatened Species and CITES and these information are provided in this paper. In this paper, the efforts were made to provide status and conservation of Mammalian diversity in Himalaya, from studies conducted, past literature, museum records and other lesser-known sources of information.

Key words: Mammals, Diversity, Himalaya, India.

INTRODUCTION

India is very rich in terms of Biodiversity due to its unique biogeographic location, diversified climatic conditions and enormous ecodiversity and geodiversity. The Indian landmass is bounded by the Himalaya in the North, the Bay of Bengal in the East, the Arabian Sea in the West, and Indian Ocean in the South. In terms of landmass, it is the seventh largest country and one of the 17 mega biodiversity countries in the world. The Himalaya is the great range of mountains that spreads over a west-northwest to east-southeast distance of about 2,500 km covering political administrative regions of Afghanistan, Pakistan, India, Nepal, Bhutan and China. Considering both geographic and biogeographic divisions, the Indian Himalaya is divided into four zones for the convenience of biodiversity analysis of the mountain ecosystems of India *i.e.* Trans-Himalaya which includes upper region of Jammu and Kashmir (districts of Ladakh and Kargil) and Himachal Pradesh (Spiti Valley, Lahaul Valley, district Kinnaur); North-West Himalaya which includes Jammu & Kashmir and Himachal Pradesh excluding the Trans-Himalayan part; Western Himalaya which includes Himachal Pradesh (excluding the parts of Trans-Himalaya and North-West Himalaya) and Uttarakhand;

Eastern Himalaya, covering three biotic provinces *viz.*, Central Himalaya (Sikkim and Darjeeling District, West Bengal), East Himalaya (Arunachal Pradesh) and North-Eastern Hills (Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura) and these all comes under three biogeographic zones *viz.*, Trans-Himalayan; Himalayan (part) and North-East India.

In this paper, the efforts were made to provide status and conservation of Faunal Diversity of India with special reference to Mammalian diversity in Himalaya, from studies conducted, past literature, museum records and other lesser-known sources of information.

RESULTS AND DISCUSSION

About 5,416 species of mammal have been reported from the globe (Wilson and Reeder, 2005), in that 427 species reported from India, which is about 7.81% of the global mammalian species, representing 48 families and 14 orders (Sharma *et al.*, 2014). Out of 427 species, about 290 species belongs to 39 families and 13 orders of class Mammalia recorded so far from Indian Himalaya, in that 40 species of Mammals are known from Indian Trans-Himalaya; 77 species from North-West Himalaya, 102 species from Western Himalaya and 172 species from Eastern Himalaya (Table 1).

Some of the representative, characteristic and threatened species of Mammals of Indian Himalayas are *Marmota himalayana* and *Marmota caudata* (Marmots), *Petaurista petaurista* (Red Giant Flying Squirrel), *Ochotona ladacensis* (Ladakh Pika), *Lepus tolai tibetanus* (Tibet Hare), *Capra siberica* (Siberian Ibex), *Pseudois nayaur* (Blue Sheep), *Ovis orientalis vignei* (Ladakh Urial or Shapu), *Procapra picticaudata* (Tibetan Gazelle), *Bos mutus* (Wild Yak), *Equus kiang* (Tibetan Wild Ass or Kiang), *Panthera tigris* (Tiger), *Panthera pardus* (Leopard), *Uncia uncia* (Snow Leopard), *Prionailurus benghalensis* (Leopard Cat), *Manis crassicaudata* (Indian Pangolin), *Elephas maximus* (Asian Elephant), *Vulpes vulpes flavescens* (Mountain Red Fox), *Moschus chrysogaster* (Alpine Musk Deer), *Nemorhaedus goral* (Goral), *Muntiacus muntjak* (Barking Deer), *Cervus eldi eldi* (Brown-antered Deer), *Caprolagus hispidus* (Hispid Hare), *Sus salvanius* (Pygmy Hog), *Rhinoceros unicornis* (Great One Horned Rhinoceros), *Hylobatus hoolock* (Hoolock

Gibbon), *Presbytis phayrei* (Phayre's Leaf Monkey), *Ursus thibetanus laniger* (Himalayan Black Bear), *Ursus arctos* (Brown Bear), *Helarctos malayanus* (Malayan Sun Bear), *Melursus ursinus* (Sloth Bear), *Ailurus fulgens* (Red Panda), *Budorcas taxicolor* (Takin), *Macaca arctoides* (Stump-tailed Macaque), *Nycticebus bengalensis* (Bengal Slow Loris), *Hoolock hoolock* (Western Hoolock Gibbon) and *Hoolock leuconedys* (Eastern Hoolock Gibbon) etc. *Platanista gangetica gangetica* (Ganges River Dolphin) is the only aquatic mammalian species of Eastern Himalaya and confined to Brahmaputra River System. In the last few decades *Biswamoyopterus biswasi* (Namdhapa Flying Squirrel) and *Trachypithecus geei* (Gee's Golden Langur) have been discovered. The current conservation status of the Indian mammals as per Indian Wildlife (Protection) Act, 1972, IUCN Red list of Threatened Species and CITES is provided in Table 1.

Table 1. Mammals of Himalayas with their Distribution and Conservation Status.

I. Order: Proboscidea 1. Family: ELEPHANTIDAE (Elephants)							
Sl. No.	Species and Subspecies (Scientific and Common Names)	Distribution		Conservation Status			References
		India	Elsewhere	IUCN (Red list Category)	IW(P)A (Schedule)	CITES (Appendix)	
1.	<i>Elephas maximus</i> Linnaeus, 1758 Asiatic Elephant	North East and South India, Bihar, Jharkhand, Odisha, Uttarakhand, Uttar Pradesh and West Bengal	Bangladesh, China, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Sri Lanka, Thailand and Viet Nam	EN	I	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
II. Order: Scandentia 2. Family: TUPAIIDAE (Tree shrews)							
2.	<i>Tupaia belangeri</i> (Wagner, 1841) Northern Tree shrew	North East India, Sikkim and West Bengal	Bangladesh, Bhutan, Cambodia, China, Laos, Malaysia, Myanmar, Thailand, Viet Nam and associated coastal islands	LC	-	II	Alfred <i>et al.</i> , 2002, 2006; Srinivasulu and Srinivasulu, 2004; Wilson and Reeder, 2005
III. Order: Primates 3. Family: LORISIDAE (Lorisises)							
3.	<i>Nycticebus bengalensis</i> (Lacepede, 1800) Bengal Slow Loris	North East India and West Bengal	Bangladesh, China, Malaysia, Myanmar, Philippines, Thailand and Viet Nam	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
4. Family: CERCOPITHECIDAE (Old World monkeys)							
4.	<i>Macaca arctoides</i> (I. Geoffroy, 1831) Stump-tailed Macaque	North East India	Bangladesh east-wards to Viet Nam, North East to China and Malaysia	VU	II	II	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
5.	<i>Macaca assamensis</i> (Mc Clelland, 1840) Assam Macaque	North East India, Sikkim and West Bengal	Nepal to Viet Nam and China	NT	II	II	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005

6.	<i>Macaca leonina</i> (Blyth, 1863) Northern Pig-tailed Macaque	Assam, Meghalaya	Bangladesh, Cambodia, China, Laos, Myanmar, Thailand and Viet Nam	VU	II	II	Wilson and Reeder, 2005
7.	<i>Macaca mulatta</i> (Zimmermann, 1780) Rhesus Macaque	North and North East India	Afghanistan, Nepal, Pakistan, Bhutan to Thailand including China	LC	II	II	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
8.	<i>Macaca munzala</i> Sinha, Datta, Madhusudan and Mishra, 2005 Arunachal Macaque	Arunachal Pradesh	Bhutan and China	EN	-	II	Sinha <i>et al.</i> , 2005
9.	<i>Semnopithecus ajax</i> (Pocock, 1928) Kashmir Gray Langur	North West India, Himachal Pradesh and Jammu & Kashmir	Nepal	EN	II	I	Wilson and Reeder, 2005
10.	<i>Semnopithecus entellus</i> (Dufresne, 1797) Northern Plains Gray Langur	Throughout India except North East India, Himalayas and Uttar Pradesh	-	LC	II	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
11.	<i>Semnopithecus hector</i> (Pocock, 1928) Tarai Gray Langur	Uttarakhand, Uttar Pradesh and West Bengal	Bhutan and Nepal	NT	-	I	Wilson and Reeder, 2005
12.	<i>Semnopithecus schistaceus</i> Hodgson, 1840 Nepal Gray Langur	North East India, Himachal Pradesh, Jammu & Kashmir, Sikkim and Uttarakhand	Bhutan, China, Nepal and Pakistan	LC	-	I	Wilson and Reeder, 2005
13.	<i>Trachypithecus geei</i> Khajuria, 1956 Gee's Golden Langur	Himalayan foothills along Assam- Bhutan border between Sankosh and Manas rivers	Bhutan	EN	I	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
14.	<i>Trachypithecus phayrei</i> (Blyth, 1847) Phayre's Leaf-monkey	Assam and Tripura	Bangladesh, China, Laos, Mynamar, Thailand and Viet Nam	EN	I	II	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Wilson and Reeder, 2005
15.	<i>Trachypithecus pileatus</i> (Blyth, 1843) Capped Langur	North East India	Bangladesh, Bhutan and Myanmar	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005

5. Family: HYLOBATIDAE (Gibbons)

16.	<i>Hoolock hoolock</i> (Harlan, 1834) Western Hoolock Gibbon	North East India	Bangladesh and Myanmar	EN	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
17.	<i>Hoolock leuconedys</i> (Groves, 2005) Eastern Hoolock Gibbon	Arunachal Pradesh	China and Myanmar	VU	-	I	Wilson and Reeder, 2005

IV. Order: RODENTIA
6. Family: SCIURIDAE (Squirrels)

18.	<i>Ratufa bicolor</i> (Sparrmann, 1778) Black Giant Squirrel	Arunachal Pradesh, Assam, Meghalaya, Nagaland and West Bengal	Bangladesh, Bhutan, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Thailand and Viet Nam	NT	II	II	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
-----	---	---	---	----	----	----	---

19.	<i>Belomys pearsonii</i> (Gray, 1842) Hairy-footed Flying Squirrel	Andhra Pradesh, Assam, Manipur, Mizoram, Nagaland, Sikkim and West Bengal	Bhutan, China, Laos, Myanmar, Nepal, Taiwan, Thailand and Viet Nam	DD	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
20.	* <i>Biswamoyopterus biswasi</i> Saha, 1981 Namdhapa Flying Squirrel	Arunachal Pradesh	-	CR	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
21.	<i>Eoglaucomys fimbriatus</i> (Gray, 1837) Kashmir Flying Squirrel	Himachal Pradesh, Jammu & Kashmir, Punjab and Uttarakhand	Afghanistan and Pakistan	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005 264
22.	<i>Eupetaurus cinereus</i> Thomas, 1888 Wooly Flying squirrel	Jammu & Kashmir and Sikkim	Afghanistan, China and Pakistan	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
23.	<i>Hylopetes alboniger</i> (Hodgson, 1836) Parti-coloured Flying Squirrel	North East India, Sikkim and West Bengal	Bhutan, China, Myanmar, Nepal and Viet Nam	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
24.	<i>Petaurista elegans</i> (Muller, 1840) Spotted Giant Flying Squirrel	Assam, Sikkim and West Bengal	Bhutan, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Thailand and Viet Nam	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
25.	<i>Petaurista magnificus</i> (Hodgson, 1836) Hodgson's Giant flying Squirrel	Sikkim and West Bengal	Bhutan, China and Nepal	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
26.	<i>Petaurista nobilis</i> (Gray, 1842) Bhutan Giant Flying Squirrel	Arunachal Pradesh, Sikkim and West Bengal	Bhutan and Nepal	NT	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
27.	<i>Petaurista petaurista</i> (Pallas, 1766) Red Giant Flying Squirrel	Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Meghalaya, Madhya Pradesh, Gujarat, Odisha, Nagaland, Punjab, Uttarakhand, Uttar Pradesh and West Bengal	Afghanistan, Brunei Darussalam, China, Indonesia, Malaysia, Myanmar, Nepal and Thailand	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
28.	<i>Petaurista philippensis</i> (Elliot, 1839) Indian Giant Flying Squirrel	South India, Assam, Bihar, Madhya Pradesh, Maharashtra, Odisha, Gujarat, Goa, Rajasthan and West Bengal	China, Laos, Myanmar, Sri Lanka, Taiwan, Thailand and Viet Nam	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
29.	<i>Callosciurus erythraeus</i> (Pallas, 1779) Pallas's Squirrel	North East India	Bangladesh, Cambodia, China, Laos, Malaysia, Myanmar, Taiwan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005

30.	<i>Callosciurus pygerythrus</i> (L. Geoffroy Saint Hilaire, 1833) Irrawady Squirrel	North East India, Sikkim and West Bengal	Bangladesh, Bhutan, China, Myanmar and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
31.	<i>Dremomys lokriah</i> (Hodgson, 1836) Orange bellied Himalayan Squirrel	North East India, Sikkim and West Bengal	Bangladesh, Bhutan, China, Myanmar and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
32.	<i>Dremomys pernyi</i> (Milne- Edwards, 1867) Perny's Long-nosed Squirrel	Manipur and Nagaland	China, Myanmar, Taiwan and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
33.	<i>Dremomys rufigenis</i> (Blanford, 1878) Asian Red-cheeked Squirrel	Arunachal Pradesh and Nagaland	China , Laos, Malaysia , Myanmar, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
34.	<i>Funambulus layardi</i> (Blyth, 1849) Layard's striped Squirrel	Karnataka, Kerala and Tamil Nadu	Sri Lanka	VU	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
35.	<i>Funambulus pennantii</i> Wroughton, 1905 Northern Palm Squirrel	Central, North and North East India and Andaman & Nicobar Is.	Iran, Nepal and Pakistan	LC	IV	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
36.	<i>Tamiops macclllandii</i> (Horsfield, 1840) Himalayan Striped Squirrel	North East India, Sikkim and West Bengal	Bhutan, Cambodia, China, Laos, Malaysia, Myanmar, Nepal, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
37.	<i>Marmota caudata</i> (Geoffroy, 1844) Long-tailed Marmot	Jammu & Kashmir	Afghanistan, China, Kyrgyzstan, Pakistan and Tajikistan	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
38.	<i>Marmota himalayana</i> (Hodgson, 1841) Himalayan Marmot	Himachal Pradesh, Sikkim and Jammu & Kashmir	Nepal, China and Pakistan	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
7. Family: DIPODIDAE (Birch mice)							
39.	<i>Sicista concolor</i> (Buchner, 1892) Chinese Birch mouse	Jammu & Kashmir	China and Pakistan	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
8. Family: SPALACIDAE (Spalacids)							
40.	<i>Cannomys badius</i> (Hodgson, 1841) Lesser Bamboo Rat	North East India and West Bengal	Cambodia, Laos, Myanmar, Nepal, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005

41.	<i>Rhizomys pruinosus</i> Blyth, 1851 Hoary Bamboo Rat	Meghalaya, Nagaland and Manipur	Cambodia, China, Laos, Malaysia, Myanmar, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
9. Family: CRICETIDAE (New world rodents)							
42.	<i>Alticola albicaudus</i> (True, 1894) White- tailed Mountain Vole	Jammu & Kashmir	Pakistan	DD	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
43.	<i>Alticola argentatus</i> (Severtzov, 1879) Silver Mountain Vole	Himachal Pradesh and Jammu & Kashmir	Afghanistan, China, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan and Uzbekistan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
44.	<i>Alticola montosa</i> (True, 1894) Kashmir Mountain Vole	Jammu & Kashmir	Pakistan	VU	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
45.	* <i>Alticola roylei</i> (Gray, 1842) Royle's Mountain Vole	Himachal Pradesh, Jammu & Kashmir and Uttarakhand	-	NT	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
46.	<i>Alticola stoliczkanus</i> (Blanford, 1875) Stoliczka's Mountain Vole	Jammu & Kashmir	China and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
47.	<i>Eothenomys</i> <i>melanogaster</i> (Milne- Edwards, 1871) Père David's Red- backed Vole	Arunachal Pradesh	China, Myanmar, Taiwan, China, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
48.	<i>Hyperacrius fertilis</i> (True, 1894) Subalpine Kashmir Vole	Himachal Pradesh and Jammu & Kashmir	Pakistan	NT	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
49.	<i>Hyperacrius wynnei</i> (Blanford, 1881) Conifer Kashmir Vole	Himachal Pradesh and Jammu & Kashmir	Pakistan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
50.	<i>Neodon sikimensis</i> Horsfield, 1841 Sikkim Mountain Vole	Sikkim and West Bengal	Bhutan, China and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
51.	<i>Phaiomys leucurus</i> Blyth, 1863 Blyth's Mountain Vole	Himachal Pradesh and Jammu & Kashmir	China and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
52.	<i>Cricetus alticola</i> Thomas, 1917 Ladak Dwarf Hamster	Jammu & Kashmir	China and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005

53.	<i>Cricetulus migratorius</i> (Pallas, 1773) Gray Dwarf Hamster	Jammu & Kashmir	Distributed from eastern Europe through Russia and central Asia to Mongolia and western China	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
10. Family: MURIDAE (Old world rodents)							
54.	<i>Tatera indica</i> (Hardwicke, 1807) Indian Gerbil	South India, Bihar, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Odisha, Punjab, Uttar Pradesh and West Bengal	Afghanistan, Iran, Iraq, Kuwait, Nepal, Pakistan, Sri Lanka, Syrian Arab Republic and Turkey	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
55.	<i>Apodemus draco</i> (Barret-Hamilton, 1900) South China Field Mouse	Arunachal Pradesh	China and Myanmar	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
56.	<i>Apodemus latronum</i> Thomas, 1911 Large-eared Field Mouse	Arunachal Pradesh	China and Myanmar	LC	V	-	Srinivasulu and Srinivasulu, 2012; Wilson and Reeder, 2005
57.	<i>Apodemus pallipes</i> (Barrett-Hamilton, 1900) Himalayan Field Mouse	Himachal Pradesh, Jammu & Kashmir and Uttar Pradesh	Afghanistan, China, Kyrgyzstan, Nepal, Pakistan and Tajikistan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
58.	<i>Apodemus rusiges</i> Miller, 1913 Kashmir Field Mouse	Himachal Pradesh, Jammu & Kashmir and Uttar Pradesh	Pakistan	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
59.	<i>Bandicota bengalensis</i> (Gray, 1835) Indian Mole Rat	Almost throughout the country	Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka and Thailand	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
60.	<i>Bandicota indica</i> (Bechstein, 1800) Greater Bandicoot Rat	Almost throughout the country	Bangladesh, Cambodia, China, Hong Kong, Laos, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
61.	<i>Berylmys bowersi</i> (Anderson, 1879) Bower's Berylmys	North East India	China, Indonesia, Laos, Malaysia, Myanmar, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
62.	<i>Berylmys mackenziei</i> (Thomas, 1916) Mackenzie's Berylmys	Assam, Manipur, Meghalaya and Nagaland	China, Myanmar and Viet Nam	DD	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
63.	<i>Berylmys manipulus</i> (Thomas, 1916) Manipur Berylmys	Assam, Manipur and Nagaland	China and Myanmar	DD	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
64.	<i>Chiropodomys gliroides</i> (Blyth, 1856) Indomalayan Pencil-tailed Tree Mouse	North East India	Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005

65.	<i>Dacnomys millardi</i> Thomas, 1916 Millard's Dacnomys	Arunachal Pradesh, Assam, Nagaland and West Bengal	China, Laos, Nepal and Viet Nam	DD	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
66.	<i>Golunda ellioti Gray,</i> 1837 Indian Bush Rat	Almost throughout the country	Iran, Nepal, Pakistan and Sri Lanka	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
67.	* <i>Hadromys humei</i> (Thomas, 1886) Hume's Hadromys	Assam and Manipur	-	EN	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
68.	<i>Leopoldamys</i> <i>edwardsi</i> (Thomas, 1882) Edward's Leopoldamys	Arunachal Pradesh, Meghalaya, Nagaland, Sikkim and West Bengal	China, Laos, Malaysia, Myanmar, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
69.	<i>Micromys minutus</i> (Pallas, 1771) Harvest Mouse	Assam, Meghalaya and Nagaland	Range in the Europe and Asia	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
70.	<i>Millardia meltada</i> (Gray, 1837) Common Metad	South India, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh and West Bengal	Nepal, Pakistan and Sri Lanka	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
71.	<i>Mus booduga</i> (Gray, 1837) Little Indian Field Mouse	Almost throughout the country	Bangladesh, Myanmar, Nepal, Pakistan and Sri Lanka	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
72.	<i>Mus cervicolor</i> Hodgson, 1845 Fawn-colored Mouse	Andaman & Nicobar Is., Assam, Gujarat, Jammu & Kashmir, Karnataka, Manipur, Madhya Pradesh, Meghalaya, Nagaland, Rajasthan, Sikkim, Uttar Pradesh and West Bengal	Cambodia, Laos, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
73.	<i>Mus cookii</i> Ryley, 1914 Cook's Mouse	Arunachal Pradesh, Assam, Karnataka, Maharashtra, Manipur, Meghalaya, Nagaland, Tamil Nadu and West Bengal	Bangladesh, Bhutan, China, Laos, Myanmar, Nepal, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
74.	<i>Mus musculus</i> Linnaeus, 1758 House Mouse	Almost throughout the country	Spread throughout most of world association with human beings	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
75.	<i>Mus saxicola</i> Elliot, 1839 Elliot's Spiny Mouse	Andhra Pradesh, Gujarat, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra Tamil Nadu, Uttarakhand, Punjab and West Bengal	Nepal and Pakistan	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005

11. Family: HYSTRICIDAE (Old world porcupines)							
88.	<i>Atherurus macrourus</i> (Linnaeus, 1758) Asiatic Brush-tailed Porcupine	Assam, Arunachal Pradesh and Meghalaya	Bangladesh, China, Laos, Malaysia, Myanmar, Thailand, Viet Nam	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
89.	<i>Hystrix brachyura</i> Linnaeus, 1758	North East India and Sikkim and West Bengal	Bangladesh, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Thailand and Viet Nam	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Prater, 1971; Wilson and Reeder, 2005
90.	<i>Hystrix indica</i> Kerr, 1792 Indian Crested Porcupine	Almost throughout the country	Afghanistan, Armenia, Azerbaijan, China, Georgia, Iran, Iraq, Israel, Jordan, Kazakhstan, Nepal, Pakistan, Saudi Arabia, Sri Lanka, Turkey, Turkmenistan and Yemen	LC	IV	-	Alfred <i>et al.</i> , 2002, 2006; Pradhan and Talmale, 2011; Wilson and Reeder, 2005
I. Order: Lagomorpha 12. Family: OCHOTONIDAE (Pikas)							
91.	<i>Ochotona curzoniae</i> (Hodgson, 1858) Pleteau Pika	Sikkim	China and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
92.	<i>Ochotona forresti</i> Thomas, 1923 Forrest's Pika	Assam, Arunachal Pradesh and Sikkim	Bhutan, China and Myanmar	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
93.	<i>Ochotona ladacensis</i> (Günther, 1875) Ladakh Pika	Jammu & Kashmir	China and Pakistan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
94.	<i>Ochotona macrotis</i> (Günther, 1875) Large-eared Pika	Jammu & Kashmir	Afghanistan, Bhutan, China, Kazakhstan, Kyrgyzstan, Nepal, Pakistan and Tajikistan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
95.	<i>Ochotona nubrica</i> Thomas, 1922 Nubra Pika	Jammu & Kashmir	China	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
96.	<i>Ochotona roylei</i> (Ogilby, 1839) Royle's Pika	Himachal Pradesh, Jammu & Kashmir and Uttar Pradesh	China, Nepal and Pakistan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
97.	<i>Ochotona thibetana</i> (Milne-Edwards, 1871) Moupin Pika	Sikkim	Bhutan, China and Myanmar	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
13. Family: LEPORIDAE (Hares and Rabbits)							
98.	<i>Lepus nigricollis</i> F. Cuvier, 1823 Indian Hare	Almost throughout the country	Bangladesh, Indonesia, Mauritius, Réunion, Pakistan, Nepal, Seychelles and Sri Lanka	LC	IV	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
99.	<i>Lepus oiostolus</i> Hodgson, 1840 Woolly Hare	Jammu & Kashmir and Sikkim	China, Nepal and Pakistan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
100.	<i>Lepus tolai</i> Pallas, 1778 Tolai Hare	Jammu & Kashmir and Sikkim	Afghanistan, China, Iran, Kazakhstan, Kyrgyzstan, Mongolia, Russian Federation, Turkmenistan and Uzbekistan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005

I. Order: Erinaceomorpha 14. Family: ERINACEIDAE (Hedgehogs)							
101.	<i>Hemiechinus collaris</i> (Gray, 1830) Indian Long-eared Hedgehog	Uttar Pradesh, Gujarat, Himachal Pradesh, Jammu & Kashmir and Maharashtra	Pakistan	LC	IV	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
II. Order: Soricomorpha 15. Family: SORICIDAE (Shrews)							
102.	<i>Crocidura attenuata</i> Milne-Edwards, 1872 Asian Gray Shrew	Assam, Jammu & Kashmir, Punjab, Sikkim, Uttar Pradesh and West Bengal	Cambodia, China, Laos, Malaysia, Myanmar, Philippines, Taiwan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
103.	<i>Crocidura fuliginosa</i> (Blyth, 1855) Southeast Asian Shrew	North India, Assam and Meghalaya	Cambodia, China, Laos, Malaysia, Myanmar, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
104.	<i>Crocidura horsfieldii</i> (Tomes, 1856) Horsefield's Shrew	Jammu & Kashmir and Karnataka	China, Nepal and Sri Lanka	DD	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
105.	<i>Crocidura pullata</i> Miller, 1911 Kashmir White-toothed Shrew	Jammu & Kashmir	China, Pakistan and Thailand	DD	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
106.	<i>Crocidura rapax</i> G. Allen, 1923 Chinese White-toothed Shrew	Jammu & Kashmir	China and Taiwan	DD	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
107.	<i>Crocidura vorax</i> G. Allen, 1923 Voracious Shrew	North East India	China, Laos, Thailand and Viet Nam	LC	-	-	Wilson and Reeder, 2005
108.	<i>Suncus etruscus</i> (Savi, 1822) Etruscan Shrew	Almost throughout the country	Widespread from Southern Europe and North Africa, through parts of the Near East and Arabian Peninsula, Central Asia, South Asia and mainland Southeast Asia, to the island of Borneo in the east	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
109.	<i>Suncus murinus</i> (Linnaeus, 1766) Asian Musk Shrew	Almost throughout the country	Widespread, mainly found in South Asia but introduced widely throughout Asia	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
110.	* <i>Anourosorex assamensis</i> Anderson, 1875 Assam Mole Shrew	Assam, Meghalaya, Manipur and Nagaland	-	LC	-	-	Wilson and Reeder, 2005
112.	<i>Anourosorex schmidti</i> Petter, 1963 Giant Mole Shrew	Arunachal Pradesh and Sikkim	Bhutan	DD	-	-	Wilson and Reeder, 2005
113.	<i>Anourosorex squamipes</i> Milne-Edwards, 1872 Chinese Mole Shrew	North East India	China, Laos, Myanmar, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
114.	<i>Chimarrogale himalayica</i> (Gray, 1842) Himalayan Water Shrew	Himachal Pradesh, Jammu & Kashmir, Uttar Pradesh, Sikkim and West Bengal	China, Laos, Myanmar, Nepal, Taiwan and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
115.	<i>Episoriculus caudatus</i> (Horsefield, 1851) Hodgson's Brown-toothed Shrew	Sikkim, Uttarakhand and West Bengal	China, Myanmar, Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
116.	<i>Episoriculus leucops</i> (Horsefield, 1855) Long-tailed Brown-toothed Shrew	Sikkim	China, Myanmar, Nepal, Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005

117.	<i>Episoriculus macrurus</i> (Blanford, 1888) Long-tailed Mountain Shrew	Sikkim and West Bengal	China, Myanmar and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
118.	<i>Nectogale elegans</i> Milne-Edwards, 1870 Elegant Water Shrew	Sikkim	China, Myanmar and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
119.	<i>Soriculus nigrescens</i> (Gray, 1842) Himalayan Shrew	Sikkim, West Bengal, Assam and Arunachal Pradesh	Bhutan, China and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
120.	<i>Sorex minutus</i> Linnaeus, 1766 Eurasian Pygmy Shrew	Jammu & Kashmir	Europe to Yenesei river and Lake Baikal, south to Altai and Tienshan Mtns, Nepal, Pakistan and Turkey	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
121.	<i>Sorex planiceps</i> Miller, 1911 Kashmir Pygmy Shrew	North West India and Jammu & Kashmir	China and Pakistan	LC	-	-	Wilson and Reeder, 2005
16. Family: TALPIDAE (Moles)							
122.	<i>Euroscaptor micrura</i> (Hodgson, 1841) Himalayan Mole	North East India, Sikkim and West Bengal	Bhutan, China, Malaysia and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
123.	<i>Parascaptor leucura</i> (Blyth, 1850) White-tailed Mole	North East India	Bangladesh, China and Myanmar	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
III. Order: Chiroptera							
17. Family: PTEROPODIDAE (Old world fruit bats)							
124.	<i>Cynopterus brachyotis</i> (Müller, 1838) Lesser Short-nosed Fruit Bat	Andaman & Nicobar Is., South India, Bihar, Goa, Gujarat, Madhya Pradesh, Maharashtra, Meghalaya, Nagaland, Odisha, Uttar Pradesh and West Bengal	This widespread species ranges from South Asia, through parts of southern China to parts of Southeast Asia	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
125.	<i>Cynopterus sphinx</i> (Vahl, 1797) Greater Short-nosed Fruit Bat	Central, North East and South India, Andaman & Nicobar Is., Bihar, Goa, Gujarat, Jammu & Kashmir, Jharkhand, Odisha, Rajasthan, Uttarakhand and West Bengal	This species is widely distributed from much of South Asia, through southern China, most of mainland and insular Southeast Asia	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Prater, 1971; Wilson and Reeder, 2005
126.	<i>Eonycteris spelaea</i> (Dobson, 1871) Lesser Dawn Bat	Andaman & Nicobar Is., Andhra Pradesh, North East India, Karnataka, Sikkim, Tamil Nadu and Uttarakhand	Brunei Darussalam, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
127.	<i>Macroglossus sobrinus</i> K. Andersen, 1911 Greater Long-nosed Fruit Bat	Arunachal Pradesh, Meghalaya, Tripura and West Bengal	Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
128.	<i>Megaerops niphanae</i> Yenbutra and Felten, 1983 Ratanaworabhan's Fruit Bat	Arunachal Pradesh, Manipur, Mizoram, Nagaland and West Bengal	Cambodia, Laos, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005

129.	<i>Pteropus giganteus</i> (Brünnich, 1782) Indian Flying Fox	Almost throughout the country	Bangladesh, Bhutan, China, Maldives, Myanmar, Nepal, Pakistan and Sri Lanka	LC	V	II	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Prater, 1971; Wilson and Reeder, 2005
130.	<i>Rousettus leschenaultia</i> (Desmarest, 1820) Leschenault's Rousette	Almost throughout the country	Bangladesh, Bhutan, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Prater, 1971; Wilson and Reeder, 2005
131.	<i>Sphaerias blanfordi</i> (Thomas, 1891) Blanford's Fruit Bat	Arunachal Pradesh, Mizoram, Uttar Pradesh and West Bengal	Bhutan, China, Myanmar, Nepal, Thailand and Viet Nam	LC	V	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005

18. Family: RHINOLOPHIDAE (Horseshoe bats)

132.	<i>Rhinolophus affinis</i> Horsfield, 1823 Intermediate Horseshoe Bat	Andaman & Nicobar Is., Arunachal Pradesh, Assam, Sikkim, Tamil Nadu, Uttarakhand and West Bengal	Bangladesh, Bhutan, Cambodia, China, Hong Kong, Indonesia, Laos, Malaysia, Myanmar, Nepal, Singapore, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
133.	<i>Rhinolophus ferrumequinum</i> (Schreber, 1774) Greater Horseshoe Bat	Jammu & Kashmir, Sikkim and Uttar Pradesh	This species has a wide range in Europe, Africa, South Asia, China, Korea, Japan and Australia	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
134.	<i>Rhinolophus hipposideros</i> (Bechstein, 1800) Lesser Horseshoe Bat	Jammu & Kashmir	Widely distributed in the western and central Palaearctic	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
135.	<i>Rhinolophus luctus</i> Blyth, 1844 Blyth's Horseshoe Bat	Almost throughout the country	Afghanistan, Bangladesh, Cambodia, China, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
136.	<i>Rhinolophus luctus</i> Temminck, 1834 Woolly Horseshoe Bat	Andhra Pradesh, Assam, Madhya Pradesh, Meghalaya, Nagaland, Uttarakhand, Sikkim and West Bengal	Bangladesh, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Singapore, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
137.	<i>Rhinolophus macrotis</i> Blyth, 1844 Big-eared Horseshoe Bat	Andhra Pradesh, Meghalaya, Uttarakhand and West Bengal	Bangladesh, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
138.	<i>Rhinolophus pearsonii</i> Horsfield, 1851 Pearson's Horseshoe Bat	Assam, Meghalaya, Mizoram, Sikkim, Uttarakhand and West Bengal	Bangladesh, Bhutan, China, Laos, Malaysia, Myanmar, Nepal, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
139.	<i>Rhinolophus pusillus</i> Temminck, 1834 Least Horseshoe Bat	South India, Arunachal Pradesh, Assam, Meghalaya, Sikkim, Uttarakhand and West Bengal	Cambodia, China, Indonesia, Japan, Laos, Malaysia, Myanmar, Nepal, Taiwan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005

140.	<i>Rhinolophus rouxi</i> Temminck, 1835 Rufous Horseshoe Bat	North and South India, Chhattisgarh, Goa, Himachal Pradesh, Madhya Pradesh, Maharashtra, Odisha, Sikkim, Uttarakhand and West Bengal	China, Myanmar, Nepal and Sri Lanka	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
141.	<i>Rhinolophus shortridgei</i> K. Andersen, 1918 Shortridge's Horseshoe Bat	North India, Myanmar	China and Myanmar	LC	-	-	Wilson and Reeder, 2005
142.	<i>Rhinolophus sinicus</i> K. Andersen, 1905 Chinese Rufous Horseshoe Bat	Andhra Pradesh, Himachal Pradesh, Meghalaya Nagaland, Sikkim, Uttarakhand and West Bengal	China, Myanmar, Nepal and Viet Nam	LC	-	-	Wilson and Reeder, 2005
143.	<i>Rhinolophus subbadius</i> Blyth, 1844 Little Nepalese Horseshoe Bat	Arunachal Pradesh and Meghalaya	Bangladesh, China, Myanmar and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
144.	<i>Rhinolophus trifoliatus</i> Temminck, 1834 Trefoil Horseshoe Bat	Assam and West Bengal	China, Indonesia, Malaysia, Myanmar and Thailand	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
145.	<i>Rhinolophus yunnanensis</i> Dobson, 1872 Dobson's Horseshoe Bat	Arunachal Pradesh and Mizoram	China, Myanmar and Thailand	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005

19. Family: **HIPPOSIDERIDAE** (Old world leaf-nosed bats)

146.	<i>Coelops frithii</i> Blyth, 1848 East Asian Tailless Leaf-nosed Bat	Meghalaya and West Bengal	Bangladesh, China, Indonesia, Loas, Malaysia, Myanmar, Taiwan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
147.	<i>Hipposideros armiger</i> (Hodgson, 1835) Great Leaf-nosed Bat	Assam, Manipur, Meghalaya, Sikkim Uttarakhand and West Bengal	Cambodia, China, Hong Kong, Loas, Malaysia, Myanmar, Nepal, Taiwan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Prater, 1971; Wilson and Reeder, 2005
148.	<i>Hipposideros ater</i> Templeton, 1848 Dusky Leaf-nosed Bat	South India, Madhya Pradesh, Maharashtra, Meghalaya, Andaman & Nicobar Is., Odisha	Australia, Indonesia, Malaysia, Myanmar, Papua New Guinea, Philippines, Sri Lanka and Thailand	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
149.	<i>Hipposideros cineraceus</i> Blyth, 1853 Ashy Leaf-nosed Bat	Arunachal Pradesh, Assam, Haryana, Meghalaya, Mizoram, Tamil Nadu, Uttarakhand and West Bengal	Indonesia, Loas, Malaysia, Myanmar, Pakistan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
150.	<i>Hipposideros larvatus</i> (Horsfield, 1823) Intermediate Leaf-nosed Bat	Arunachal Pradesh, Assam and Meghalaya	Bangladesh, Cambodia, China, Indonesia, Loas, Malaysia, Myanmar, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
151.	<i>Hipposideros Pomona</i> K. Andersen, 1918 Pomona Leaf-nosed Bat	Andaman & Nicobar Is., Andhra Pradesh, Assam, Arunachal Pradesh, Karnataka, Kerala, Meghalaya, Nagaland, Tamil Nadu, Sikkim and West Bengal	Bangladesh, Cambodia, China, Loas, Malaysia, Myanmar, Nepal, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005

20. Family: MEGADERMATIDAE (False-vampire bats)							
152.	<i>Megaderma lyra</i> É. Geoffroy, 1810 Greater False Vampire Bat	North East and South India, Bihar, Chhattisgarh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh and West Bengal	Afghanistan, Bangladesh, Cambodia, China, Laos, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Prater, 1971; Wilson and Reeder, 2005
153.	<i>Megaderma spasma</i> (Linnaeus, 1758) Lesser False Vampire Bat	South India, Andaman & Nicobar Is., Assam, Goa, Maharashtra, Meghalaya, Mizoram and West Bengal	Bangladesh, Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Sri Lanka, Thailand, Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
21. Family: RHINOPOMATIDAE (Mouse-tailed bats)							
154.	<i>Rhinopoma hardwickii</i> Gray, 1831 Lesser Mouse-tailed Bat	Andhra Pradesh, Assam, Bihar, Gujarat, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Rajasthan, Uttar Pradesh and West Bengal	Widespread across central and northern Africa through Arabia and southern Asia	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
155.	<i>Rhinopoma microphyllum</i> (Brünnich, 1792) Greater Mouse-tailed Bat	Bihar, Gujarat, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh and West Bengal	Extends from northern Africa through southwest Asia to Afghanistan and Pakistan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
22. Family: EMBALLOONURIDAE (Sheath-tailed bats)							
156.	<i>Saccopteryx saccopteryx</i> (Temminck, 1838) Naked-rumped Pouched Bat	Andaman & Nicobar Is., Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Uttar Pradesh and West Bengal	Australia, Bangladesh, Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Papua New Guinea, Philippines, Solomon Islands, Sri Lanka, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
23. Family: MOLOSSIDAE (Free-tailed bats)							
157.	<i>Chaerephon plicatus</i> (Buchannan, 1800) Wrinkle-lipped Free-tailed Bat	Andhra Pradesh, Goa, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal	Cambodia, China, Hong Kong, Laos, Malaysia, Philippines, Sri Lanka and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
158.	<i>Otomops wroughtoni</i> (Thomas, 1913) Wroughton's Giant Mastiff Bat	Karnataka, Meghalaya	Cambodia	DD	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
24. Family: VESPERTILIONIDAE (Vesper bats)							
159.	<i>Arielulus circumdatus</i> (Temminck, 1840) Bronze Sprite	Assam, Meghalaya, Mizoram and Sikkim	Cambodia, China, Indonesia, Malaysia, Myanmar, Nepal, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005

160.	<i>Eptesicus pachyotis</i> (Dobson, 1871) Thick-eared Bat	Meghalaya and Mizoram	Bangladesh, China, Myanmar and Thailand	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
161.	<i>Eptesicus serotinus</i> (Schreber, 1774) Common Serotine	Himachal Pradesh, Jammu & Kashmir and Rajasthan	Widely distributed through the Palaearctic from the Atlantic to the Pacific seaboards, across the Mediterranean from Portugal eastwards to Turkey, and is marginal to North Africa	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Prater, 1971; Wilson and Reeder, 2005
162.	<i>Scotomantoides ornatus</i> (Blyth, 1851) Harlequin Bat	Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland, Sikkim and West Bengal	Bangladesh, China, Laos, Myanmar, Nepal, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
163.	<i>Scotophilus heathii</i> (Horsfield, 1831) Greater Asiatic Yellow House Bat	North East, South India, Bihar, Gujarat, Haryana, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Uttarakhand, Uttar Pradesh and West Bengal	Afghanistan, Bangladesh, Cambodia, China, Indonesia, Laos, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Prater, 1971; Wilson and Reeder, 2005
164.	<i>Scotophilus kuhlii</i> Leach, 1821 Lesser Asiatic Yellow Bat	South India, Andaman & Nicobar Is., Assam, Bihar, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Tripura, Uttar Pradesh, Uttarakhand and West Bengal	Bangladesh, Cambodia, China, Hong Kong, Indonesia, Laos, Malaysia, Myanmar, Pakistan, Philippines, Sri Lanka, Taiwan, Thailand, Timor-Leste and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
165.	<i>Nyctalus leisleri</i> (Kuhl, 1817) Leisler's Noctule	Jammu & Kashmir, Punjab	Largely a western Palaearctic species, with scattered records in the western parts of the eastern Palaearctic (Pakistan, Afghanistan, the Himalayas)	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
166.	<i>Nyctalus montanus</i> (Barrett-Hamilton, 1906) Mountain Noctule	Himachal Pradesh and Uttarakhand	Afghanistan and Nepal	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
167.	<i>Nyctalus noctula</i> (Schreber, 1774) Noctule	Himachal Pradesh, Jammu & Kashmir, Nagaland, Sikkim, Uttar Pradesh, West Bengal	Throughout Europe, Asia, and North Africa	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
168.	<i>Pipistrellus abramus</i> (Temminck, 1838) Japanese Pipistrelle	Uttar Pradesh, Assam, Bihar, Jammu & Kashmir, Manipur and Nagaland	China, Japan, Korea, Laos, Myanmar, Taiwan and Viet Nam	LC	-	-	Wilson and Reeder, 2005
169.	<i>Pipistrellus coromandra</i> (Gray, 1838) Indian Pipistrelle	Andaman & Nicobar Is., North East and South India, Bihar, Goa, Gujarat, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Sikkim, Uttarakhand, Uttar Pradesh and West Bengal	-	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Prater, 1971; Wilson and Reeder, 2005

170.	<i>Pipistrellus javanicus</i> (Gray, 1838) Javan Pipistrelle	Andaman & Nicobar Is., Assam, Himachal Pradesh, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Sikkim, Uttarakhand and West Bengal	Afghanistan, Bangladesh, Brunei Darussalam, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
171.	<i>Pipistrellus kuhlii</i> (Kuhl, 1817) Kuhl's Pipistrelle	Jammu & Kashmir	Africa, Europe and Asia	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
172.	<i>Pipistrellus paterculus</i> Thomas, 1915 Mount Popa Pipistrelle	Assam, Bihar, Jammu & Kashmir, Manipur and Nagaland	China, Laos, Myanmar and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
173.	<i>Pipistrellus pipistrellus</i> (Schreber, 1774) Common Pipistrelle	Jammu & Kashmir	Range extends across most of Europe, North Africa, southwestern Asia, and possibly into Korea	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
174.	<i>Pipistrellus savii</i> (Bonaparte, 1837) Savi's Pipistrelle	North East India (from Khasia Hills in Assam and Meghalaya)	Distributed across North West Africa, the Mediterranean region and the Middle East	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
175.	<i>Pipistrellus tenuis</i> (Temminck, 1840) Least Pipistrelle	Almost throughout the country	Throughout much of South Asia, southeastern China and Southeast Asia.	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
176.	<i>Scotozous dormeri</i> Dobson, 1875 Dormer's Pipistrelle	Almost throughout the country	Bangladesh and Pakistan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
177.	<i>Barbastella leucomelas</i> (Cretzschmar, 1826) Eastern Barbastelle	Himachal Pradesh, Jammu & Kashmir, Meghalaya, Sikkim, Uttar Pradesh, West Bengal	The main distribution occurs from the Caucasus eastwards including Iran, Afghanistan and India, and onwards to China, Japan and North Africa	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
178.	<i>Plecotus auritus</i> (Linnaeus, 1758) Brown Long-eared Bat	Himachal Pradesh, Jammu & Kashmir, Meghalaya, Sikkim, Uttar Pradesh, West Bengal	European countries	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
179.	<i>Falsistrellus affinis</i> (Dobson, 1871) Chocolate Pipistrelle	Kerala, Maharashtra, Tamil Nadu, Uttarakhand and West Bengal	China, Myanmar, Nepal and Sri Lanka	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
180.	<i>Ia io</i> Thomas, 1902 Great Evening Bat	Assam and Meghalaya	China, Laos, Myanmar, Nepal, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
181.	<i>Tylonycteris pachypus</i> (Temminck, 1840) Lesser Bamboo Bat	Andaman & Nicobar Is., Karnataka, Kerala, Manipur, Meghalaya, Mizoram, Sikkim, Tripura and West Bengal	Bangladesh, Brunei Darussalam, Cambodia, China, Hong Kong, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005

182.	<i>Tylonycteris robustula</i> Thomas, 1915 Greater Bamboo Bat	Mizoram	Brunei Darussalam, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste and Viet Nam	LC	-	-	Wilson and Reeder, 2005
183.	<i>Myotis annectans</i> (Dobson, 1871) Hairy-faced Myotis	Nagaland and West Bengal	Cambodia, China, Laos and Thailand	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
184.	<i>Myotis daubentonii</i> (Kuhl, 1817) Daubenton's Bat	Assam	Distributed from Portugal, Ireland and Norway through Europe and northern Asia to the Far East (Korea and Japan)	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
185.	<i>Myotis blythii</i> (Tomes, 1857) Lesser Mouse-eared Myotis	Himachal Pradesh, Jammu & Kashmir, Rajasthan	Southern Europe, southern parts of central Europe, and non-arid parts of southwestern Asia	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
186.	<i>Myotis formosus</i> (Hodgson, 1835) Hodgson's Myotis	Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Maharashtra, Meghalaya, Mizoram, Punjab, Sikkim, Uttarakhand and West Bengal	Afghanistan, Bangladesh, China, Indonesia, Korea, Loas, Nepal, Philippines and Taiwan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
187.	<i>Myotis laniger</i> Peters, 1871 Chinese Water Myotis	Meghalaya	China and Viet Nam	LC	-	-	Wilson and Reeder, 2005
188.	<i>Myotis longipes</i> (Dobson, 1873) Kashmir Cave Myotis	Jammu & Kashmir and Meghalaya	Afghanistan, China and Nepal	DD	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
189.	<i>Myotis montivagus</i> (Dobson, 1874) Burmese Whiskered Myotis	Andhra Pradesh, Karnataka, Kerala, Maharashtra, Mizoram and Tamil Nadu	China, Loas, Malaysia, Myanmar and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
190.	<i>Myotis muricola</i> (Gray, 1846) Nepalese Whiskered Myotis	Assam, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Meghalaya Mizoram, Sikkim, Uttarakhand and West Bengal	Afghanistan, Bhutan, Brunei Darussalam, Cambodia, China, Indonesia, Loas, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Taiwan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
191.	<i>Myotis sicarius</i> Thomas, 1915 Mandelli's Mouse-eared Myotis	Sikkim and West Bengal	Nepal	VU	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
192.	<i>Myotis siligorensis</i> (Horsfield, 1855) Himalayan Whiskered Myotis	Meghalaya, Sikkim, Uttarakhand and West Bengal	Cambodia, China, Indonesia, Loas, Malaysia, Myanmar, Nepal and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
193.	<i>Miniopterus magnate</i> Sanborn, 1931 Western Long-fingered Bat	North East India	China, Indonesia, Myanmar and Papua New Guinea	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005

194.	<i>Miniopterus schreibersii</i> (Kuhl, 1817) Schreibers's Long-fingered Bat	Karnataka, Maharashtra, Meghalaya, Uttar Pradesh and West Bengal	From south-western Europe and north and west Africa through Anatolia and the Middle East to the Caucasus	NT	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
195.	<i>Harpiocephalus harpia</i> (Temminck, 1840) Lesser Hairy-winged Bat	Assam, Kerala, Meghalaya, Mizoram, Sikkim, Tamil Nadu and West Bengal	Bhutan, China, Indonesia, Loas, Philippines, Taiwan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
196.	<i>Harpiocephalus mordax</i> Thomas, 1923 Greater Hairy-winged Bat	North East India	Loas, Malaysia, Myanmar, Thailand and Viet Nam	DD	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
197.	<i>Murina aurata</i> Milne-Edwards, 1872 Little Tube-nosed Bat	Sikkim	China, Loas, Myanmar, Nepal, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
198.	<i>Murina cyclotis</i> Dobson, 1872 Round-eared Tube-nosed Bat	Andhra Pradesh, Meghalaya, Mizoram, Andaman & Nicobar Is., Sikkim, Tamil Nadu and West Bengal	Bangladesh, Brunei Darussalam, Cambodia, China, Loas, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
199.	<i>Murina huttoni</i> (Peters, 1872) Hutton's Tube-nosed Bat	Arunachal Pradesh, Assam, Jammu & Kashmir, Meghalaya, Uttarakhand and West Bengal	China, Loas, Malaysia, Myanmar, Nepal, Pakistan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
200.	<i>Murina leucogaster</i> Milne-Edwards, 1872 Greater Tube-nosed Bat	North East India and West Bengal	Bhutan, China, Japan, Nepal and Thailand	DD	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
201.	<i>Murina tubinaria</i> (Scully, 1881) Scully's Tube-nosed Bat	Jammu & Kashmir	Cambodia, Loas, Myanmar, Pakistan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
202.	<i>Kerivoula hardwickii</i> (Horsfield, 1824) Hardwicke's Woolly Bat	Assam, Jammu & Kashmir, Karnataka, Meghalaya, Mizoram, Nagaland and West Bengal	This widespread species ranges from southern and northern South Asia, southern China, and throughout continental and insular Southeast Asia	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Wilson and Reeder, 2005
203.	<i>Kerivoula picta</i> (Pallas, 1767) Painted Woolly Bat	Andhra Pradesh, Assam, Goa, Karnataka, Kerala, Maharashtra, Odisha, Rajasthan, Sikkim, Tamil Nadu and West Bengal	Bangladesh, Cambodia, China, Indonesia Loas, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Talmale and Pradhan, 2009; Prater, 1971; Wilson and Reeder, 2005
IX. Order: Pholidota 25. Family: MANIDAE (Pangolins)							
204.	<i>Manis crassicaudata</i> E. Geoffroy, 1803 Indian Pangolin	Widely distributed from the plains and lower hills south of the Himalayas to South India	Bangladesh, Pakistan and Sri Lanka	NT	I	II	Alfred <i>et al.</i> , 2002, 2006; Srinivasulu and Srinivasulu, 2004; Prater, 1971; Wilson and Reeder, 2005

205.	<i>Manis pentadactyla</i> Linnaeus, 1758 Chinese Pangolin	North East India, Sikkim	Bangladesh, Bhutan, China, Hong Kong, Laos, Myanmar, Nepal, Taiwan, Thailand and Viet Nam	EN	I	II	Alfred <i>et al.</i> , 2002, 2006; Srinivasulu and Srinivasulu, 2004; Prater, 1971; Wilson and Reeder, 2005
X. Order: Carnivora 26. Family: FELIDAE (Cats)							
206.	<i>Catopuma temminckii</i> (Vigors and Horsfield, 1827) Asiatic Golden Cat	North East India and Sikkim	Bangladesh, Bhutan, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Thailand and Viet Nam	NT	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
207.	<i>Felis chaus</i> Schreber, 1777 Jungle Cat	South India, Gujarat, Jammu & Kashmir, Madhya Pradesh, Rajasthan, Sikkim, Uttar Pradesh and West Bengal	Egypt, West and Central Asia, South and Southeast Asia	LC	II	II	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
208.	<i>Lynx lynx</i> (Linnaeus, 1758) Eurasian Lynx	Jammu & Kashmir	From western Europe through the boreal forests of Russia, and down into central Asia and the Tibetan plateau	LC	-	II	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
209.	<i>Otocolobus manul</i> Pallas, 1776 Pallas's Cat	Jammu & Kashmir	Central Asia	NT	I	II	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
210.	<i>Pardofelis marmorata</i> (Martin, 1837) Marbled Cat	North East India	Bhutan, Brunei Darussalam, Cambodia, China, Indonesia, Laos, Malaysia (Malaysia, Sabah, Sarawak), Myanmar, Nepal, Thailand, Viet Nam	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
211.	<i>Prionailurus bengalensis</i> (Kerr, 1792) Leopard Cat	Central, North East and North West India	South and East Asia	LC	I	II	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Wilson and Reeder, 2005
212.	<i>Prionailurus rubiginosus</i> (I. Geoffroy Saint-Hilaire, 1831) Rusty-spotted Cat	Andhra Pradesh, Gujarat, Jammu & Kashmir, Madhya Pradesh and Tamil Nadu	Sri Lanka	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Wilson and Reeder, 2005
213.	<i>Neofelis nebulosa</i> (Griffith, 1821) Clouded Leopard	North East India, Sikkim and West Bengal	Bangladesh, Bhutan, Cambodia, China, Laos, Malaysia, Myanmar, Nepal, Thailand and Viet Nam	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
214.	<i>Panthera pardus</i> (Linnaeus, 1758) Leopard	Throughout India in suitable habitats	Spread over some parts of Africa and tropical Asia, from Siberia, South and West Asia to across most of sub-Saharan Africa	NT	-	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
215.	<i>Panthera tigris</i> (Linnaeus, 1758) Tiger	Throughout country in suitable habitats except desert and extreme cold region	Asian range states: Bangladesh, Bhutan, Cambodia, China, Indonesia, Laos , Malaysia, Myanmar, Nepal, Russia, Thailand and Viet Nam	EN	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
216.	<i>Uncia uncia</i> (Schreber, 1775) Snow Leopard	Himachal Pradesh, Jammu & Kashmir, Sikkim and Uttarakhand	Afghanistan, Bhutan, China, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russian Federation, Tajikistan and Uzbekistan	EN	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005

27. Family: VIVERRIDAE (Civets and Palm civets)							
217.	<i>Arctictis binturong</i> (Raffles, 1821) Binturong	North East India and Sikkim	Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Philippines, Thailand and Viet Nam	VU	I	III	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
218.	<i>Arctogalidia trivirgata</i> (Gray, 1832) Small-toothed Palm Civet	North East India	Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Philippines, Thailand and Viet Nam	LC	II	-	Alfred <i>et al.</i> , 2002; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
219.	<i>Paguma larvata</i> (C. E. H. Smith, 1827) Masked Palm Civet	North East India, Andaman & Nicobar Is., Himachal Pradesh, Sikkim, Uttar Pradesh and West Bengal	Bhutan, Brunei Darussalam, Cambodia, China, Indonesia , Laos, Malaysia, Myanmar, Nepal, Thailand and Viet Nam	LC	II	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
220.	<i>Paradoxurus hermaphroditus</i> (Pallas, 1777) Asian Palm Civet	Almost throughout the country except desert part of Rajasthan and Gujarat	Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Philippines, Singapore, Sri Lanka, Thailand and Viet Nam	LC	II	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
221.	<i>Prionodon pardicolor</i> Hodgson, 1842 Spotted Linsang	Sub Himalayan region in the North East India, Sikkim and West Bengal	Cambodia, China, Laos, Myanmar, Nepal, Thailand and Viet Nam	LC	I	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Pocock, 1939; Wilson and Reeder, 2005
222.	<i>Viverra zibetha</i> Linnaeus, 1758 Large Indian Civet	North East India, Sikkim and West Bengal	Bhutan, Cambodia, China, Laos, Malaysia, Myanmar, Nepal, Singapore, Thailand and Viet Nam	NT	II	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
223.	<i>Viverricula indica</i> (E. Geoffroy Saint-Hilaire, 1803) Small Indian Civet	Throughout the country in suitable habitats	Bangladesh, Bhutan, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand and Viet Nam	LC	II	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1939; Prater, 1971; Wilson and Reeder, 2005
28. Family: HERPESTIDAE (Mongooses)							
224.	<i>Herpestes edwardsii</i> (É. Geoffroy Saint-Hilaire, 1818) Grey Mongoose	Throughout the country in suitable habitats	Afghanistan, Bahrain, Bhutan, Indonesia, Iran, Japan, Kuwait, Malaysia, Mauritius, Nepal, Pakistan, Saudi Arabia and Sri Lanka	LC	II	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
225.	<i>Herpestes javanicus</i> (É. Geoffroy Saint-Hilaire, 1818) Javan Mongoose	Andhra Pradesh, Gujarat, Jammu & Kashmir and North East India	Wide range from Iran through northern and into Indochina	LC	-	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
226.	<i>Herpestes urva</i> (Hodgson, 1836) Crab-eating Mongoose	North East India and West Bengal	Bangladesh, Cambodia, China, Laos, Malaysia, Myanmar, Nepal, Taiwan, Thailand and Viet Nam	LC	IV	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
29. Family: HYAENIDAE (Hyena)							
227.	<i>Hyaena hyaena</i> (Linnaeus, 1758) Striped Hyena	South to the Nilgiri hills, west to Gujarat, north to lowland of Jammu & Kashmir and Kumaon, east to West Bengal	North and East Africa, the Caucasus, the Middle East, Middle and Central Asia and the Indian Subcontinent	NT	III	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005

30. Family: CANIDAE (Dogs, Wolves, Jackals, Foxes)							
228.	<i>Canis aureus</i> Linnaeus, 1758 Golden Jackal	Almost throughout the country	Afghanistan, Central, South western and South Asia, North and East Africa, Southeastern Europe, Iran, Nilgeria, Tangania, Thailand, Transcaucasus and Sri Lanka	LC	II	II	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
229.	<i>Canis lupus</i> Linnaeus, 1758 Grey Wolf	Throughout the country except extreme south	Throughout the northern hemisphere, North America south to 20° N. in Oaxaca (Mexico), Europe, Asia, including the Arabian peninsula and Japan excluding Indo-China	LC	-	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
230.	<i>Cuon alpinus</i> (Pallas, 1811) Dhole	South of river ganges, peninsula from Coorg and Nilgiri hills northwards to Kashmir, Sikkim and Uttar Pradesh	Bangladesh, Bhutan, Cambodia, China, Indonesia, Kazakhstan, Kyrgyzstan, Laos, Malaysia, Mongolia, Myanmar, Nepal, Russian Federation, Tajikistan, Thailand and Viet Nam	EN	II	II	Alfred <i>et al.</i> , 2002; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
231.	<i>Vulpes bengalensis</i> (Shaw, 1800) Bengal Fox	Throughout the country	Bangladesh, Nepal and Pakistan	LC	II	III	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
232.	<i>Vulpes ferrilata</i> Hodgson, 1842 Tibetan Sand Fox	Jammu & Kashmir	China and Nepal	LC	I	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
233.	<i>Vulpes vulpes</i> (Linnaeus, 1758) Red Fox	Gujarat, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, Sikkim and Uttar Pradesh	Entire northern hemisphere from the Arctic Circle to North Africa, Central America, and the Asiatic steppes	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
31. Family: URSIDAE (Bears)							
234.	<i>Helarctos malayanus</i> (Raffles, 1821) Sun Bear	South east of Brahmaputra river in North East India	Bangladesh, Brunei Darussalam, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Thailand, Viet Nam	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
235.	<i>Melursus ursinus</i> (Shaw, 1791) Sloth Bear	Throughout in suitable habitats	Bhutan, Nepal and Sri Lanka	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
236.	<i>Ursus arctos</i> Linnaeus, 1758 Brown Bear	Jammu & Kashmir and Himachal Pradesh	Worldwide	LC	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
237.	<i>Ursus thibetanus</i> G. [Baron] Cuvier, 1823 Asiatic Black Bear	Himachal Pradesh, Jammu & Kashmir, North East India, Sikkim, Uttar Pradesh and West Bengal	Afghanistan, Bangladesh, Bhutan, Cambodia, China, Iran, Japan, Korea, , Korea, Republic of, Laos, Myanmar, Nepal, Pakistan, Russian Federation, Taiwan, Thailand and Viet Nam	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
32. Family: MUSTELIDAE (Badgers, Otters, Weasels)							
238.	<i>Aonyx cinerea</i> (Illiger, 1815) Oriental Small-clawed Otter	Arunachal Pradesh, Assam, Himachal Pradesh, Karnataka, Kerala, Tamil Nadu and West Bengal	Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Philippines, Singapore, Taiwan, Thailand, Viet Nam	VU	I	II	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005

239.	<i>Lutra lutra</i> (Linnaeus, 1758) European Otter	North East and South India, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Punjab, Sikkim, Uttarakhand and West Bengal	Europe, Asia and Africa	NT	-	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
240.	<i>Lutrogale perspicillata</i> (I. Geoffroy Saint-Hilaire, 1826) Smooth-coated Otter	Throughout the country except high regions of Himalayas	Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Indonesia, Iraq, Loas, Malaysia, Myanmar, Nepal, Pakistan, Thailand and Viet Nam	VU	II	II	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
241.	<i>Arctonyx collaris</i> F.G. Cuvier, 1825 Hog-badger	North East India, Sikkim and West Bengal	Bhutan, Cambodia, China, Indonesia, Loas, Mongolia, Myanmar, Thailand and Viet Nam	NT	I	-	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
242.	<i>Martes flavigula</i> (Boddart, 1785) Yellow-throated Marten	Along foothills of Himalaya from Kashmir to North east, Karnataka, Kerala and Tamil Nadu	Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Indonesia, Korea, , Korea, Republic of, Loas, Malaysia, Myanmar, Nepal, Pakistan, Russian Federation, Taiwan, Thailand, Viet Nam	LC	II	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Wilson and Reeder, 2005
243.	<i>Martes foina</i> (Erxleben, 1777) Beech Marten	Himachal Pradesh, Jammu & Kashmir and Uttar Pradesh	Europe and central Asia	LC	II	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Wilson and Reeder, 2005
244.	<i>Mellivora capensis</i> (Schreber, 1776) Honey Badger	Throughout the country except North East India and Jammu & Kashmir	Most of sub-Saharan Africa from the Western Cape, South Africa, to southern Morocco and south-western Algeria, and outside of Africa through Arabia, Iran and western Asia to Turkmenistan and the Indian peninsula.	LC	I	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
245.	<i>Melogale moschata</i> (Gray, 1831) Chinese Ferret-badger	North East India	China, Loas, Myanmar, Taiwan and Viet Nam	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Pocock, 1941; Wilson and Reeder, 2005
246.	<i>Melogale personata</i> I. Geoffroy Saint-Hilaire, 1831 Burmese Ferret Badger	North East India and West Bengal	China, Loas, Myanmar, Nepal, Thailand and Viet Nam	DD	II	-	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
247.	<i>Mustela altaica</i> Pallas, 1811 Mountain Weasel	Himachal Pradesh, Jammu & Kashmir, Sikkim and Uttar Pradesh	Bhutan, China, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Russian Federation and Tajikistan	NT	II	III	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
248.	<i>Mustela erminea</i> Linnaeus, 1758 Ermine	Jammu & Kashmir	North America, Europe, and Asia, from Greenland and the Canadian and Siberian Arctic islands south to about 35°N	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Wilson and Reeder, 2005
249.	<i>Mustela kathiah</i> Hodgson, 1835 Yellow-bellied Weasel	North East India, Jammu & Kashmir, Himachal Pradesh, Sikkim and Uttar Pradesh	Bhutan, China, Loas, Myanmar, Nepal, Thailand and Viet Nam	LC	II	III	Alfred <i>et al.</i> , 2002; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
250.	<i>Mustela sibirica</i> Pallas, 1773 Siberian Weasel	Himalayas from Jammu & Kashmir to North East India	Bhutan, China, Japan, Korea, , Korea, Republic of, Loas, Mongolia, Myanmar, Nepal, Pakistan, Russian Federation, Taiwan, Thailand and Viet Nam	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005

251.	<i>Mustela strigidorsa</i> Gray, 1853 Back-striped Weasel	Sikkim, North East India	China, Laos, Myanmar, Thailand and Viet Nam	LC	II	-	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
33. Family: AILURIDAE (Red panda)							
252.	<i>Ailurus fulgens</i> F.G. Cuvier, 1825 Red Panda	Arunachal Pradesh, Sikkim and West Bengal	Bhutan, China, Myanmar and Nepal	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Pocock, 1941; Prater, 1971; Wilson and Reeder, 2005
XI. Order: Perissodactyla 34. Family: EQUIDAE (Asses)							
253.	<i>Equus kiang</i> Moorcroft, 1841 Kiang	Jammu & Kashmir and Sikkim	China, Nepal and Pakistan	LC	I	II	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
34. Family: RHINOCEROTIDAE (Rhinoceroses)							
254.	** <i>Dicerorhinus sumatrensis</i> (G.Fischer, 1814) Sumatran Rhinoceros	In past it used to occur in North East India	Indonesia, Malaysia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Laos, Thailand and Viet Nam	CR	-	I	Prater, 1971; Wilson and Reeder, 2005
255.	** <i>Rhinoceros sondaicus</i> Desmarest, 1822 Javan Rhinoceros	In past it used to occur in North East India	Indonesia, Viet Nam, Bangladesh, Cambodia, China, Laos, Malaysia, Myanmar and Thailand	CR	-	I	Prater, 1971; Wilson and Reeder, 2005
256.	<i>Rhinoceros unicornis</i> Linnaeus, 1758 Indian Rhinoceros	Assam, Uttar Pradesh and West Bengal	Bangladesh, Bhutan and Nepal	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
XII. Order: Artiodactyla 35. Family: SUIDAE (Pigs)							
257.	<i>Porcula salvania</i> Hodgson, 1847 Pygmy Hog	South of the Himalayan foothills from north-western Uttar Pradesh and Assam	Bangladesh and Nepal	CR	I	I	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
258.	<i>Sus scrofa</i> Linnaeus, 1758 Wild Pig	Throughout the country	All continents except Antarctica, and on many oceanic islands	LC	III	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
36. Family: MOSCHIDAE (Musk deer)							
259.	<i>Moschus chrysogaster</i> (Hodgson, 1839) Alpine Musk Deer	Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh and Sikkim	Bhutan, China and Nepal	EN	I	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
260.	<i>Moschus cupreus</i> Grubb, 1982 Kashmir Musk Deer	Jammu & Kashmir	Afghanistan and Pakistan	EN	I	I	Wilson and Reeder, 2005
261.	<i>Moschus fuscus</i> Li, 1981 Black Musk Deer	Arunachal Pradesh and Sikkim	Bhutan, China, Myanmar and Nepal	EN	I	I	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
262.	<i>Moschus leucogaster</i> Hodgson, 1839 Himalayan Musk Deer	North India and Sikkim	Bhutan, China and Nepal	EN	I	I	Wilson and Reeder, 2005
37. Family: CERVIDAE (Deer)							
263.	<i>Axis axis</i> (Erxleben, 1777) Chital or Spotted Deer	Peninsular India, northwards Kumaon and Sikkim including Andaman & Nicobar Is. and West Bengal	Nepal, Sri Lanka, and introduced many parts of the world	LC	III	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005

264.	<i>Axis porcinus</i> (Zimmermann, 1780) Hog Deer	Himachal Pradesh, North East India, Punjab, Uttar Pradesh and West Bengal	Bangladesh, Bhutan, Cambodia, Nepal, Pakistan, Thailand, Australia, Sri Lanka and United States	EN	III	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
265.	<i>Cervus elaphus</i> Linnaeus, 1758 Red Deer	Jammu & Kashmir and Himachal Pradesh	Wide distribution extending from Europe and North Africa through central Asia, Siberia, the Far East and North America	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
266.	<i>Muntiacus muntjak</i> (Zimmermann, 1780) Indian Muntjac	Almost throughout the country except Jammu & Kashmir and desert region	Bangladesh, Bhutan, China, Indonesia, Malaysia, Nepal, Pakistan and Sri Lanka	LC	III	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
267.	<i>Muntiacus putaoensis</i> Amato, Egan and Rabinowitz, 1999 Leaf Deer	Arunachal Pradesh	Myanmar	DD	-	-	Wilson and Reeder, 2005
268.	<i>Rucervus duvaucelii</i> (G. Cuvier, 1823) Swamp Deer	Assam, Madhya Pradesh and Uttar Pradesh	Nepal	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
269.	<i>Rucervus eldii</i> (Mc Clelland, 1842) Eld's Deer	Manipur	Cambodia, China, Laos and Myanmar	EN	I	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
270.	<i>Rusa unicolor</i> (Kerr, 1792) Sambar	Tamil Nadu, northwards to Uttar Pradesh, east to North East India	Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Sri Lanka, Taiwan, Thailand and Viet Nam	VU	III	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005

38. Family: BOVIDAE (Cattle, Antelope, Sheep, Goat)

271.	<i>Procapra picticaudata</i> Hodgson, 1846 Tibetan Gazelle	Jammu & Kashmir, Sikkim and Uttar Pradesh	China	NT	I	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
272.	** <i>Bos javanicus</i> d'Alton, 1823 Banteng	In past it used to occur in Manipur	Cambodia, Indonesia, Laos, Malaysia, Myanmar, Thailand and Viet Nam	EN EX (India)	-	-	Prater, 1971; Wilson and Reeder, 2005
273.	<i>Bos gaurus</i> C.H. Smith, 1827 Gaur	South India, Assam, Arunachal Pradesh, Bihar, Goa, Madhya Pradesh, Maharashtra, Odisha and West Bengal	Bangladesh, Bhutan, Cambodia, China, Laos, Malaysia, Myanmar, Nepal, Thailand and Viet Nam	VU	I	I	ICZN, 2003; Gentry <i>et al.</i> , 1996 & 2004; Prater, 1971
274.	<i>Bos mutus</i> (Przewalski, 1883) Wild Yak	Jammu & Kashmir and Himachal Pradesh	China and Nepal	VU	I	I	ICZN, 2003; Gentry <i>et al.</i> , 1996; Prater, 1971
275.	<i>Boselaphus tragocamelus</i> (Pallas, 1766) Nilgai	From base of Himalayas to Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan and Uttar Pradesh	Nepal, Pakistan and introduced in United States	LC	III	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
276.	<i>Bubalus arnee</i> (Kerr, 1792) Indian Water Buffalo	Arunachal Pradesh and Assam, Madhya Pradesh, Maharashtra, Meghalaya, Odisha and West Bengal	Bhutan, Cambodia, Myanmar, Nepal and Thailand	EN	I	-	ICZN, 2003; Gentry <i>et al.</i> , 1996, 2004; Prater, 1971

277.	<i>Tetracerus quadricornis</i> (de Blainville, 1816) Four-horned Antelope	From the Himalayan foothills to peninsular India	Nepal	VU	I	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
278.	<i>Budorcas taxicolor</i> Hodgson, 1850 Takin	Arunachal Pradesh and Sikkim	Bhutan, China and Myanmar	VU	I	II	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
279.	<i>Capra falconeri</i> (Wagner, 1839) Markhor	Himachal Pradesh, Jammu & Kashmir and Uttar Pradesh	Afghanistan, Pakistan, Tajikistan and Uzbekistan	EN	I	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
280.	<i>Capra sibirica</i> (Pallas, 1776) Siberian Ibex	Himachal Pradesh, Jammu & Kashmir and Uttar Pradesh	Pakistan	LC	-	-	Alfred <i>et al.</i> , 2002, 2006; Wilson and Reeder, 2005
281.	<i>Capricornis thar</i> (Hodgson, 1831) Himalayan Serow	Northern India and Sikkim	Bangladesh, Bhutan, China and Nepal	NT	I	I	Prater, 1971; Wilson and Reeder, 2005
282.	<i>Hemitragus jemlahicus</i> (C.H. Smith, 1826) Himalayan Tahr	Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttar Pradesh and West Bengal	China, Nepal introduced New Zealand and South Africa	NT	I	-	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
283.	<i>Naemorhedus baileyi</i> Pocock, 1914 Red Goral	Arunachal Pradesh	China and Myanmar	VU	III	I	Wilson and Reeder, 2005
284.	<i>Naemorhedus goral</i> (Hardwicke, 1825) Himalayan Goral	Himachal Pradesh, Jammu & Kashmir, North East India, Sikkim, Uttar Pradesh and West Bengal	Bhutan, China, Nepal and Pakistan	NT	III	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
285.	<i>Naemorhedus griseus</i> (Milne-Edwards, 1871) Chinese Goral	North East India (east and south of the Brahmaputra)	China, Myanmar, Thailand and Viet Nam	VU	III	I	Wilson and Reeder, 2005
286.	<i>Ovis ammon</i> (Linnaeus, 1758) Argali	Jammu & Kashmir, Himachal Pradesh, Sikkim and Uttar Pradesh	Afghanistan, China, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russian Federation, Tajikistan and Uzbekistan	NT	-	II	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
287.	<i>Ovis orientalis</i> Gmelin, 1774 Urial	Jammu & Kashmir and Punjab	Armenia, Azerbaijan, Iran, Kazakhstan, Oman, Pakistan, Tajikistan, Turkey, Turkmenistan and Uzbekistan	VU	I	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
288.	<i>Pantholops hodgsonii</i> (Abel, 1826) Chiru	Jammu & Kashmir	China	EN	I	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
289.	<i>Pseudois nayaur</i> (Hodgson, 1833) Bharal	Himachal Pradesh, Jammu & Kashmir and Sikkim	Bhutan, China, Myanmar, Nepal and Pakistan	LC	-	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005
XIII. Order: CETACEA							
39. Family: PLATANISTIDAE (River dolphins)							
290.	<i>Platanista gangetica</i> (Roxburgh, 1801) South Asian River Dolphin	The rivers Brahmaputra, Ganges, Hoogley Karnaphuli, Meghna and their tributaries and Indian seas	Bangladesh, Bhutan and Nepal	EN	-	I	Alfred <i>et al.</i> , 2002, 2006; Prater, 1971; Wilson and Reeder, 2005

Where * Species Endemic to India; ** Species Extinct from India.

Abbreviations: IUCN: International Union for Conservation of Nature and Natural Resources; EX: Extinct; CR: Critically Endangered; EN: Endangered; VU: Vulnerable; NT: Near Threatened; LC: Least Concern; DD: Data Deficient. IW(P)A: Indian Wildlife (Protection) Act, 1972. CITES: Convention on International Trade in Endangered Species of Wild Fauna and Flora.

Biological resources have traditionally been a major source of food for local inhabitants and of major economic value in terms of commercial exploitation. Ecosystems and biodiversity of India have been exploited since long time but it is only in the last century that the rate of exploitation has increased dramatically, due mostly to the increase in the human population. Except for some of the Andaman-Nicobar Islands, no pristine area exists today. At the end of the last century or in the beginning of this century, very few areas of India remained unaffected, whereas most were partially deteriorated and a few were severely affected.

Conserving what we have today is hampered by lack of management measures including outreach and our ability to predict what would live in India and lack of data relating changes in biodiversity to those of environment. Most of the Mammalian species of India are given protection in different Schedules of Wildlife (Protection) Act, 1972 and also listed in IUCN Red List of Threatened Species and CITES (Table 1). To monitor changes in land use practices especially in areas of endangered animals. In order to control losses in biodiversity and restore degraded ecosystems, we need to have a full assessment of the magnitude of such losses that stem from the utilization of biodiversity, and the factors that promote the unsustainable use of biotic resources. An important aspect is to strengthen the measuring, monitoring and management of biodiversity and evaluate our conservation strategies in the light of human needs for biomass with coordinated approach to sustain protection of both areas and diversity as seen in totality.

The fauna of the Himalayan region have been adversely affected owing to combined effect of habitat destruction, fragmentation, hunting, poaching, illegal trade, grazing, deforestation, hybridization, random use of pesticides, landslides, cloud bursts, floods, construction of Hydroelectric Projects and others. Himalayan glaciers are shrinking at a faster pace causing changes in the water dynamics of perennial rivers in the region affecting faunal components. The present need is sincere, collective efforts and action oriented strategies for conservation of Biodiversity and different ecosystems of Himalaya are required from all levels and also efforts to restore degraded ecosystems to be accelerated.

REFERENCES

- Agrawal, V. C. 2000. Taxonomic studies on Indian Muridae and Hystricidae (Mammalia: Rodentia). Published by the Director, Zool. Surv. India, Kolkata. Rec. zool. Surv. India, Kolkata. **180**: 1-177.
- Alfred, J.R.B., A.K. Das and A.K. Sanyal. 1998. *Faunal Diversity in India*. Published by the ENVIS Centre, Zool. Surv. India, Kolkata. 495pp.
- Alfred, J. R. B., A. K. Das and A. K. Sanyal. 2002. *Ecosystems of India*. Published by the ENVIS Centre, Zool. Surv. India, Kolkata. 410 pp.
- Alfred, J.R.B and Chakraborty, S. 2002. *Endemic Mammals of India*. Published by Director, Zool. Surv. India, Kolkata. Rec. zool. Surv. India, Occ. Paper. **201**: 1-37.
- Alfred, J.R.B., Ramakrishna and Pradhan, M. S. 2006. *Validation of Threatened Mammals of India*. Published by the Director, Zool. Surv. India, Kolkata. 568pp.
- Alfred, J.R.B., Sinha, N. K. and Chakraborty, S. 2002. *Checklist of Mammals of India*. Published by Director, Zool. Surv. India, Kolkata. Rec. zool. Surv. India, Occ. Paper. **199**: 1-289.
- Anonymous. 2010. *The Wildlife (Protection) Act, 1972 (as amended upto 2006)*. Wildlife Trust of India, New Delhi. Published by Natraj Publishers, Dehra Dun. 236pp.
- Anonymous. 2011. Critically Endangered Animal Species of India. Published by Director, Zoological Survey of India, Kolkata.
- Anonymous. 2011. Animal Discoveries 2011. Compiled and Published by the Director, Zool. Surv. India, Kolkata. 120pp.
- Bates, P. J. J. and Harrison, D. L. 1997. *Bats of the Indian Subcontinent*. Harrison ZoologicalMuseum, Sevenoaks, Kent, U.K. 258pp.
- CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) Appendices I, II & III (valid from 25 September 2012). 1-14 pp.
- Corbet, G. B. and Hill, J. E. 1980. *A world list of mammalian species*. British Museum (Natural History), London. 254pp.
- Corbet G. B. and Hill, J. E. 1992. The mammals of the Indomalayan region: a systematic review. *Oxford University Press*.
- Datta, A., Pansa, J., Madhusudan, M. D. and Mishra, C. 2003. Discovery of the leaf deer *Muntiacus putaoensis* in Arunachal Pradesh: an addition to the large mammals of India. *Current Science*. **84**: 454-458.
- Ellerman, J.R., and Morrison-Scot, T.C.S. 1951 (1966 2nded.). *Checklist of Palaeartic and Indian Mammals 1758 to 1956*. Trustees of the British Museum (Natural History), London.810 pp.
- Gentry, A., Clutton-Brock, J. and Groves, C. P. 1996. Proposed conservation of usage of 15 mammal specific names based on wild species which are antedated by or contemporary with those based on domestic animals. *Bulletin of Zoological Nomenclature*. **53**: 28-37.
- Gentry, A., Clutton-Brock, J. and Groves, C. P. 2004. The naming of wild animal species and their domestic derivatives. *Journal of Archaeological Science*. **31**: 645-651.
- Groves, C. P. and Meijaard, E. 2005. Interspecific variation in *Moschiola*, the Indian Chevrotain. *Raffles Bulletin of Zoology*, Supplement. **12**: 413-421.

- International Commission on Zoological Nomenclature. 2003. Usage of 17 specific names based on wild species which are pre-dated by or contemporary with those based on domestic animals (Lepidoptera, Osteichthyes, Mammalia) conserved. *Bulletin of Zoological Nomenclature*. **60**: 81-84.
- IUCN 2012. *The IUCN Red List of Threatened Species. Version2012.2.<http://www.iucnredlist.org>*. Downloaded on 31 March 2013.
- McKenna, Malcolm C., and Bell, S. K. 1997. Classification of Mammals above the Species Level. *Columbia University Press*, New York. 631pp.
- Menon, V. 2003. *A Field guide to Indian mammals*. Dorling Kindersley (India) Pvt. Limited. 200pp.
- Nowak, R.M. 1991. Walker's Mammals of the World. 5th edition. *Johns Hopkins University Press*, Baltimore.
- Nowak, R. M. 1999. Walker's Mammals of the World, 6th edition. *Johns Hopkins University Press*, 1936pp.
- Padmanaban, P and Dinesh, K. P. 2011. A Checklist of Marine Mammals of India. *Published by Zoological Survey of India* (Online version: Updated till June, 2011). 4pp.
- Pradhan, M. S. and Talmale, S. S. 2011. A Checklist of valid Indian Rodent Taxa (Mammalia: Rodentia). *Published by Zoological Survey of India* (Online version: Updated till May, 2011.). 12pp.
- Pradhan, M. S. and Talmale, S. S. 2009. List of valid Rodent taxa (Class: Mammalia, Order: Rodentia) from Indian Subcontinent region including Myanmar. Published by the Director, Zool. Surv. India, Kolkata. *Rec. zool. Surv. India*, Kolkata. **297**: 1-239.
- Prater, S. H. 1971. *The Book of Indian Animals*. Bombay Natural History Society. *Oxford University Press*. 324pp.
- Pocock, R. I. 1939. The Fauna of British India, Including Ceylon and Burma. *Mammalia-Volume I*. Taylor and Francis Ltd., London. 463pp.
- Pocock, R. I. 1941. The Fauna of British India, Including Ceylon and Burma. *Mammalia-Volumes II*. Taylor and Francis Ltd., London. 503pp.
- Ramakrishna and J.R.B. Alfred. 2007. *Faunal Resources in India*. Published by the Director, Zool. Surv. India, Kolkata. 427pp.
- Sharma, G., Kamalakannan, M. and Venkataraman, K. 2014. A Checklist of Mammals of India with their distribution and conservation status. *ZSI e-publication*. Published by the Director, Zool. Surv. India, Kolkata, India. 123pp.
- Simpson and Gaylord, G. 1945. The principles of classification and a classification of mammals. *Bulletin of the American Museum of Natural History*. **85**: 1-350.
- Sinha, A., Datta, A., Madhusudan, M.D. and Mishra, C. 2005. The Arunachal macaque *Macaca munzala*: a new species from western Arunachal Pradesh, northeastern India. *International Journal of Primatology*. **26**(4): 977-989.
- Srinivasulu, C and Srinivasulu, B. 2012. South Asian Mammals their Diversity, Distribution, and Status, *Springer Verlag (XI)*. 467pp.
- Srinivasulu, C. and Jordan, M.J.R. 2004. Checklist of dipodids, myoxids and hystricids Mammalia: Rodentia (Dipodidae, Myoxidae and Hystricidae) of South Asia. *Zoos' Print Journal*. **19**(2): 1346-1350.
- Srinivasulu, C. and Pradhan, M.S. 2003. Checklist of Murids (Mammalia: Rodentia: Muridae) of South Asia. *Zoos' Print Journal*. **18**(12):1286-1310.
- Srinivasulu, C. and Srinivasulu, B. 2004. Checklist of scandents and pholidots (Mammalia: Scandentia and Pholidota) of South Asia. *Zoos' Print Journal*. **19**(2): 1372-1374.
- Srinivasulu, C. and Srinivasulu, B. 2001. Bats of the Indian subcontinent- An update. *Current Science*, **80**(11): 1378-1380.
- Srinivasulu, C., Chakraborty, S. and Pradhan, M.S. 2004. Checklist of sciurids (Mammalia: Rodentia: Sciuridae) of South Asia. *Zoos' Print Journal*. **19**(2): 1351- 1360.
- Sokolov, V.E. 1973-1979. *Sistematika mlekopitayushchikh* (Systematics of mammals). Vol. **I**, **II** and **III**.
- Talmale, S. S. and Pradhan, M. S. 2009. A Checklist of Valid Indian Bat Species (Chiroptera: Mammalia). *Published by Zoological Survey of India* (Online version: Updated till November, 2009). 17 pp.
- Trouessart, E. L. 1885. Catalogus mammalian tam viventium quam fossilium. *Quinquennale supplementum anno 1904*. [Tomus 1-1897; Tomus 2-1898; *Quinquennale supplementum, fasic.1 & 2- 1904; fasic. 3 & 4 - 1905]. R. Friedlander and Shon, Berlin, 1 & 2: 1469 pp.; Quin supp: 929 pp.*
- Venkataraman, K., R. K. Rajan, Ch. Satyanarayana, C. Raghunathan and C. Venkataraman, 2012c. *Marine Ecosystems and Marine Protected Areas of India*. Published by the Director, Zool. Surv. India, Kolkata. 296 pp.
- Vivekanandan, E. and Jeyabaskaran, R. 2012. *Marine mammal species of India*. Central Marine Fisheries Research Institute, Kochi. 228pp.
- Walker, E.P., Warnick, F., Hamlet, S.E., Lange, K.L., Davis, M.A., Uible, H.E. and Wright, P.F. 1964. Mammals of the World. *John Hopkins Press*, Baltimore. **1**: 1-646; **2**: 647-1500; **3**: 1-769.
- Wilson, D.E. and Reeder, D.M. (eds.). 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*-Third Edition. Johns Hopkins University Press, Baltimore, MD. **2**: 1-2141.