

Chelmala Srinivasulu
Bhargavi Srinivasulu

South Asian Mammals

Their Diversity, Distribution, and Status

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Sally Walker
for catalysing conservation in South Asia

Aditya Srinivasulu
for understanding, affection, and concern,
and also bearing with us

In memory of Dad

Preface

The last decade has witnessed a tremendous increase in the knowledge about the mammalian diversity of the world, owing much to the increased awareness (by both mammalogists and others), intensive surveys (backed by modern technologies), and advances in the application of molecular techniques. The Global Mammal Assessment, coordinated by the International Union for Nature Conservation, resulted in the conservation assessment for all 5,487 species of known marine and land mammals. This comprehensive assessment, involving over 1,700 experts from all over the world, indicates that a quarter of the known mammalian diversity of the world is under threat of extinction and that the population of half of the species of mammals is declining. At the regional scale, the same holds true.

The dearth of information and expertise in the South Asia has been long felt and each country within the region has initiated steps to fill this lacunae. Our motivation for this book comes from a desire to provide a comprehensive information of all the extant and extinct (since 1500 AD) mammals of South Asia with emphasis on their distribution. We started this project with volant and non-volant small mammals of South Asia in 2002 and later included other groups. This book is aimed as a reference tool to help researchers, field biologists, decision makers, governments (both federal and local), students and lay person to understand the rich diversity, taxonomy, distribution, and status of the mammalian species present in Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. There are but a few references available that detail the mammalian diversity in each of these countries but none of them provides the provincial level distribution at the regional scale on the whole.

Since the publication of the Third Edition of the *Mammal Species of the World*, edited by D.E. Wilson and D.M. Reeder in 2005, many new species have been described and new hypotheses for classifications have been proposed. We have, at

best, incorporated recent changes in this work. Due to the dynamic and fluid nature of taxonomy, more changes are inevitable and we plan to update and incorporate them in future editions. We hope that this book serves its purpose as a useful reference for both the neophytes and the experts alike.

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Chapter 1

Introduction

1.1 Background

About a century back, the first ever all comprehensive appraisal of mammals of the world was brought out by Trouessart (1897–1899, 1904–1905). Since then numerous works have been published both at the global and at the regional levels. Among the former, the most comprehensive and referred works include the “Mammals of the World” by E.P. Walker and his colleagues (first published in 1964, now running sixth edition, see Nowak 1999); “A World List of Mammalian Species” by G.B. Corbet and J.E. Hill (first published in 1980, now running third edition, see Corbet and Hill 1980, 1986, 1991); and the “Mammal Species of the World: A Taxonomic and Geographic Reference” first by Honacki and his colleagues (published in 1982; running its third edition by D.E. Wilson and D.M. Reeder, see Honacki et al. 1982; Wilson and Reeder 1993, 2005). At the regional level, many works have been published and the major ones that concern South Asia include the “Checklist of the Palearctic and Indian Mammals” by J.R. Ellerman and T.C.S. Morrison-Scott (published in 1951, see Ellerman and Morrison-Scott 1951) and “Mammals of the Indomalayan Region: A Systematic Review” by G.B. Corbet and J.E. Hill (published in 1992, see Corbett and Hill 1992).

The current world list of mammals includes nearly 5,416 species in over 1,229 genera in 29 orders (Wilson and Reeder 2005). A recent work lists 5,487 species of mammals (excluding *Homo sapiens*) (Schipper et al. 2008). The composition of mammal species in different orders is provided in Table 1.1.

The above data clearly indicates that the current knowledge of mammalian species diversity is in dynamic stage as recent taxonomic studies are resulting in an increase in number of species known to us. A comprehensive checklist of mammals of South Asia has been lacking and other works relating to this region are outdated. The present work attempts to bridge the gap of knowledge on mammalian diversity of the South Asia including eight countries, namely, Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka.

Table 1.1 Diversity of mammal species of the world

	After Wilson and Reeder (2005)	After Schipper et al. (2008)	Remarks
Class Mammalia	5,416	5,487	Change of 71 species
Order Monotremata (2 families)	5	5	No change in species numbers
Order Didelphimorphia (1 family)	87	95	Eight species added
Order Paucituberculata (1 family)	6	6	No change in species numbers
Order Microbiotheria (1 family)	1	1	No change in species numbers
Order Notoryctemorphia (1 family)	2	2	No change in species numbers
Order Dasyuromorphia (3 families)	71	74	Three species added
Order Paramelemorphia (3 families)	21	22	One species added
Order Diprotodontia (11 families)	143	146	Three species added
Order Afrosoricida (2 families)	51	54	Three species added
Order Macroscelidea (1 family)	15	16	One species added
Order Tubulidentata (1 family)	1	1	No change in species numbers
Order Hyracoidea (1 family)	4	5	One species added
Order Proboscidea (1 family)	3	2	Decrease in one species
Order Sirenia (2 families)	5	5	No change in species numbers
Order Cingulata (1 family)	21	21	No change in species numbers
Order Pilosa (4 families)	10	10	No change in species numbers
Order Scandentia (2 families)	20	20	No change in species numbers
Order Dermoptera (1 family)	2	2	No change in species numbers
Order Primates (15–17 families)	376	414	Schipper et al. (2008) include family Callitrichidae and Paleopropithecidae; 38 species added
Order Rodentia (33 families)	2,277	2,255	Decrease in 22 species
Order Lagomorpha (3 families)	92	93	One species added

(continued)

Table 1.1 (continued)

	After Wilson and Reeder (2005)	After Schipper et al. (2008)	Remarks
Order Eulipotyphla (5 families)	452	450	Schipper et al. (2008), includes both Order Erinaceomorpha and Soricomorpha of Wilson and Reeder (2005) in this Order; decrease in two species
Order Chiroptera (18 families)	1,116	1,152	36 species added
Order Pholidota (1 family)	8	8	No change in species numbers
Order Carnivora (15–16 families)	286	285	Schipper et al. (2008) includes family Prionodontidae; decrease in one species
Order Perissodactyla (3 families)	17	16	Decrease in one species
Order Cetartiodactyla (21 families)	324	329	Schipper et al. (2008) includes Order Cetartiodactyla that includes Order Artiodactyla (with 240 species in 10 families) and Order Cetacea (84 species in 11 families); five species added

1.2 Mammological Studies in South Asia

Carl Linnaeus (1701–1778, Swedish naturalist, founder of the current system of biological nomenclature), in the 10th edition of the *Systema Naturae* (Linnaeus 1758), had listed as many as 34 species of mammals from the Indomalayan region, and he certainly was not the first who collected the specimens from the region but relied on the collections made by travellers from Europe. The number of species known from the region, especially South Asia, increased during the late eighteenth century along with the development of the European trade routes and colonization of the region. Early nineteenth century witnessed sporadic collection surveys by Charles Belanger (1805–1881, French traveller in India in 1825) and Jean Baptiste Leschenault de la Tour (1773–1826, French collector attached to Paris Museum collected in India and Sri Lanka between 1817 and 1822). Among the other French naturalists and collectors were Pierre Medard Diard (1795–1863, travelled with Alfred Duvaucel in India) and Alfred Duvaucel (1796–1824, travelled with Perre Medard Diard in India, and later made extensive collection in northeastern India). Taking cue from the French interest in natural history of the region, Lord Wellesley, Governor General of Bengal (Presidency of Fort William), set up an institution for the study of natural history of the region by establishing a

college at Fort William with an attached natural history establishment at Barrackpore where animals and birds from all parts of the Company's territories were to be kept and studied. This establishment was under the charge of Dr. Francis Buchanan, and due to the negligence of the successor of Lord Wellesley, this establishment gradually came to an end.

Serious work on mammals of South Asia commenced only in the late nineteenth century through the works of Thomas Hardwicke (1756–1845, Major General by rank, Commander of the Bengal Artillery, Indian Army; collected and studied in Bengal region) (Hardwicke 1804, 1807, 1825a, b, 1827, 1828); Thomas Horsfield (1773–1859, American-born Geologist and Physician, Curator of the Museum of the East India Company, Calcutta) (Horsfield 1828, 1831, 1840, 1849, 1851, 1855, 1856); Brian Houghton Hodgson (1800–1894, British diplomat and official resident in Kathmandu between 1833 and 1843 who collected extensively in Nepal and Sikkim (Hodgson 1831a, b, 1833a, b, c, d, 1834a, b, c, d, 1835a, b, c, d, e, 1836a, b, c, d, e, f, 1837a, b, 1838, 1839, 1840a, b, c, d, e, f, g, h, 1841a, b, c, d, e, f, 1842a, b, c, 1843a, b, 1844, 1845, 1847a, b, c, d, e, f, g, h, i, 1848a, b, c, d, 1849, 1850a, b, 1851, 1855, 1857, 1858, 1863); John Edward Gray (1800–1875, Assistant (1824) and later Keeper (1840) of Zoology at British Museum, London; never collected in South Asia) (Gray 1825, 1830–1835, 1836, 1838, 1843, 1846, 1847, 1851, 1852, 1853, 1854, 1863, 1867, 1868, 1871, 1872); Edward Blyth (1810–1873), Curator (1842–1864) of the Museum of the Asiatic Society in Calcutta; collected and studied in Bengal, present day Northeast India and Bangladesh) (Blyth 1840, 1841a, b, c, d, e, 1842a, b, 1843, 1844, 1845a, b, 1846, 1847a, b, 1849, 1850, 1851a, b, 1852a, b, 1854, 1855a, b, c, d, 1858, 1859a, b, 1860, 1862a, b, c, 1863a, b, 1872, 1875); Thomas Caverhill Jerdon (1811–1875, Surgeon Major in Indian Army, also a naturalist; collected and studied in south India) (Jerdon 1867, 1874); Edward Fredrick Kelaart (1818–1860, Army Medical Service, Sri Lanka, also a naturalist, collected and studied in Sri Lanka) (Kelaart 1850a, b, c, 1851, 1852); John Anderson (1833–1900, Superintendent of the Indian Museum and Professor of Comparative Anatomy, Calcutta, between 1865 and 1886; also a naturalist and medical officer to on the British expeditions to Yunnan between 1867–1868 and 1875) (Anderson 1873, 1875, 1877, 1878, 1881); and William Thomas Blanford (1832–1905, Member of Geological Survey of India, co-founder of Indian Museum, Calcutta, and the Fauna of British India Publications; collected and surveyed in Bengal, India) (Blanford 1875, 1876, 1881, 1888, 1891). Excepting J.E. Gray, all others have collected and studied the specimens collected either by themselves or sent to them (including to J.E. Gray in British Museum, London) by other collectors including both amateurs and professionals alike amongst whom some noteworthy are J. Barbe (in Nicobars), Robert Henry Boyce (in Rajputana), Walter Elliot (in south Maratha), William Griffith (in NWFP and Assam), Josiah Marshall Heath (in Madras), Thomas Hutton (in Kandahar, Afghanistan, and Mussorie, India), John McClelland (in Assam), William Henry Sykes (in Deccan), Richard Samuel Tickell (in Orissa), E.L. Layard (in Sri Lanka), R.W. Frith (in northeast India) Col. A. Ward (in Kashmir), C.A. Crump (in Kashmir), C. Boden Kloss (in Andamans and Nicobars), and Col. R.C. Tytler (in Kumaun and Andamans).

Subsequent to W.T. Blanford's work on Indian mammals, a significant contribution to this field was made by Michael Rodgers Oldfield Thomas (1858–1929, Curator of mammals at British Museum (Natural History) from 1878, responsible for instigating the Mammal Survey of the Bombay Natural History Society) who studied and described many species of mammals from South Asia (Thomas 1920a, b, c, 1923a, b, c, d, 1924, 1926).

The first comprehensive work "Mammals of India" was brought out by Thomas Coverhill Jerdon in 1867 that described 242 species (Jerdon 1867, 1874). In 1884, Robert A. Sterndale published "Natural History of the Mammalia of India and Ceylon" that described 482 species (Sterndale 1884, also see Finn 1929). In 1881, a memorial signed by Charles Darwin, Sir Joseph Hooker, and other eminent persons of science was presented to the Secretary of State for India recommending that a series of volumes dealing with the fauna of British India should be published for which W.T. Blanford was appointed editor. "Mammalia" the first part of "The Fauna of British India" was published in 1888, followed by second part in 1891, authored and edited by W.T. Blanford including description of just over 400 species of mammals of the region (Blanford 1888, 1891).

It was during the late nineteenth century, exactly in 1883, the Bombay Natural History Society was established. The Society provided a means through which naturalist of the region could exchange their findings on a regular basis through its journal that was first published in 1886, continuously published excepting the World War years and presently running in its 105th volume. The journal has become an invaluable auxiliary to biological research in the region. At the end of 1911 or the beginning of 1912, C.A. Crump suddenly arrived in Bombay and offered his services to the Society. W.S. Millard, the then, Honorary Secretary of the Society called for an urgent meeting of the Society and engaged C.A. Crump as Society's collector and in April 1912 Crump started collecting in Khandesh, thus launching the Mammal Survey of India by the Bombay Natural History Society. The Mammal Survey continued till 1923 and resulted in collection of a vast number of specimens from the length and breadth of the British India (mostly including areas comprising all the countries in South Asia). Society's collectors and other members like C.A. Crump (collected in Khandesh, Darjeeling, Balochistan), R. Shankara Narayana Pillay (collected in Travancore), Philip Gosse (collected in Poona district and the Nilgiris), S.H. Prater (collected in Satara district and North Sind), and Charles McCann (collected in Palni Hills) contributed for the survey. The Mammal Survey resulted in the collection of more than 25,000 specimens, and the sorting and cataloguing was carried out at British Museum (Natural History), London, by R.C. Wroughton assisted by his brother-in-law T.B. Fry, who carried out the work after Wroughton died in 1921. R.C. Wroughton prepared most of the 55 reports, scientific results, and the "Summary of the results from the Indian Mammal Survey" (Wroughton 1912a, b, c, d, e, 1913, 1914, 1915a, b, c, d, 1916a, b, c, d, e, f, g, 1917a, b, c, 1918a, b, c, d, 1919a, b, 1920a, b, c, d, e, 1921a, b, c, d, e, f, g, h; also see Wroughton and Ryley 1913a, Ryley 1913b, c). Others like, Kathleen Ryley (Ryley 1913a, b, c, d, e, f), Oldfield Thomas (Thomas 1914a, b, 1915a, b, c, 1916, 1917, 1919b, 1920a, b, c, 1921a, b, c, d, 1922a, b, c, d, e, 1923a,

b, c, d, 1924, 1926, 1927; also see Thomas and Ryley 1913; Thomas and Wroughton 1916a, b, 1919), Martin A.C. Hinton (Hinton 1918, 1919a, b, 1920, 1922a, b, 1923a, b; also see Hinton and Fry 1923), J.P. Mills (Mills 1923), H.M. Lindsay (Lindsay 1926a, b, c, d, e, f, g, h, i), and T.B. Fry (Fry 1925, 1928, 1929), have also contributed to the “Mammal Survey.” The scientific results of the Mammal Survey were published in the *Journal of the Bombay Natural History Society* between 1912 and 1929 (Hinton 1918, 1919a, b, 1920, 1923a; Lindsay 1926c, 1929; Ryley 1913b, 1914; Thomas 1914a, b, 1915a, b, c, 1916, 1917, 1919b, 1920a, b, c, 1921a, b, c, d, 1922a, b, c, d, e, 1923a, b, c, d, 1924, 1926, 1927; Thomas and Ryley 1913; Thomas and Wroughton 1916a, b, 1919; Wroughton and Ryley 1913a, Wroughton 1917a, 1918a, 1920c, 1921e, f, g, h).

The “Indian Mammal Survey” not only advanced considerably the wealth of knowledge about the species diversity and distribution, but also resulted in discovery of many new taxa. The Survey also resulted in production of second volume of “Mammalia” of “The Fauna of British India” series with Part 1 on Primates and Carnivora (in part) in 1939 and Part 2 on Carnivora (remainder part) in 1941 (Pocock 1939, 1941). Subsequently, the third volume of “Mammalia” of “The Fauna of India” (rechristened so after India’s independence in 1947) in two parts dealt exclusively the rodent diversity (Ellerman 1961). Another major work by J.R. Ellerman and T.C.S. Morrison-Scott, the “Checklist of Palearctic and Indian Mammals” (Ellerman and Morrison-Scott 1951), also greatly benefitted with the findings resulting from the “Survey”.

Besides all these major works, other notes and books pertaining to natural history and distribution of mammals appeared from time to time. R.A. Sterndale’s “Natural History of the Mammalia of India and Ceylon” (Sterndale 1884; Finn 1929) and S.H. Prater’s “The Book of Indian Animals” (Prater 1948) are worth mentioning, especially the later work still remains the most comprehensive and extensively used reference book in South Asia.

Works on mammals continued, albeit sporadically, mainly by academia and scientist of the Zoological Survey of India since 1950s. Despite all progress, the information database in terms of knowledge regarding the species diversity, taxonomy, distribution range, population, and general ecology or biology was sparse for most mammals. This became evident during the Conservation Assessment and Management Plan Workshop on Indian Mammals held at Indian Institute of Science, Bangalore, in August 1997 (Molur et al. 1998). This information added the much required impetus to create databases on lesser known mammals by liaising with field biologists, researchers, academicians, and scientists of South Asia. This onerous task was taken up by the South Asian chapter of the Conservation Breeding Specialist Group of IUCN and Zoo Outreach Organization. A series of Conservation Assessment and Management Plan Workshops were conducted between 2000 and 2004 (Molur et al. 2002, 2003, 2005) that not only assessed the target mammal species but also provided the baseline database for the Global Mammal Assessment project initiated by the International Union for Conservation of Nature and Conservation International in collaboration with many institutions, non-governmental organizations, museums,

and universities from many countries of the world (Schipper et al. 2008; IUCN 2009).

In the recent years, the mammalian fauna within South Asia had been well documented and some of the country-wise works covering major mammal species include that of Habibi (2003) for Afghanistan, Roberts (2005a, b) for Pakistan, Alfred et al. (2002) and Menon (2003) for India, Shrestha (1997) for Nepal, Wangchuk et al. (2004) for Bhutan, deSilva (2008) for Sri Lanka, and Ahmed (2009) for Bangladesh. Gurung and Singh (1996) and Bahuguna and Mallick (2010) provide details of mammals found in Indian subcontinent.

1.3 Recent Phylogenetic Changes

The mammalian phylogeny and classification is still based basically on the ordinal system of relationships proposed and evolved from major classical works (Gregory 1910; Simpson 1945; McKenna 1975). With the ever-increasing availability of information on palaeontological, morphological, and molecular (nucleotide sequence data) aspects, the mammalian phylogeny has recently received extensive attention resulting in numerous repeated re-evaluations and revisions to resolve phylogenetic controversies and inconsistencies among morphological and molecular studies. Despite this breakthrough of understanding using modern techniques, several enigmas remain to be resolved.

According to the classical system, all living placental mammals were grouped into three generally accepted morphologically based supraordinal clades, namely, Ungulata [including the orders Hyracoidea (hyraxes), Sirenia (manatees and dugongs), Proboscidea (elephants), Perissodactyla (horses, tapirs, and rhinos), Artiodactyla (camels, pigs, cows, and pigs), Cetacea (whales and porpoises), and variably, Tubulidentata (aardvarks)], Archonta [including orders Chiroptera (bats), Dermoptera (flying lemurs), Primates (humans, apes, and monkeys), and Scandentia (tree shrews)], and Anagalida [including Rodentia (rats, mice, and guinea pigs), Lagomorpha (rabbits, hares, and pikas), and Macroscelidea (elephant shrews)]. The current molecular classification recognizes three novel hypothetical nucleotide sequence-based supraordinal clades, namely, Afrotheria [including the orders Proboscidea (elephants), Sirenia (manatees and dugongs), Hyracoidea (hyraxes), Tubulidentata (aardvarks), Afrosoricida (golden moles and tenrecs), and Macroscelidea (elephant shrews)], Laurasiatheria [including the orders Eulipotyphla (hedgehogs, moles, and shrews), Chiroptera (bats), Perissodactyla (horses, tapirs, and rhinos), Cetartiodactyla (camels, pigs, cows, hippos, whales, and porpoises), Carnivora (dogs, bears, and cats), and Pholidota (pangolins)], and Euarchontoglires [including the orders Rodentia (rats, mice, and guinea pigs), Lagomorpha (rabbits, hares, and pikas), Scandentia (tree shrews), Dermoptera (flying lemurs), and Primates (humans, apes, and monkeys)] (Novacek 1992).

One of the major changes that the recent works brought in is related to the phylogeny of insectivores (Lipotyphlans) including shrews, moles, solenodons,

tenrecs, golden moles, hedgehogs, and gymnures. Earlier, this order had been divided into two subgroups, namely, Erinaceomorpha (hedgehogs and gymnures) and Soricomorpha (other insectivores). Molecular studies (see Springer et al. 1997) suggest that the order Insectivora might not be monophyletic group, especially some forms like golden moles might be more closely related to African endemic mammals than other insectivores, thus the species of order Insectivora were reassigned into two new orders, namely Afrosoricida (African Insectivores) and Eulipotyphla (Core Insectivores) (Waddell et al. 1999). We retain the older classification, following Wilson and Reeder (2005), for clarity in this work and include all known insectivores of South Asia in Orders Erinaceomorpha and Soricomorpha.

The second major change that the recent works brought in is related to the phylogeny and relationship between the Artiodactyls (odd-toed ungulates) and Cetaceans (whales and porpoises). Recent molecular studies suggest that these two orders have close relationship, thus need to be clubbed together as order Cetartiodactyla (Agnarsson and May-Collado 2008; Spaulding et al. 2009). Studies on fossil cetaceans showed the transition of cetaceans from amphibious quadrupeds to fully aquatic forms some 34–54 million years ago (Thewissen 1998). Cladistic analyses based on molecular data have shown that Cetaceans appeared within Artiodactyla and also supported a sister-taxon between cetaceans and hippos (Nikaido et al. 1999; Shimamura et al. 1999). This hypothesis was further supported by the presence of Short INterspersed Elements (SINEs). Recent discovery of heel bones (astragali) of ancestral cetaceans (Gingerich et al. 2001; Thewissen et al. 2001) and studies by Geisler and Uhen (2003) showed morphological similarities between whales and hippopotami in particular and cetaceans and artiodactyls in general. Morphological and molecular data support this relationship (Price et al. 2005; Geisler et al. 2007; Thewissen et al. 2007). Molecular evidence suggests that the cetaceans are deeply nested in Artiodactyls and along with hippopotamuses they form a monophyletic group. We retain the older classification, following Wilson and Reeder (2005), for clarity in this work and treat the artiodactyls and cetaceans under separate traditional orders.

Chapter 2

South Asian Mammals

2.1 Analysis

The mammalian diversity found in South Asia (Fig. 2.1) includes 506 species in 215 genera in 14 orders which represents approximately 9.3% of the world's mammalian diversity (Table 2.1). The genetic diversity accounts for 19% of the world's diversity. The complete list of mammals of South Asia with their common names is given in Table 2.2.

India, the largest among the South Asian countries, has the maximum number of species recorded. As many as 426 species are known to be present in India. The other countries with species richness in descending order are Nepal (197 species), Pakistan (190 species), Bangladesh (134 species), Afghanistan (124 species), Sri Lanka (122 species), Bhutan (112 species), and Maldives (21 species) (Table 2.3). A few species are such that may possibly occur in a country but there are no confirmed records for their inclusion with confidence. This is perhaps for the reason that such species occur in the neighbouring countries either within South Asia or other countries bordering South Asian countries. Bhutan has the maximum of such doubtfully occurring species (57 species), followed by Bangladesh (15 species), Pakistan (5 species), Afghanistan (4 species), Nepal (4 species), India (1 species), and Sri Lanka (1 species). Some species of mammals have been exterminated due to various reasons in South Asia; these could be either regionally extinct from South Asia or locally extinct from any given country. Maximum extinct species are reported from Bangladesh (11 species), followed by Afghanistan (7 species), Pakistan (5 species), Bhutan (3 species), Nepal (3 species), India (2 species), and Sri Lanka (1 species). The lack of information on native species of Maldives impedes any inference to be drawn with respect to the current status of mammalian diversity existing on these islands.

The mammalian diversity of South Asia comprises more of terrestrial species compared to aquatic species (475 species vs. 31 species). Among the terrestrial species, the majority (332 species) is represented by small volant and non-volant

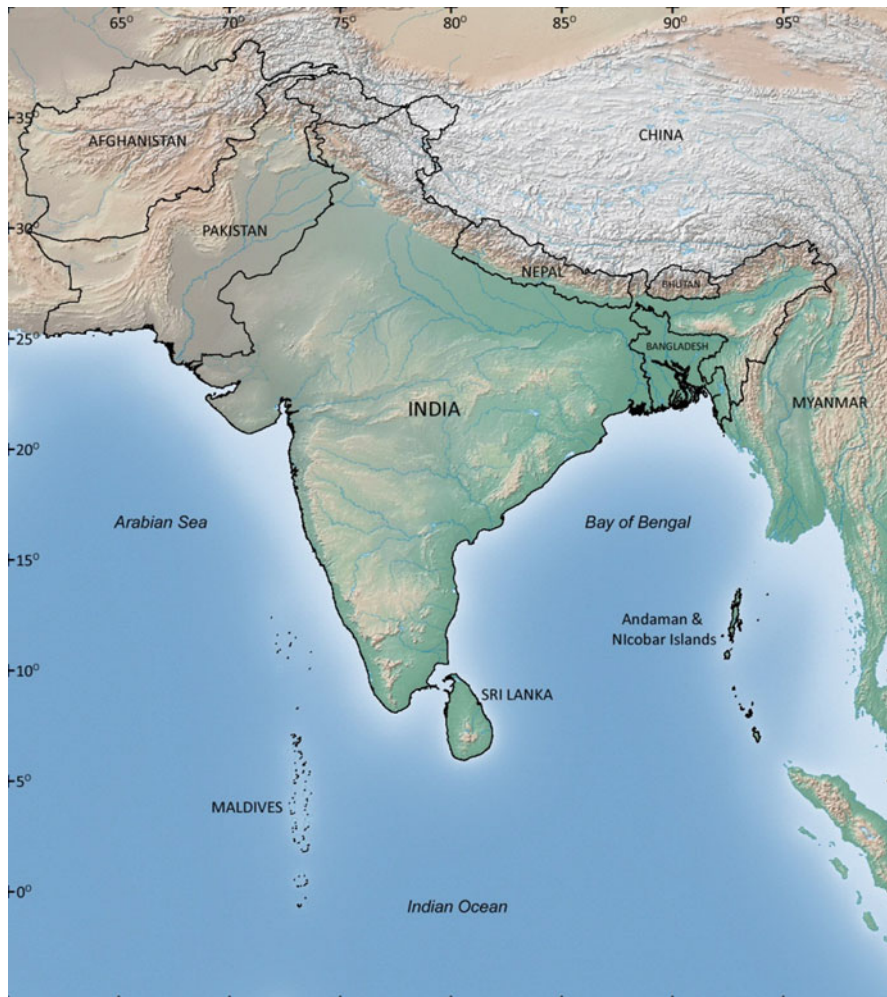


Fig. 2.1 Map of South Asia, depicting countries covered in this work

species belonging to the orders Rodentia (rodents), Chiroptera (bats), Soricomorpha (shrews), Erinaceomorpha (hedgehogs), Lagomorpha (pikas and hares), Scandentia (tree shrews), and Pholidota (pangolins). The large mammals (143 species) include species belonging to Proboscidea (elephants), Primates (monkeys and gibbons), Carnivora (carnivores), Perissodactyla (odd-toed ungulates), and Artiodactyla (even-toed ungulates). Among the aquatic species, marine mammals are more diverse (30 species) compared to freshwater mammals (one species).

About a quarter (130 species) of the mammals are endemic to South Asia (Table 2.4). The highest endemism was in order Scandentia followed by orders

Table 2.1 Diversity of mammal species of South Asia

Order/Family	In South Asia		After Wilson and Reeder (2005)	
	No. of genera	No. of species	No. of genera	No. of species
Class Mammalia	215	506	1,229	5,416
Order Proboscidea	1	1	2	3
Family Elephantidae	1	1	2	3
Order Sirenia	1	1	3	5
Family Dugongidae	1	1	2	2
Order Scandentia	2	3	5	20
Family Tupaiidae	2	3	4	19
Order Primates	6	28	69	376
Family Lorisidae	2	3	5	9
Family Cercopithecidae	3	23	21	132
Family Hylobatidae	1	2	4	14
Order Rodentia	59	135	481	2,277
Family Sciuridae	15	29	51	278
Family Gliridae	1	2	9	28
Family Dipodidae	4	6	16	51
Family Platacanthomyidae	1	1	2	2
Family Spalacidae	2	2	6	36
Family Calomyscidae	1	3	1	8
Family Cricetidae	9	18	130	681
Family Muridae	24	71	150	730
Family Hystricidae	2	3	3	11
Order Lagomorpha	3	14	13	92
Family Ochotonidae	1	9	1	30
Family Leporidae	2	5	11	61
Order Erinaceomorpha	2	5	10	24
Family Erinaceidae	2	5	10	24
Order Soricomorpha	12	41	45	428
Family Soricidae	10	39	26	376
Family Talpidae	2	2	17	39
Order Chiroptera	44	131	202	1,116
Family Pteropodidae	8	14	42	186
Family Rhinolophidae	1	20	1	77
Family Hipposideridae	4	16	9	81
Family Megadermatidae	1	2	4	5
Family Rhinopomatidae	1	3	1	4
Family Emballonuridae	2	6	13	51
Family Molossidae	3	4	16	100
Family Vespertilionidae ^a	24	66	48	407
Order Pholidota	1	2	1	8
Family Manidae	1	2	1	8
Order Carnivora	34	69	126	286
Family Canidae	3	9	13	35
Family Mustelidae	10	18	22	59
Family Ailuridae	1	1	1	1

(continued)

Table 2.1 (continued)

Order/Family	In South Asia		After Wilson and Reeder (2005)	
	No. of genera	No. of species	No. of genera	No. of species
Family Ursidae	3	4	5	8
Family Felidae	9	17	14	40
Family Hyaenidae	1	1	3	4
Family Herpestidae	1	7	14	33
Family Viverridae ^b	6	12	15	35
Order Perissodactyla	3	5	6	17
Family Equidae	1	2	1	8
Family Rhinocerotidae	2	3	4	5
Order Artiodactyla	25	40	89	240
Family Suidae	2	2	5	19
Family Tragulidae	1	3	3	8
Family Moschidae	1	4	1	7
Family Cervidae	6	8	19	51
Family Bovidae	15	23	50	143
Order Cetacea	23	31	40	84
Family Balaenidae	1	1	2	4
Family Balaenopteridae	2	5	2	7
Family Delphinidae	13	16	17	34
Family Phocoenidae	1	1	3	6
Family Physeteridae ^c	2	3	2	3
Family Platanistidae	1	1	1	2
Family Ziphiidae	3	4	6	21

^aIncluding Family Miniopteridae (with one genus and three species in South Asia)

^bIncluding Family Prionodontidae (with one genus and one species in South Asia)

^cIncluding Family Kogiidae (with one genus and two species in South Asia)

Table 2.2 List of mammals of South Asia with their common names**Order Proboscidea Illiger, 1811****Family Elephantidae Gray, 1821**

1. *Elephas maximus* Linnaeus, 1758 Asian Elephant

Order Sirenia Illiger, 1811**Family Dugongidae Gray, 1821**

2. *Dugong dugon* (Müller, 1776) Dugong

Order Scandentia Wagner, 1855**Family Tupaiidae Gray, 1825**

3. *Anathana ellioti* (Waterhouse, 1850) Madras Treeshrew
4. *Tupaia belangeri* (Wagner, 1841) Northern Treeshrew
5. *Tupaia nicobarica* (Zelebor, 1869) Nicobar Treeshrew

Order Primates Linnaeus, 1758**Family Lorisidae Gray, 1821**

6. *Loris tardigradus* (Linnaeus, 1758) Red Slender Loris
7. *Loris lydekkerianus* Cabrera, 1908 Grey Slender Loris
8. *Nycticebus bengalensis* (Lacépède, 1800) Bengal Slow Loris

(continued)

Table 2.2 (continued)**Family Cercopithecidae Gray, 1821**

9. *Macaca silenus* (Linnaeus, 1758) Lion-tailed Macaque
10. *Macaca sinica* (Linnaeus, 1771) Toque Macaque
11. *Macaca mulatta* (Zimmermann, 1780) Rhesus Macaque
12. *Macaca radiata* (E. Geoffroy, 1812) Bonnet Macaque
13. *Macaca fascicularis* (Raffles, 1821) Crab-eating Macaque
14. *Macaca arctoides* (I. Geoffroy, 1831) Stump-tailed Macaque
15. *Macaca assamensis* (Mc'Clelland, 1839) Assam Macaque
16. *Macaca leonina* (Blyth, 1863) Northern Pig-tailed Macaque
17. *Macaca munzala* Sinha et al., 2005 Arunachal Macaque
18. *Semnopithecus entellus* (Dufresne, 1797) Bengal Hanuman Langur
19. *Semnopithecus schistaceus* Hodgson, 1840 Central Himalayan Langur
20. *Semnopithecus hypoleucos* Blyth, 1841 Dark-legged Malabar Langur
21. *Semnopithecus dussumieri* I. Geoffroy, 1843 Western Hanuman Langur
22. *Semnopithecus anchises* (Blyth, 1844) Deccan Hanuman Langur
23. *Semnopithecus priam* Blyth, 1844 Coromandel Gray Langur
24. *Semnopithecus thersites* (Blyth, 1847) Tufted Gray Langur
25. *Semnopithecus ajax* (Pocock, 1928) Himalayan Gray Langur
26. *Semnopithecus hector* (Pocock, 1928) Lesser Hill Langur
27. *Trachypithecus vetulus* (Erxleben, 1777) Purple-faced Langur
28. *Trachypithecus johnii* (Fischer, 1829) Nilgiri Langur
29. *Trachypithecus pileatus* (Blyth, 1843) Capped Langur
30. *Trachypithecus phayrei* (Blyth, 1847) Phayre's Leaf Monkey
31. *Trachypithecus geei* (Khajuria, 1956) Gee's Golden Langur

Family Hylobatidae Gray, 1871

32. *Hoolock hoolock* (Harlan, 1834) Western Hoolock Gibbon
33. *Hoolock leuconedys* (Groves, 1967) Eastern Hoolock Gibbon

Order Rodentia**Family Sciuridae Hemprich, 1820**

34. *Ratufa macroura* (Pennant, 1769) Grizzled Giant Squirrel
35. *Ratufa indica* (Erxleben, 1777) Indian Giant Squirrel
36. *Ratufa bicolor* (Sparman, 1778) Black Giant Squirrel
37. *Belomys pearsonii* (Gray, 1842) Hairy-footed Flying Squirrel
38. *Biswamoyopterus biswasi* Saha, 1981 Namdapha Flying Squirrel
39. *Eoglaucomys fimbriatus* (Gray, 1837) Small Kashmir Flying Squirrel
40. *Eupetaurus cinereus* Thomas, 1888 Woolly Flying Squirrel
41. *Hylopetes alboniger* (Hodgson, 1836) Parti-coloured Flying Squirrel
42. *Petaurista petaurista* (Pallas, 1766) Red Giant Flying Squirrel
43. *Petaurista magnificus* (Hodgson, 1836) Hodgson's Giant Flying Squirrel
44. *Petaurista philippensis* (Elliot, 1839) South Indian Giant Flying Squirrel
45. *Petaurista elegans* (Muller, 1840) Spotted Giant Flying Squirrel
46. *Petaurista nobilis* (Gray, 1842) Noble Giant Flying Squirrel
47. *Petinomys fuscocapillus* (Jerdon, 1847) Travancore Flying Squirrel
48. *Callosciurus erythraeus* (Pallas, 1799) Pallas's Squirrel
49. *Callosciurus pygerythrus* (I. Geoffroy Saint-Hilaire, 1831) Irrawaddy Squirrel
50. *Dremomys lokriah* (Hodgson, 1836) Orange-bellied Himalayan Squirrel
51. *Dremomys pernyi* (Milne-Edwards, 1867) Pernyi's Long-nosed Squirrel

(continued)

Table 2.2 (continued)

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52. *Dremomys rufigenis* (Blanford, 1878), Red-cheeked Squirrel
 53. *Funambulus palmarum* (Linnaeus, 1766) Three-striped Palm Squirrel
 54. *Funambulus tristriatus* (Waterhouse, 1837) Jungle Striped Squirrel
 55. *Funambulus sublineatus* (Waterhouse, 1838) Dusky-striped Squirrel
 56. *Funambulus layardi* (Blyth, 1849) Layard's Striped Squirrel
 57. *Funambulus pennantii* Wroughton, 1905 Northern Palm Squirrel
 58. *Tamiops macclellandi* (Horsfield, 1840) Himalayan Striped Squirrel
 59. *Spermophilopsis leptodactylus* (Lichtenstein, 1823) Long-clawed Ground Squirrel
 60. *Marmota himalayana* (Hodgson, 1841) Himalayan Marmot
 61. *Marmota caudata* (Geoffroy, 1844) Long-tailed Marmot
 62. *Spermophilus fulvus* (Lichtenstein, 1823) Yellow Ground Squirrel
- Family Gliridae Muirhead, 1819**
63. *Dryomys nitedula* (Pallas, 1778) Forest Dormouse
 64. *Dryomys niethammeri* Holden, 1996 Niethammer's Forest Dormouse
- Family Dipodidae Fischer, 1817**
65. *Allactaga elater* (Lichtenstein, 1828) Small Five-toed Jerboa
 66. *Allactaga williamsi* Thomas, 1897 William's Jerboa
 67. *Allactaga hotsoni* Thomas, 1920 Hotson's Five-toed Jerboa
 68. *Salpingotulus michaelis* (Fitzgibbon, 1966) Balochistan Pygmy Jerboa
 69. *Jaculus blanfordi* (Murray, 1884) Blanford's Jerboa
 70. *Sicista concolor* (Büchner, 1892) Chinese Birch Mouse
- Family Platacanthomyidae Alston, 1876**
71. *Platacanthomys lasiurus* Blyth, 1859 Malabar Spiny Dormouse
- Family Spalacidae Gray, 1821**
72. *Cannomys badius* (Hodgson, 1841) Bay Bamboo Rat
 73. *Rhizomys pruinosus* Blyth, 1851 Hoary Bamboo Rat
- Family Calomyscidae Vorontsov and Potapova, 1979**
74. *Calomyscus baluchi* Thomas, 1920 Baluchi Mouse-like Hamster
 75. *Calomyscus hotsoni* Thomas, 1920 Hotson's Mouse-like Hamster
 76. *Calomyscus elburzensis* Goodwin, 1938 Goodwin's Mouse-like Hamster
- Family Cricetidae Fischer, 1817**
77. *Cricetulus migratorius* (Pallas, 1773) Little Grey Hamster
 78. *Cricetulus alticola* Thomas, 1917 Ladakh Hamster
 79. *Alticola roylei* (Gray, 1842) Royle's Vole
 80. *Alticola stoliczkanus* (Blanford, 1875) Stoliczka's Vole
 81. *Alticola argentatus* (Severtzov, 1879) Silver Mountain Vole
 82. *Alticola albicaudus* (True, 1894) White-tailed Mountain Vole
 83. *Alticola montosa* (True, 1894) Kashmir Mountain Vole
 84. *Blanfordimys afghanus* (Thomas, 1912) Afghan Vole
 85. *Blanfordimys bucharensis* (Vinogradov, 1930) Bucharian Vole
 86. *Ellobius talpinus* (Pallas, 1770) Northern Mole Vole
 87. *Ellobius fuscocapillus* (Blyth, 1842) Afghan Mole Vole
 88. *Eothenomys melanogaster* (Milne-Edwards, 1871) Pere David's Vole
 89. *Hyperacrius wynnei* (Blanford, 1881) Murree Vole
 90. *Hyperacrius fertilis* (True, 1894) Subalpine Kashmir Vole
 91. *Microtus ilaeus* Thomas, 1912 Kazakhstan Vole
 92. *Neodon sikimensis* (Horsfield, 1841) Sikkim Vole
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(continued)

Table 2.2 (continued)

93.	<i>Neodon juldaschi</i> (Severtzov, 1879) Juniper Vole
94.	<i>Phaiomys leucurus</i> Blyth, 1863 Blyth's Vole
Family Muridae Illiger, 1811	
95.	<i>Acomys dimidiatus</i> (Cretzschmar, 1826) Arabian Spiny Mouse
96.	<i>Gerbillus nanus</i> Blanford, 1875 Balochistan Gerbil
97.	<i>Gerbillus gleadowi</i> Murray, 1886 Little Hairy-footed Gerbil
98.	<i>Gerbillus aquilus</i> Schlitter & Stezer, 1972 Swarthy Gerbil
99.	<i>Meriones meridianus</i> (Pallas, 1773) Mid-day Jird
100.	<i>Meriones libycus</i> Lichtenstein, 1823 Libyan Jird
101.	<i>Meriones crassus</i> Sundevall, 1842 Sundevall's Jird
102.	<i>Meriones hurrianae</i> (Jerdon, 1867) Indian Desert Gerbil
103.	<i>Meriones persicus</i> (Blanford, 1875) Persian Jird
104.	<i>Meriones zarudnyi</i> Heptner, 1937 Zarudny's Jird
105.	<i>Rhombomys opimus</i> (Lichtenstein, 1823) Great Gerbil
106.	<i>Tatera indica</i> (Hardwicke, 1807) Indian Gerbil
107.	<i>Apodemus draco</i> (Barrett-Hamilton, 1900) South China Wood Mouse
108.	<i>Apodemus pallipes</i> (Barrett-Hamilton, 1900) Himalayan Field Mouse
109.	<i>Apodemus latronum</i> Thomas, 1911 Sichuan Field Mouse
110.	<i>Apodemus rusiges</i> Miller, 1913 Kashmir Field Mouse
111.	<i>Apodemus gurkha</i> Thomas, 1924 Himalayan Wood Mouse
112.	<i>Bandicota indica</i> (Bechstein, 1800) Large Bandicoot-rat
113.	<i>Bandicota bengalensis</i> (Gray & Hardwicke, 1833) Lesser Bandicoot-rat
114.	<i>Berylmys bowersi</i> (Anderson, 1879) Bower's Rat
115.	<i>Berylmys mackenziei</i> (Thomas, 1916) Mackenzie's Rat
116.	<i>Berylmys manipulus</i> (Thomas, 1916) Manipur Rat
117.	<i>Chiropodomys gliroides</i> (Blyth, 1856) Pencillate-tailed Tree-mouse
118.	<i>Cremnomys cutchicus</i> Wroughton, 1912 Cutch Rock Rat
119.	<i>Cremnomys elvira</i> (Ellerman, 1947) Large Rock Rat
120.	<i>Dacnomys millardi</i> Thomas, 1916 Millard's Rat
121.	<i>Diomys crumpi</i> Thomas, 1917 Crump's Mouse
122.	<i>Golunda ellioti</i> Gray, 1837 Indian Bush-Rat
123.	<i>Hadromys humei</i> (Thomas, 1886) Hume's Rat
124.	<i>Leopoldamys edwardsi</i> (Thomas, 1882) Edward's Rat
125.	<i>Leopoldamys sabanus</i> (Thomas, 1887) Noisy Rat
126.	<i>Madromys blanfordi</i> (Thomas, 1881) Blanford's Rat
127.	<i>Micromys minutus</i> (Pallas, 1771) Harvest Mouse
128.	<i>Millardia meltada</i> (Gray, 1837) Soft-furred Metad
129.	<i>Millardia gleadowi</i> (Murray, 1885) Sand-coloured Metad
130.	<i>Millardia kondana</i> Mishra & Dhanda, 1975 Large Metad
131.	<i>Mus musculus</i> Linnaeus, 1758 House Mouse
132.	<i>Mus platythrix</i> Bennett, 1832 Brown Spiny Mouse
133.	<i>Mus booduga</i> (Gray, 1837) Common Indian Field Mouse
134.	<i>Mus saxicola</i> Elliot, 1839 Elliot's Spiny Mouse
135.	<i>Mus cervicolor</i> Hodgson, 1845 Fawn-coloured Mouse
136.	<i>Mus terricolor</i> Blyth, 1851 Earth-coloured Mouse
137.	<i>Mus famulus</i> Bonhote, 1898 Bonhote's Mouse
138.	<i>Mus phillipsi</i> Wroughton, 1912 Wroughton's Small Spiny Mouse

(continued)

Table 2.2 (continued)

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139. *Mus cookii* Ryley, 1914 Ryley's Spiny Mouse
 140. *Mus mayori* (Thomas, 1915) Mayor's Mouse
 141. *Mus pahari* Thomas, 1916 Sikkim Mouse
 142. *Mus fernandoni* (Phillips, 1932) Ceylon Spiny Mouse
 143. *Nesokia indica* (Gray & Hardwicke, 1832) Short-tailed Bandicoot-rat
 144. *Niviventer niviventer* (Hodgson, 1836) Himalayan Niviventer
 145. *Niviventer fulvescens* (Gray, 1847) Indo-Malayan Niviventer
 146. *Niviventer brahma* (Thomas, 1914) Brahman Niviventer
 147. *Niviventer eha* (Wroughton, 1916) Smoke-bellied Niviventer
 148. *Niviventer langbianis* (Robinson & Kloss, 1922) Indo-Chinese Arboreal Niviventer
 149. *Rattus rattus* (Linnaeus, 1758) Common House Rat
 150. *Rattus norvegicus* (Berkenhout, 1769) Norway Rat
 151. *Rattus tanezumi* (Temminck, 1844) Oriental House Rat
 152. *Rattus nitidus* (Hodgson, 1845) Himalayan Rat
 153. *Rattus pyctoris* (Hodgson, 1845) Turkestan Rat
 154. *Rattus exulans* (Peale, 1848) Polynesian Rat
 155. *Rattus andamanensis* (Blyth, 1860) Indochinese Forest Rat
 156. *Rattus palmarum* (Zelebor, 1869) Car Nicobar Rat
 157. *Rattus burrus* (Miller, 1902) Miller's Nicobar Rat
 158. *Rattus stoicus* (Miller, 1902) Andaman Rat
 159. *Rattus satarae* Hinton, 1918 Sahyadri's Forest Rat
 160. *Rattus montanus* Phillips, 1932 Nillu Rat
 161. *Rattus ranjinae* Agrawal & Ghosh, 1969 Ranjini's Field Rat
 162. *Srilankamys ohiensis* (Phillips, 1929) Ohiya Rat
 163. *Vandeleuria oleracea* (Bennett, 1832) Indian Long-tailed Tree Mouse
 164. *Vandeleuria nilagirica* (Jerdon, 1867) Nilgiri Vandeleuria
 165. *Vandeleuria nolthenii* Phillips, 1929 Ceylon Highland Tree Mouse
- Family Hystricidae G. Fischer, 1817**
166. *Atherurus macrourus* (Linnaeus, 1758) Asiatic Brush-tailed Porcupine
 167. *Hystrix brachyura* Linnaeus, 1758 Himalayan Crestless Porcupine
 168. *Hystrix indica* Kerr, 1792 Indian Crested Porcupine
- Order Lagomorpha Brandt, 1855**
- Family Ochotonidae Thomas, 1897**
169. *Ochotona roylei* (Ogilby, 1839) Royle's Pika
 170. *Ochotona rufescens* (Gray, 1842) Afghan Pika
 171. *Ochotona curzoniae* (Hodgson, 1858) Black-lipped Pika
 172. *Ochotona thibetana* (Milne-Edwards, 1871) Moupin Pika
 173. *Ochotona ladacensis* (Günther, 1875) Ladakh Pika
 174. *Ochotona macrotis* (Günther, 1875) Large-eared Pika
 175. *Ochotona nubrica* Thomas, 1922 Nubra Pika
 176. *Ochotona forresti* Thomas, 1923 Forrest's Pika
 177. *Ochotona himalayana* Feng, 1973 Himalayan Pika
- Family Leporidae Fischer, 1817**
178. *Caprolagus hispidus* (Pearson, 1839) Hispid Hare
 179. *Lepus tolai* Pallas, 1778 Tolai Hare
 180. *Lepus nigricollis* Cuvier, 1823 Black-naped Hare
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(continued)

Table 2.2 (continued)

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181. *Lepus oiostolus* Hodgson, 1840 Woolly Hare
 182. *Lepus tibetanus* Waterhouse, 1841 Desert Hare
- Order Erinaceomorpha Gregory, 1910**
Family Erinaceidae Fischer, 1817
183. *Hemiechinus auritus* (Gmelin, 1770) Long-eared Hedgehog
 184. *Hemiechinus collaris* (Gray, 1830) Collared Hedgehog
 185. *Paraechinus hypomelas* (Brandt, 1836) Brandt's Hedgehog
 186. *Paraechinus micropus* (Blyth, 1846) Indian Hedgehog
 187. *Paraechinus nudiventris* (Horsfield, 1851) Madras Hedgehog
- Order Soricomorpha Gregory, 1910**
Family Soricidae Fischer, 1817
188. *Crocidura leucodon* (Hermann, 1780) Bicoloured White-toothed Shrew
 189. *Crocidura gmelini* (Pallas, 1811) Gmelin's White-toothed Shrew
 190. *Crocidura fuliginosa* (Blyth, 1855) Southeast Asian Shrew
 191. *Crocidura horsfieldii* (Tomes, 1856) Horsfield's Shrew
 192. *Crocidura attenuata* Milne-Edwards, 1872 Grey Shrew
 193. *Crocidura andamanensis* Miller, 1902 Andaman White-toothed Shrew
 194. *Crocidura nicobarica* Miller, 1902 Nicobar Shrew
 195. *Crocidura pullata* Miller, 1911 Kashmir White-toothed Shrew
 196. *Crocidura hispida* Thomas, 1913 Andaman Shrew
 197. *Crocidura pergrisea* Miller, 1913 Pale Grey Shrew
 198. *Crocidura rapax* G. Allen, 1923 Chinese White-toothed Shrew
 199. *Crocidura zarudnyi* Ognev, 1928 Zarudny's Rock Shrew
 200. *Crocidura miya* Phillips, 1929 Sri Lankan Long-tailed Shrew
 201. *Crocidura jenkinsi* Chakraborty, 1978 Jenkin's Andaman Spiny Shrew
 202. *Crocidura hikmiya* Meegaskumbara et al., 2007 Sinharaja Shrew
 203. *Feroculus feroculus* (Kelaart, 1850) Kelaart's Long-clawed Shrew
 204. *Solisorex pearsoni* Thomas, 1924 Pearson's Long-clawed Shrew
 205. *Suncus murinus* (Linnaeus, 1766) House Shrew
 206. *Suncus etruscus* (Savi, 1822) Savi's Pygmy Shrew
 207. *Suncus montanus* (Kelaart, 1850) Sri Lankan Highland Shrew
 208. *Suncus niger* (Horsfield, 1851) Indian Highland Shrew
 209. *Suncus stoliczkanus* (Anderson, 1877) Anderson's Shrew
 210. *Suncus dayi* (Dobson, 1888) Day's Shrew
 211. *Suncus zeylanicus* Phillips, 1928 Ceylon Jungle Shrew
 212. *Suncus fellowesgordoni* Phillips, 1932 Ceylon Pygmy Shrew
 213. *Anourosorex squamipes* Milne-Edwards, 1872 Chinese Mole-Shrew
 214. *Anourosorex assamensis* Anderson, 1875 Assam Mole-Shrew
 215. *Anourosorex schmidi* Petter, 1963 Giant Mole-Shrew
 216. *Chimmarogale himalayica* (Gray, 1842) Himalayan Water Shrew
 217. *Episoriculus caudatus* (Horsfield, 1851) Hodgson's Brown-toothed Shrew
 218. *Episoriculus macrurus* (Blanford, 1888) Arboreal Brown-toothed Shrew
 219. *Episoriculus sacratus* (Thomas, 1911) Sichuan Brown-toothed Shrew
 220. *Episoriculus baileyi* (Thomas, 1914) Long-tailed Brown-toothed Shrew
 221. *Nectogale elegans* Milne-Edwards, 1870 Web-footed Shrew
 222. *Sorex minutus* Linnaeus, 1766 Eurasian Pygmy Shrew
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