

STATE FAUNA SERIES 3

# FAUNA OF WEST BENGAL

## Part 1

[OVERVIEW, MAMMALIA, AVES & WILD LIFE]

*Edited by*  
*Director, Zoological Survey of India*



ZOOLOGICAL SURVEY OF INDIA

1992

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## **F O R E W O R D**

The Zoological Survey of India was established in Calcutta, then capital of undivided Bengal on July 1, 1916. In spite of the fact that several research papers and documents have been published by the scientists of this Survey (starting from study of Fauna of Hugli–Mallah estuary to that of Darjeeling hills) on Bengal fauna, no consolidated account of all groups of fauna of the state has so far been published by the survey. As a part of State Fauna Survey programme, the state of West Bengal has recently been systematically surveyed, (1985–1990) both districtwise and group wise, the results of which are now being presented under title of Fauna of West Bengal. The entire document will be published at least in 12 parts encompassing mammalian fauna to protozoan fauna of West Bengal. The scientists of the Headquarters of Zoological Survey of India have worked ceaselessly during the field surveys and later at the laboratory to work out the collections, preserve voucher specimens and finally in writing out the scientific reports. These papers will present general feature of each group, diagnostic characters keys for identification references and illustrations, all of which it is hoped will help to initiate further studies on enormous biological diversity in the state of West Bengal. It must be stated that further intensive surveys both for specific group and covering interior geographical areas may yield more information in the future, which can be added to this well laid foundation. I would like to congratulate my colleagues in the survey and Dr. A. K. Ghosh, Joint Director and Co-ordinator of this programme for the excellent work done.

**Calcutta**

**31st July, 1992**

**Dr. S. K. Bhattacharya**  
**Joint-Director-In-Charge**  
**Zoological Survey of India**

# FAUNA OF WEST BENGAL

## PART 1

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## MAMMALIA

V. C. AGRAWAL, P. K. DAS, S. CHAKRABORTY, R. K. GHOSE,  
A. K. MANDAL, T. K. CHAKRABORTY, A. K. PODDAR,  
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### INTRODUCTION

Our knowledge about the mammalian fauna of West Bengal is rather patchy, in spite of the fact that the headquarters of the Royal Asiatic Society of Bengal, Indian Museum and the Zoological Survey of India are located at Calcutta. Unfortunately, the Mammal Survey of India, Burma and Ceylon, conducted by the Bombay Natural History Society during the year 1911 to 1930, which surveyed the major part of the British India, could only touch a small village in Medinipur district and two northern districts (Darjiling and Jalpaiguri) of West Bengal. The amateur naturalists, political and military officers, and scientists, listed below, posted at Calcutta and Darjiling during the 19th Century collected various species of mammals, but again from these two areas only. Most of the specimens were subsequently recorded by various workers (Hodgson 1847, Blyth 1852*a*, 1852*b*, 1863, Dobson 1876, Anderson 1881, Sclater 1891, etc.). Hence, the major part of the State remained unsurveyed.

<i>Name of collector</i>	<i>Period</i>	<i>Place of collection</i>
Anderson, J.	1866-69	Calcutta & Darjiling
Atkinson, W. S.	1872	Darjiling
Blyth, E.	—	Medinipur & Darjiling
Blanford, W. T.	—	Darjiling
Bonavia (Capt.)	—	Darjiling
Cakes (Mr.)	—	Darjiling
Caunter, J.	1908	Haora
Earle, W.	—	Darjiling
Elwes, H. J.	1870	Darjiling
Fraser, O. L.	1872	Calcutta
Frith, W. G.	1846	South 24-Parganas dist.
Gammie, J.	1872	Darjiling
Layard, E. L.	1841-1851	Calcutta
Mandelli, L.	1872	Darjiling
Masson, G.	—	Darjiling
King, G.	1877	Darjiling & Calcutta
Sherwill, W. S.	1852, 1853	Darjiling
Stoliczka, F.	1871	Darjiling & Calcutta
Tyler, (Major)	1852-60	North 24-Parganas dist.
Theobald, W.	1851	Darjiling & Puruliya dist.

The collection made from West Bengal during the 'Mammal Survey' were later worked out and published in the form of reports (Wroughton 1915, 1916*b*, 1916*c*, 1917*a*, 1917*b*). In addition, Inglis *et al.* (1919) recorded 92 species of mammals from Jalpaiguri district alone.

After the establishment of the Zoological Survey of India (ZSI), the first systematic collecting of mammals in West Bengal was done in collaboration with the Harvard-Yale Expedition which surveyed the higher reaches of Darjiling district during June-August, 1958. As a result of the interesting data yielded by this survey (Khajuria & Ghose 1970), several parties from ZSI surveyed that area between 1974 and 1981 for gathering further information on the fauna, and from 1981 to 1983 in connection with the status survey of the Lesser Cats funded by the WWF-India. Otherwise the surveys were mainly conducted in Calcutta and nearby districts, *viz.*, North and South 24-Parganas, Nadia and Hugli districts, under the programme of local faunistic surveys to augment the National Zoological Collections of India (NZCI), and for undertaking ecological and ethological studies on some species of bats and rodents, as detailed below.

<i>Place &amp; district</i>	<i>Period</i>	<i>Leader of Party</i>
Barakar, Bardhaman dist., & Puruliya dist.	1948	B. Nath
Salt Lake, N. 24-Parganas dist.	1962-66	B. Biswas
Sajnakhali, S. 24-Parganas dist.	1967	A. K. Mondal
Taldih, S. 24-Parganas dist	1968	A. K. Mondal
Madanpur, Nadia dist.	1969	P. K. Das
Basirhat, S. 24-Parganas dist.	1972	P. K. Das
Jhapandanga, Hugli dist.	1974	S. Chakraborty
Singur, Hugli dist.	1974-79	Ajoy Kumar Mandal
Basanti, S. 24-Parganas dist.	1977	S. Chakraborty
Bakhrhat, Bawali & Amtala, S. 24-Pgs. dist.	1977-78	P. K. Das
Darjiling	1974-81	R. K. Ghose
Darjiling, Maldah & Murshidabad dists.	1979	P. K. Das
Darjiling dist.	1980	P. K. Das
Darjiling	1981-83	R. K. Ghose
Chuchura, Hugli dist.	1981-83	V. C. Agrawal & S. Chakraborty
Sagar I., S. 24-Parganas dist.	1982	S. Chakraborty
Sundarban, S. 24-Parganas dist.	1983	A. K. Mandal & S. S. Saha
Sundarban, S. 24-Parganas dist.	1989	Ajoy Kumar Mandal

The survey and ecological studies enumerated above resulted in three new species and subspecies of mammals from West Bengal (Ghose 1964, 1965; Mandal & Ghosh 1981), and a number of papers on the revision of taxa (Ghosh & Saha 1981, Ghose & Chakraborty 1984), distributional records

(Mukherjee 1972, Ghose & Chaturvedi 1973, Ghose 1976, Ghose & Ghosal 1985, Mandal 1976, 1981, 1986*a*, 1986*b*, 1990; Mandal & Ghosh 1980*a*, 1980*b*; Mukherjee and Mandal 1981, Mandal & Biswas 1982), morphometric variations (Ghosh and Ghosal 1969, Ghose & Guha Roy 1972) and ecological and ethological observations (Khajuria 1959, Mandal 1964, Mukherjee & Gupta 1965, Das & Sinha 1972, Mandal & Ghosh 1979, Mandal 1977, 1982, 1983, 1984; Ghose 1974, 1985, Chakraborty 1977, 1980; Chakraborty, R. 1985, Agrawal & Chakraborty 1985, Chakraborty & Chakraborty, in press, etc.).

Under the programme of systematic survey of the Indian States, the Zoological Survey of India sent out a series of survey parties to different districts of West Bengal, mentioned below, from 1983 to 1988, for the collection of different groups of animals, including mammals.

<i>District surveyed</i>	<i>Period</i>	<i>Leader of party</i>
Malda & Murshidabad	1983	V. C. Agrawal
Jalpaiguri	1983	S. Chakraborty
Medinipur	1984	P. K. Das
Bankura and Puruliya	1985	V. C. Agrawal
Jalpaiguri	1985	R. K. Ghose
Birbhum	1985	A. K. Poddar
Koch Bihar	1986	S. Chakraborty
West Dinajpur & Nadia	1987	S. Chakraborty
Bardhaman & N. 24-Parganas	1988	P. K. Das

Pending a full report, some interesting observations on the mammalian fauna were also published (Mandal & Dey Sarkar 1984, Mandal 1986*b*, Agrawal & Bhattacharya 1987, Agrawal *et al.* in press).

The present paper is based mainly on the collection of mammals brought by recent survey parties, as mentioned above, from different parts of West Bengal, as also on earlier specimens already present in the National Zoological Collections of India from that State, and partly on published literature.

All measurements are in millimetres and have been taken after Pocock (1939, 1941) for Primates and Carnivora, Khajuria (1953) for Chiroptera, and Ellerman (1961) for Rodentia. The figures in parentheses followed by the range of measurements indicate arithmetic means (for more than two specimens), and before the range of measurements indicate the number of specimens available for that particular measurement.

Following is a list of abbreviations used for various measurements :

- apf* = length of anterior palatal foramina;  
*b* = length of bulla;  
*c<sup>1</sup>-c<sup>1</sup>* = distance between outer surfaces of upper canines;

<i>cb</i>	=	condylobasal length;
<i>cr</i>	=	cranial rostrum;
<i>cw</i>	=	cranial width;
<i>d</i>	=	length of diastema;
<i>E</i>	=	length of ear;
<i>Fa</i>	=	length of forearm;
<i>F &amp; cl</i>	=	length of foot and claw;
<i>H &amp; B</i>	=	length of head and body;
<i>Hf</i>	=	length of hindfoot.
<i>iw</i>	=	least interorbital width;
<i>l</i>	=	greatest length of skull;
<i>m<sup>1</sup></i>	=	length of first lower molar;
<i>m<sup>1</sup>-m<sup>1</sup></i>	=	distance between outer surfaces of first upper molars;
<i>m<sup>2</sup>-m<sup>2</sup></i>	=	distance between outer surfaces of second upper molars;
<i>m<sup>3</sup>-m<sup>3</sup></i>	=	distance between outer surfaces of third upper molars;
<i>ml</i>	=	mandibular length;
<i>ms</i>	=	width of mesopterygoid space;
<i>mtr</i>	=	length of maxillary tooth-row;
<i>mw</i>	=	maxillary width;
<i>n</i>	=	nasal length;
<i>on</i>	=	occipitonasal length;
<i>orb</i>	=	length of orbit;
<i>pl</i>	=	palatal length;
<i>pm<sup>4</sup></i>	=	length of fourth upper premolar;
<i>pow</i>	=	postorbital width;
<i>Tb</i>	=	length of tibia;
<i>Tl</i>	=	length of tail;
<i>Tr</i>	=	length of tragus;
<i>zw</i>	=	zygomatic width.



**Systematic List of the Mammalian Species from West Bengal alongwith their districtwise distribution based on the specimens, extant literature and recent observations**

Sl. No.	Systematic List	Bankura	Bardhaman	Birbhum	Calcutta	Darjiling	Haora	Hugli	Jalpaiguri	Koch Bihar	Maldah	Medinipur	Murshidabad	Nadia	North 24 Parganas	Puruliya	South 24 Parganas	West Dinajpur
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

**ORDER SCANDENTIA**

**Family TUPAIIDAE**

1. *Tupaia glis lepcha* (Thomas)
2. *Anathana ellioti pallida* Lyon

**Order INSECTIVORA**

**Family TALPIDAE**

3. *Talpa micrura* Hodgson

**Family SORICIDAE**

4. *Soriculus nigrescens nigrescens* (Gray)
5. *Soriculus caudatus caudatus* (Horsfield)
6. *Soriculus leucops* (Horsfield)
7. *Suncus murinus caerulescens* (Shaw)
8. *Suncus murinus soccatus* (Hodgson)
9. *Suncus murinus griffithi* (Horsfield)
10. *Suncus etruscus nitidofulvus* (Anderson)
11. *Suncus etruscus pygmaeoides* (Anderson)
12. *Suncus stoliczkanus stoliczkanus* (Anderson)

						+			+									
																		+
						+												
						+												
						+			+									
		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
						+			+									
						+			+									
		+																

	1	2	3	4	5	6	7	8	9	10	11	12.	13	14	15	16	17
13. <i>Crocidura attenuata rubricosa</i> Anderson					+			+									
14. <i>Chimmarogale platycephala himalayica</i> (Gray)					+												
15. <i>Nectogale elegans sikhimensis</i> de Winton & Styan						+											
Order CHIROPTERA																	
Family PTEROPODIDAE																	
16. <i>Rousettus leschenaulti leschenaulti</i> (Desmarest)	+				+		+	+			+					+	
17. <i>Pteropus giganteus giganteus</i> (Brünnich)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
18. <i>Cynopterus sphinx sphinx</i> (Vahl)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
19. <i>Magaerops niphanae</i> Yenbutra & Felten					+												
20. <i>Sphaerias blanfordi</i> (Thomas)					+												
21. <i>Macroglossus sobrinus sobrinus</i> Andersen					+				+								
Family RHINOPOMATIDAE																	
22. <i>Rhinopoma microphyllum kinneari</i> Wroughton				(?)	+												
23. <i>Rhinopoma hardwickei hardwickei</i> Gray				(?)	+												
Family EMBALLNURIDAE																	
24. <i>Taphozous longimanus longimanus</i> Hardwicke		+		+	+						+		+			+	
25. <i>Taphozous nudiventris kachhensis</i> Dobson				+	+												
26. <i>Taphozous saccolaimus crassus</i> Blyth		+									+						
Family MEGADERMATIDAE																	
27. <i>Megaderma spasma spasma</i> (Linnaeus)								+									
28. <i>Megaderma lyra lyra</i> Geoffroy	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Family RHINOLOPHIDAE																	
29. <i>Rhinolophus affinis himalayanus</i> Andersen					+			+									
30. <i>Rhinolophus rouxi rouxi</i> Temminck				+	+										+		
31. <i>Rhinolophus pusillus blythi</i> Andersen					+												
32. <i>Rhinolophus lepidus lepidus</i> Blyth			+	+	+						+		+		+		

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
33. <i>Rhinolophus trifolius trifolius</i> Temminck					+											
34. <i>Rhinolophus luctus perniger</i> Hodgson					+											
35. <i>Rhinolophus pearsoni</i> Horsfield					+											
36. <i>Hipposideros lankadiva</i> Kelaart					+			+								
37. <i>Hipposideros fulvus fulvus</i> Gray					+			+								
38. <i>Hipposideros pomona gentilis</i> Andersen					+											
39. <i>Hipposideros armiger armiger</i> (Hodgson)					+											
40. <i>Coelops frithi frithi</i> Blyth					+											
Family MOLOSSIDAE																
41. <i>Tadarida teniotis insignis</i> (Blyth)					+											
42. <i>Tadarida aegyptiaca thomasi</i> Wroughton				+												
43. <i>Tadarida plicata plicata</i> (Buchannan)				+												
Family VESPERTILIONIDAE																
44. <i>Myotis mystacinus nipalensis</i> (Dobson)					+			+								
45. <i>Myotis siligorensis siligorensis</i> (Horsfield)					+											
46. <i>Myotis annectans</i> (Dobson)					+											
47. <i>Myotis sicarius</i> Thomas					+											
48. <i>Myotis formosus formosus</i> (Hodgson)				+	+											
49. <i>Eptesicus talei</i> Ellerman & Morrison-Scott					+											
50. <i>Nyctalus noctula labiatus</i> (Hodgson)					+											
51. <i>Pipistrellus coromandra coromandra</i> (Gray)				+	+			+			+			+		
52. <i>Pipistrellus mimus</i> Wroughton		+		+	+	+	+	+	+	+	+	+	+	+	+	+
53. <i>Pipistrellus ceylonicus indicus</i> (Dobson)				+												
54. <i>Pipistrellus babu</i> Thomas					+			+								
55. <i>Pipistrellus cadornae</i> Thomas					+											
56. <i>Pipistrellus mordax</i> (Peters)				+	+											
57. <i>Pipistrellus peguensis</i> Sinha					+											

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
58. <i>Scotozous dormeri</i> Dobson		+	+	+			+	+		+	+			+			
59. <i>Hesperoptenus tickelli</i> (Blyth)								+									
60. <i>Tylonycteris pachypus pachypus</i> (Temminck)					+												
61. <i>Barbastella leucomelas darjelingensis</i> (Hodgson)					+												
62. <i>Scotoecus pallidus</i> (Dobson)				+													
63. <i>Scotomanes ornatus ornatus</i> (Blyth)					+			+									
64. <i>Scotophilus kuhli kuhli</i> Leach	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
65. <i>Scotophilus heathi heathi</i> (Horsfield)		+						+	+	+	+		+				+
66. <i>Plecotus auritus homochrous</i> Hodgson					+												
67. <i>Murina leucogaster rubex</i> Thomas					+												
68. <i>Murina huttoni huttoni</i> Peters					+												
69. <i>Murina tubinaris</i> (Scully)					+												
70. <i>Murina cyclotis cyclotis</i> Dobson					+												
71. <i>Harpiocephalus harpia lasyurus</i> (Hodgson)					+			+									
72. <i>Kerivoula picta picta</i> Pallas				+	+			+									
73. <i>Kerivoula hardwickei depressa</i> Miller					+												
74. <i>Kerivoula papillosa lenis</i> Thomas				+													
75. <i>Miniopterus schreibersi fuliginosus</i> (Hodgson)				+													
Order PRIMATES																	
Family CERCOPITHECIDAE																	
76. <i>Macaca mulatta mulatta</i> (Zimmermann)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
77. <i>Macaca assamensis pelops</i> Hodgson					+												
78. <i>Presbytis entellus entellus</i> (Dufresne)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Order PHOLIDOTA																	
Family MANIDAE																	
79. <i>Manis crassicaudata</i> Gray			+	(?) +		+		+	+		+		+		+	+	

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
<b>Order CARNIVORA</b>																		
<b>Family CANIDAE</b>																		
80.		+	+	+				+			+	+				+		
81.		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
82.		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
83.						+			+			(?) +						
<b>Family URSIDAE</b>																		
84.						+				+								
85.		+				+				+		+				+		
<b>Family AILUROPODIDAE</b>																		
86.						+												
<b>Family MUSTELIDAE</b>																		
87.						+												
88.						+				+								
89.						+												
90.						+												
91.											+							
92.											+							
93.						+					+							
94.		+				+	+			+	+		+		+		+	
95.							+	+			+				+		+	
96.						+	+			+	+				+		+	
<b>Family VIVERRIDAE</b>																		
97.		+				+				+	+	+	+		+	+		+
98.		+				+			+	+	+	+	+	+	+	+	+	+
99.		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100. <i>Arctogalidia trivirgata</i> (Gray)					+												
101. <i>Paguma larvata grayi</i> (Bennett)					+												
Family HERPESTIDAE																	
102. <i>Herpestes auropunctatus auropunctatus</i> (Hodgson)	+	+	+	+	+	+	+	+			+		+			+	+
103. <i>Herpestes edwardsi nyula</i> (Hodgson)	+	+	+	+		+	+	+	+			+	+	+	+		
104. <i>Herpestes urva</i> (Hodgson)					+			+									
105. <i>Herpestes palustris</i> Ghose						+								+		+	
Family HYAENIDAE																	
106. <i>Hyaena hyaena hyaena</i> (Linnaeus)		+									+				+		+
Family FELIDAE																	
107. <i>Felis chaus kutas</i> Hodgson	+	+	+	+		+	+				+			+	+	+	
108. <i>Felis chaus affinis</i> Gray					+			+	+								
109. <i>Felis marmorata charltoni</i> Gray					+												
110. <i>Felis temmincki temmincki</i> Vigors & Horsfield					+												
111. <i>Felis bengalensis bengalensis</i> Kerr	+	+	+		+	+	+	+	+	+				+	+	+	+
112. <i>Felis viverrina</i> Bennett				+		+		+						+		+	
113. <i>Neofelis nebulosa macrosceloides</i> (Hodgson)					+			+									
114. <i>Panthera pardus fusca</i> (Meyer)	+	+	+		+		+	+	+	+	+	+	+		+		+
115. <i>Panthera tigris tigris</i> (Linnaeus)					+			+	+		+			+		+	
116. <i>Panthera uncia</i> (Schreber)					+												
Order PROBOSCIDEA																	
Family ELEPHANTIDAE																	
117. <i>Elephas maximus indicus</i> Cuvier					+			+			+						
Order PERISSODACTYLA																	
Family RHINOCEROTIDAE																	
118. <i>Rhinoceros unicornis</i> Linnaeus								+									

9

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Order ARTIODACTYLA																	
Family SUIDAE																	
119.				+				+					+	+	+	+	
120.					(?) +			(?) +									
Family CERVIDAE																	
121.					+			+			+				+		
122.								+									
123.			+										+	+	+	+	
124.					+			+			+						
125.								+									
Family BOVIDAE																	
126.					+			•									
127.								(?) +									
128.			+														
129.					+												
130.					+												
131.					+												
Order LAGOMORPHA																	
Family LEPORIDAE																	
132.	+		+		+		+	+	+		+		+		+		+
133.								+									
Family OCHOTONIDAE																	
134.					+												
Order RODENTIA																	
Family SCIURIDAE																	
135.					+												
136.					+												

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
137. <i>Petaurista petaurista philippensis</i> (Elliot)											+				+		
138. <i>Petaurista magnificus hodgsoni</i> Ghose & Saha					+												
139. <i>Petaurista nobilis nobilis</i> (Gray)					+												
140. <i>Hylopetes alboniger alboniger</i> (Hodgson)					+			+									
141. <i>Callosciurus pygerythrus lokroides</i> (Hodgson)					+			+									
142. <i>Tamiops macclellandi macclellandi</i> (Horsfield)					+												
143. <i>Dremomys lokriah lokriah</i> (Hodgson)					+												
144. <i>Funambulus palmarum palmarum</i> (Linnaeus)											+				+		
145. <i>Funambulus pennanti</i> Wroughton	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+
146. <i>Ratufa bicolor gigantea</i> (M'clelland)					+			+									
Family HYSTRICIDAE																	
147. <i>Hystrix hodgsoni hodgsoni</i> (Gray)					+			+									
148. <i>Hystrix indica indica</i> Kerr	+	+	+								+				+	+	
Family MURIDAE																	
149. <i>Cannomys badius badius</i> (Hodgson)					+			+									
150. <i>Vandeleuria oleracea dumeticola</i> (Hodgson)					+			+							+		
151. <i>Millardia meltada singuri</i> Mandal & Ghosh							+										
152. <i>Dacnomys millardi millardi</i> Thomas					+												
153. <i>Cremnomys blanfordi</i> (Thomas)																	+
154. <i>Rattus rattus rufescens</i> (Gray)				+	+	+		+				+		+			
155. <i>Rattus rattus brunneusculus</i> (Hodgson)					+			+									
156. <i>Rattus rattus arboreus</i> (Horsfield)	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+
157. <i>Rattus rattus bhotia</i> Hinton									+								
158. <i>Rattus rattus tistae</i> Hinton					+												
159. <i>Rattus rattus khyensis</i> Hinton									+								
160. <i>Rattus nitidus nitidus</i> (Hodgson)					+												
161. <i>Rattus turkestanicus rattoides</i> (Hodgson)					+												
162. <i>Rattus norvegicus</i> (Berkenhout)				+		+								+		+	
163. <i>Niviventer niviventer niviventer</i> (Hodgson)					+												



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
164. <i>Niviventer niviventer monticola</i> (Ghose)					+												
165. <i>Niviventer fulvescens fulvescens</i> (Gray)					+												
166. <i>Niviventer eha eha</i> (Wroughton)					+												
167. <i>Leopoldamys edwardsi edwardsi</i> (Thomas)					+												
168. <i>Mus musculus castaneus</i> Waterhouse		+	+								+						
169. <i>Mus musculus homourus</i> Hodgson					+			+									
170. <i>Mus musculus urbanus</i> Hodgson		+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
171. <i>Mus booduga booduga</i> (Gray)				+	+	+	+	+	+		+	+		+		+	+
172. <i>Mus dunni</i> (Wroughton)	+																
173. <i>Mus cervicolor cervicolor</i> Hodgson							+	+			+			+		+	+
174. <i>Mus platythrix</i> Bennett																+	
175. <i>Mus saxicola</i> Elliot	+		+								+					+	
176. <i>Mus pahari pahari</i> Thomas					+												
177. <i>Golunda ellioti ellioti</i> Gray					+			+									
178. <i>Bandicota bengalensis bengalensis</i> Gray	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
179. <i>Bandicota indica nemorivaga</i> (Hodgson)		+		+		+	+				+			+		+	
180. <i>Nesokia indica indica</i> (Gray)													+				
181. <i>Tatera indica indica</i> (Hardwicke)	+						+				+	+	+				
182. <i>Pitimys sikimensis</i> (Hodgson)					+												
Order CETACEA																	
Family DELPHINIDAE																	
183. <i>Stenella malayana</i> (Lesson)																	+
184. <i>Sousa plumbea</i> (Cuvier)								(?)	+								+
185. <i>Orcaella brevirostris</i> (Owen)																	+
186. <i>Globicephala macrorhynchus</i> Gray											(?)	+				(?)	+
Family PHOCOENIDAE																	
187. <i>Neophocaena phocaenoides</i> (Cuvier)																	+
Family PLATANISTIDAE																	
188. <i>Platanista gangetica</i> (Roxburgh)				+		+	+					+	+				

## SYSTEMATIC ACCOUNT

(Table 1)

## Order SCANDENTIA

Squirrel-like in appearance, but with a long snout and devoid of long whiskers.

The order contains a single family Tupaiidae.

## Family TUPAIIDAE

There are two genera, namely, *Tupaia* Raffles and *Anathana* Lyon, which occur in West Bengal.

## Key to the genera of the family TUPAIIDAE

Lower lobe of ears smaller than the upper; inner side of ears scantily haired .....*Tupaia* (*T. glis*)

Lower lobe of ears larger than the upper; inner side of ears thickly haired.....*Anathana* (*A. ellioti*)

Genus *Tupaia* Raffles, 1821

The genus *Tupaia* is represented in West Bengal by one species, *Tupaia glis* (Diard), and one subspecies, *Tupaia glis lepcha* (Thomas).

1. *Tupaia glis lepcha* (Thomas)

1922. *Tupaia belangeri lepcha* Thomas, *J. Bombay nat. Hist. Soc.*, 28 : 428 (Narbong, c 629 m, Darjiling district, West Bengal, India).

*Common name* : Common Tree-Shrew (Eng.)

*Material examined* : Darjiling district : 1 ♂, Nimbong (c 1,371 m), coll. N. A. Baptista, 21.vi.1916; 1 ♀ : Sivok, coll. C. A. Crump, 20.iii.1915. Jalpaiguri district : 1 ♂, 1 ♀, Hasimara (c 182 m), coll. N. A. Baptista, 7.i.1916, 1.iv.1916.

*Measurements* : External : 2 ♂ : H & B 146.0, 158.0; Tl 160.0, –; Hf 40.0, 42.0; E 15.0, 17.0. 2 ♀ : H & B 150.0, 154.0; Tl 162.0, 172.0; Hf 39.0; 41.0; E 15.0, 16.0. Cranial : 2 ♂ : l 45.2, 47.1; cb 42.9, 45.0; pl 24.5, 24.7; n 16.1, 16.2; cw 17.5, 18.8. 1 ♀ : l 46.4; cb 43.4; pl 24.6; n 17.8; cw 18.4.

*Diagnosis* : Head and body length less than 160 mm and the tail always longer than that. Dorsal colour a fine grizzle of deep brown and Ochraceous-Buff, former dominating over mid-dorsal portion of hind quarter and base of tail; shoulder-streak diffuse.

*Distribution* : India : West Bengal : Darjiling district (Thomas 1922), Jalpaiguri district (Ellerman and Morrison-Scott 1951).

*Remarks* : Lives in trees or bushes. Though arboreal, frequently scampers on the ground in search of food.

Genus *Anathana* Lyon, 1913

Genus *Anathana* is represented by one species *Anathana ellioti* (Waterhouse). Out of the three subspecies of *A. ellioti*, one occurs in West Bengal.

2. *Anathana ellioti pallida* Lyon

1913. *Anathana pallida* Lyon, *Proc U. S. natn. Mus.*, 45 : 124 (Manbhum = Puruliya district, West Bengal, India).

**Common names :** Indian Elephant (Eng.), Hasti, Hathi (Beng.), Hathi (Hin.).

**Material examined :** Nil.

**Measurements :** Nil.

**Diagnosis :** Height at the shoulder up to 335 cm or a little more. Body blackish grey throughout; proboscis ends in a single lip; four nails on each hindfoot; ears large but not enormous.

**Distribution :** India : West Bengal : Darjiling district (Dash 1947), Jalpaiguri district (Gruning 1911) and Medinipur district (O'Malley 1911); Arunachal Pradesh; Assam; Bihar; Karnataka; Kerala; Meghalaya; Mizoram; Nagaland; Orissa; Tamil Nadu; Tripura; Uttar Pradesh. Bangladesh, Bhutan, Burma, Thailand, Vietnam, Malaysia, Sumatra and Borneo.

**Remarks :** In addition to the districts mentioned above, elephant has also been observed in Koch Bihar by one of the present authors (S. Chakraborty). It also sometimes enters into Bardhaman district (Anon. 1990b). However, except in Jalpaiguri and Darjiling districts, at the moment it is only a casual visitor to other districts of West Bengal.

The species is endangered due to loss of prestine forests.

Loss of natural habitat and shortage of food are forcing the elephants to invade agricultural fields. As a result, considerable loss of cultivation, house-hold properties as well as human lives are now regularly reported from various parts of West Bengal.

#### Order PERISSODACTYLA

Perissodactyls are characterised by the number of toes in each foot, being usually odd, the third or middle toe being most prominent; molars and premolars in one unbroken series.

In West Bengal, this order is represented by one family Rhinocerotidae.

#### Family RHINOCEROTIDAE

Three toes on each foot, terminating in a small hoof-like nail. Skin thinly clad with hairs or naked.

The family Rhinocerotidae, in India, is represented by one genus, viz., *Rhinoceros*.

#### Genus *Rhinoceros* Linnaeus, 1758

One species of this genus occurs in West Bengal.

#### 118. *Rhinoceros unicornis* Linnaeus

1758. *Rhinoceros unicornis* Linnaeus, *Syst. Nat.*, 10th. ed., 1 : 56 (Assam, India).

**Common names :** Great Indian One-horned Rhinoceros (Eng.), Gandar (Beng.), Gainda (Hin.).

**Material examined :** Nil.

**Measurements :** Nil.

**Diagnosis :** Large-sized, height at the shoulders 170 cm or more. Skin of body divided into great shields by heavy folds; the fold in front of the shoulders does not continue right across the back. A single horn present on the tip of snout.

**Distribution :** India : West Bengal : Jalpaiguri district (Gruning 1911); Assam; Uttar Pradesh (recently introduced). Nepal.

**Remarks :** Endangered. In the beginning of the present century, one-horned rhinoceros used to occur in Koch Bihar district, Murshidabad district and Maldah district (Maharaja of Koch Bihar 1908, Sengupta 1969). However, due to destruction of habitat and persecution of this animal in West

Bengal, it is now restricted to Jaldapara and Gorumara sanctuaries. The estimated population in these two sanctuaries is less than 15 individuals.

### Order ARTIODACTYLA

Even-toed ungulates; axis of the foot passes between third and fourth toes; toes enclosed in horny hooves of roughly equal size and giving the appearance of a single hoof, split down in the middle.

Order Artiodactyla is represented by three families in West Bengal.

#### Key to the families of the Order ARTIODACTYLA

1. Upper incisors absent; horns or antlers present, at least in males.....2  
Upper incisors present; animals devoid of horns or antlers.....SUIDAE
2. Horns consist of a hollow outer sheath and an inner bony core, unbranched and permanent.....  
..... BOVIDAE  
Antlers solid, branched, ornamented with knots and ridges, and periodically shed. .... CERVIDAE

#### Family SUIDAE

Represented in India by a single genus, *Sus* Linnaeus, 1758. Two species of this genus occur in West Bengal.

#### Key to the species of the genus *Sus*

1. Large, height at shoulders 76-102 cm; a crest of black bristles present from nape to the back; tail long, extending nearly to hocks. ....*Sus scrofa* (*S. s. cristatus*)
2. Small, height at shoulders about 25 cm; no distinct crest on the nape; tail very short.....  
..... *Sus salvanius*

#### 119. *Sus scrofa cristatus* Wagner

1839. *Sus cristatus* Wagner, *Munch. Gelehr. Anz.*, 9 : 435 (Probably Malabar Coast, India).

*Common names* : Indian Wild Boar (Eng.), Buno Suor (Beng.), Suor (Hin.).

*Material examined* : 1 unsexed skull, Sundarban (no exact locality), coll. A. M. Nicholettus, 1866.

*Measurements* : Nil.

*Distribution* : India : West Bengal : Bankura district (O'Malley 1908), Bardhaman district (Peterson 1910), Birbhum district (O'Malley 1910), Darjiling district (Wroughton 1916b), Jalpaiguri district (Gruning 1911), Koch Bihar district (Maharaja of Koch Bihar 1908), Maldah district (Lambourn 1918), Murshidabad district (Bhattacharya 1979), Nadia district (Garrett 1910), North 24-Parganas district (O'Malley 1914), Puruliya district (Bhattacharya *et al.* 1985), South 24-Parganas district (O'Malley 1914); forested tracts throughout India. Pakistan, Sri Lanka, Nepal, Bangladesh, Burma, Indonesia, Malaysia and Vietnam.

*Remarks* : As mentioned above, the wild boar is recorded from almost all the districts of West Bengal. But now it is restricted to Darjiling, Jalpaiguri, Puruliya, West Dinajpur and North and South 24-Parganas districts. Main reasons of its decline are habitat destruction and poaching for flesh.

#### 120. *Sus salvanius* (Hodgson)

1847. *Porcula salvania* Hodgson, *J. Asiat. Soc. Beng.*, 16 : 423, pls. 12, 13 (Sikkim, India).