(22)

FAMILY—COLUBRIDAE.

Xylophis perroteti (Dumeril and Bibron).

Four specimens of this species were included in the collection details of which appear below :—

Serial No.	Date.	Sex.	Length in m m.	Costals.			Ventrals.	Subcaudals.	Remarks.
				Two head-lengths behind head.	Midbody.	Two head-lengths before vent.			
76	20-11-21	♀	330	13	13	13	139	18	Contained 4 eggs about 18 mm. (¾ of an inch) long.
77	11-11-22	♂	290	13	13	13	133	28	Contained 6 eggs about 15 mm. (⅝ of an inch) long. Many minute helminths in cloaca (*Porocephali ?*).
78	15.11-22	♀	386	13	13	13	141	19	
79	15-11-22	♂	?	13	13	13	133	29	

Above 6,000 feet the five species referred to seem to be about the only snakes found in these Hills.

M-13-8

BOMBAY NATURAL HISTORY SOCIETY'S MAMMAL SURVEY OF INDIA, BURMA AND CEYLON.

REPORT No. 37, NEPAL.

BY MARTIN A. C. HINTON AND T. B. FRY. 1922

COLLECTION ... ... No. 37.
LOCALITY ... ... Nepal.
DATE ... ... August 1920 to March 1921.
COLLECTED BY ... Lt.-Colonel R. L. Kennion with the assistance of the Society's Collector, N. A. Baptista.

The researches of Brian H. Hodgson in Nepal, made between 1823 and 1843, laid the foundations of Himalayan mammalogy. Owing to the imperfect and confused labelling of Hodgson's specimens a modern collection from the neighbourhood of Katmandu has been a desideratum for many years. While the work of the Mammal Survey in the adjoining countries of Kumaon and Sikkim cleared up much that was obscure, it did not supply the necessary topotypical material by means of which alone a sound judgment could be formed as to the status of the many nominal species described by Hodgson as being peculiar to Nepal. In these circumstances the present collection forms one of the most useful and interesting contributions to Indian mammalogy yet made by the Mammal Survey. In drawing up this report we have seized the opportunity to examine the Hodgson M.S. and drawings, both those belonging to the British Museum and those in the library of the Zoological Society, and to collate them with Hodgson's specimens in the national collection. This work has been done pretty thoroughly for all orders, with the exception of the Ungulates, which must be reserved for a future occasion. As a result we are able to give below a complete list of the mammals of Nepal so far as they are now known; and also a list of those species erroneously, though commonly, reputed to have been found in Nepal.

From this report it will be seen that there are still many gaps in our knowledge; and that many species, especially among Chiroptera, Insectivora and Rodentia, represented in the Survey collections from Kumaon and Sikkim are still unknown from Nepal, although they probably have representatives in the latter country. It is to be hoped that the Survey Collector will obtain these, together with material representing the species still known to us only by Hodgson's specimens.

The Committee of the Society have asked us to record here their grateful thanks to General H. H. Sir Chandra Shumshere Jung

Bahadur Rana, G. C. B., G. C. S. I., G. C. V O., D. C. L., the Prime Minister of Nepal, for the help and assistance he has provided our collector.

The special thanks of the Society are also due to Lt.-Col. R .L. Kennion, late Envoy at Katmandu, for the first part of the present collection, which was made by him personally; for superintending the work of Baptista, who made the second part of the collection; and for so kindly supplying us with much valuable topographical information.

The Zoological Society of London must also be thanked for lending us the priceless Hodgson M.S. and drawings from its library. Without that loan it would have been quite impossible to have made full use of this collection.

In preparing the following notes upon the physical configuration of Nepal we have made free use of the account given in the "Imperial Gazetteer". The State consists of a long narrow rectangular strip of country, with an area of about 54,000 square miles, trending from the north-west to the south-east, its S. E. extremity being in latitude 26° N. longitude 88° E., and its N. W. corner in latitude 30° N. longitude 80° E. As a Himalayan State it is a country carved in high relief, of diversified surface, and variable climate. Broadly speaking it is traversed from W. to E. by three parallel longitudinal valleys, separated or bounded by three ranges of hills, the altitudes of the valley floors and the heights of the hills increasing as we go northwards towards the Tibetan frontier which passes more or less along the crest of the Himalayas proper.

Dealing with these leading physical features in order, we note first that the southern border of Nepal is formed by a lowland belt, the *Tarai*, from 10 to 30 miles wide, the altitude of which varies between 200′ and 300′ above sea-level. The Tarai is formed in part by open country under cultivation and in part by primeval jungles, the latter consisting for the most part of dense forests of Sal intermixed with Sissum, Semal (cotton trees), and near the hills, Char (*Pinus longifolia*). In places it is quite impenetrable, owing to the luxuriant undergrowth and the tangle of giant creepers swinging from tree to tree. The forest is occasionally interrupted by grass which often reaches a height of 10 or 15 feet. In the low-lying portions, particularly in the eastern Tarai, there are swampy tracts clothed with elephant grass, which in some places is so dense that not even elephants can force their way through. Quicksands and bogs, often of a most dangerous character, are of frequent occurrence.

Along the northern margin of the Tarai, at all events westward of the Kosi River, a low range of sandstone hills—the Siwaliks—rises to a height of about 2,000′ and extends almost continuously

westward through Nepal except where breached by transverse rivers. Behind to the north of this range are longitudinal valleys (each containing a lateral stream tributary to one of the transverse rivers of the country), which separate the Siwaliks from the median range of hills next to be noted. These longitudinal valleys are called "*Dhuns*" and their floors lie at levels of from 500′ to 1,000′. Into them open the narrow ravines which furrow the southern face of the median range. Both the Siwaliks and the Dhuns are clothed with dense jungle.

To the north of the Siwaliks and Dhuns rises the median or Mahabharat Range, which attains heights of 7,000′ to 8,000′, passing continuously through the country from east to west, except where pierced by the chief transverse rivers. Of these there are three, *viz.*, the Kosi, Ganduk and Kawnala, named in order from east to west. Lateral branches of these have excavated great longitudinal valleys which separate the Mahabharat Range from the main or northern chain of the Himalayas. Lofty ridges leaving the main chain of the Himalayas at right angles, connect the main chain with the Mahabharat Range and form the water partings between the basins of the three rivers above named. Similar ridges bounding the great gorges which furrow the southern slopes of the Himalayas proper jut into the longitudinal valleys from the north at intervals between these divides but, of course, do not effect a junction with the Mahabharat Range.

The divide between the Kosi and Ganduk basins is of especial interest. It is formed by a great ridge leaving the main chain of the Himalayas at Gosainthan. Passing southward it bifurcates some miles to the north of the line of the Mahabharat Range, and encloses in the bifurcation the great valley of Katmandu.

The floor of this valley, lying at an altitude of about 4,700′ is an undulating plain of ovate form measuring about 20 miles from north to south and about 12 miles from east to west. It is completely surrounded by hills of moderate elevation (7,000′ to 9,000′) except to the south at Ferping, where a narrow and deep gorge carries the small river Baghmati, draining the valley of Katmandu, out towards the plain of the Ganges. According to an ancient tradition the valley of Katmandu was once a large and deep lake; and this seems to be possible in view of its geological structure.

According to the Gazetteer all the valleys of central Nepal (that is between the Mahabharat Range and the Himalayas proper) are well watered, highly cultivated, and often densely populated. The climate varies naturally with the altitude and rainfall. In the Katmandu Valley it is very good, much like that of southern Europe, but moister. The average rainfall at Katmandu is about 56·5 inches per annum, half of which falls in the months July and

August, while the greater part of the remainder falls in June and September. The average temperature recorded for each of the four months January, May, July and November is respectively 51°·9, 71°·6, 77°, and 60°·2.

Zoologically speaking the Tarai, Siwaliks, Dhuns and the lower slopes of the Mahabharat Range are strictly oriental, at all events as regards the mammal fauna; and the mammals of this part of the country are for the most part identical with those inhabiting Bengal. Among the larger mammals, elephants, rhinoceros, sambhur and tiger are characteristic. With these, in the Tarai, occur buffalo, chital, hog-deer and swamp-deer. In the dhuns, bison replace buffalo and the characteristic swamp animals of the Tarai are, of course, absent.

At higher levels on the Mahabharat Range, in the valley of Katmandu, and on the still higher slopes to the north of that valley the character of the fauna gradually changes, the Oriental forms disappearing and being replaced by Palearctic types. Many of the species which occur in this transition region are, if not peculiar to Nepal, at least peculiar to that country and the corresponding zones of Kumaon and Sikkim. Among the characteristic large animals of the higher valleys may be mentioned burrhel, thar and true bears.

The following is a list of the stations at which mammals were collected by Lt.-Col. Kennion or Baptista. We are greatly indebted to the former for supplying us with information as to the whereabouts and altitudes of these localities.

A.—Localities in the Tarai (altitudes of each about 300′).

1. Bankulwa Morang. In Tarai E. of Kosi River.
2. Hindulwa Morang. „ „ „ „ „ „
3. Bairaglia. In Tarai on Baghmati River on Nepal-Indian frontier.
4. Baria Patherghatta. In Tarai to the North of Bairaglia.
5. Hazaria Patherghatta. „ „ „ „ „ „
6. Tribinia. On Ganduk River on Nepalese-Indian frontier (possibly a Dhun locality; but altitude 300′).

B.—Localities in the Dhuns.

7. Hetwada about 30 miles S.S.W. of Katmandu in the valley of the Rapti; altitude about 1,000′.
8. Partapur. Lower down the Rapti Valley between Hetwada and Tribinia; altitude about 700′.
9. Sunachir. „ „ „ „ „ „ „

C.—Localities in or immediately around the Valley of Katmandu.

10. Katmandu .. .. Altitude 4,500′.
11. Changoo ... ... „ „
12. Hathiban .. .. „ 5,000′.
13. Ferping .. .. „ „
14. Chalna-Khel .. .. „ 5,000′?

15. Thankot .. .. Altitude 5,000′.
16. Bouzini .. Probably near 14 and 15.
17. Godaveri.. .. .. „ 5,000′. 12 miles S. of Katmandu.
18. Kakani .. .. „ 7,000′.
19. Nagarkot.. .. .. „ „
20. Sipari .. .. „ 6,000-8,000′.

D.—Localities in basin of Ganduk.

21. Nawakot. Altitude 3,000′ in valley, 20 miles N. W. of Katmandu.
22. Laharipava „ 11,000′ } "These places are I think situated
23. Ramchie „ „ } in valleys N. of Katmandu in main
24. Thunsi „ „ } range, about 40 to 50 miles from Kat-
25. Parchung „ } mandu; the elevations given probably
26. Pattibhagan „ 8,000′ } about right.—*R.L.K.*

In the following pages the material collected for the Mammal Survey is listed in the way customary in these Reports—the enumeration of the specimens following immediately upon the statement as to synonymy. The word "Hodgson" appearing after the enumeration indicates either that specimens are also in the Hodgson collection, or that Hodgson has left satisfactory evidence that the species was known to him as inhabiting Nepal.

(1) Macaca mulatta, Zimm.

The Rhesus.

(For synonymy see Hinton and Wroughton, J.B.N.H.S., xxvii. p. 668.)

Nagarkot, 7,000′, ♀ 2; Hazaria Patherghatta, 300′, ♂ 1. "Hodgson."

(*See* also Reports Nos. 7, 14-16, 19, 23, 25-27, 35-37.)

The facts which necessitate the substitution of Zimmermann's *mulatta* for Audebert's *rhesus* as the technical name of this species have been discussed in the paper by Hinton and Wroughton cited above.

This is the "*Macacus* (*Pithex*) *oinops*" of Hodgson, who gives its distribution in Nepal as the Tarai and Saul Forest together with the lower and central hilly regions.

"Found all over Morang and Patherghatta. This monkey congregates in large troops in heavy forest. Twice a day, morning and evening, they come near the river to drink water, and they are very shy. The call is "*Pio*" repeated frequently and recognised as a warning signal.—*N.A.B.*

(2) Macaca assamensis, McCl.

The Assam Macaqua.

(For synonymy, see Hinton and Wroughton, J.B.N.H.S., xxvii., p. 669.)

"Hodgson."

(*See* also Reports Nos. 20, 23, 26.)

This is the "*Macacus* (*Pithex*) *pelops*" of Hodgson who states it to be restricted in Nepal to the "northern hilly region." Although no specimens are included in the survey collection now before us, good material was obtained by the Mammal Survey in Sikkim. (*See* Report No. 23, and Hinton and Wroughton *loc. cit. supra.*)

(3) PITHECUS SCHISTACEUS, Hodgs.

The Himalayan Langur.

(Synonymy in No. 15.)

Hazaria, 300′, ♀2.

"Hodgson."

(*See* also Report No. 15.)

In describing the distribution of this species Blanford (p. 30), says:— "As stated under the last species (*i.e., entellus*), it remains to be seen whether the Langurs of the Tarai and lower Himalayan slopes are not *P. entellus*. I can find no record, by a competent naturalist, of *P. schistaceus* below 5,000′ or 6,000′." Hodgson in his Catalogue (J. A. S. B., x., 907) states its chief habitat in Nepal to be the Tarai and Lower Hills and says that it occurs more rarely in the Central and even in the Northern Hilly regions. The specimens obtained by Baptista at Hazaria are most characteristic examples of *schistaceus* and fully confirm Hodgson's statement that the species occurs in the Tarai. In Kumaon too, specimens were obtained by the Mammal Survey at the low elevation of 1,100′; and from that station (Ramnagar) it was observed up to heights of about 9,000′. (Report No. 15).

The distribution of this species would therefore seem to afford an interesting parallel to that of *Macaca assamensis* which, although a characteristic Himalayan species, has also an out-post in the Sunderbuns (Anderson, P. Z. S., 1872, p. 529; Hinton and Wroughton, J. B. N. H. S., xxvii., p. 667).

"Vernacular names:—*Langur* (Mallaha); *Derdoa* (Pahari). This Langur is fairly plentiful in Hazaria near the bank of the Soonsori River. They are not very shy. The call is "*Hoop*! *Hoop*!" generally uttered as a warning call by one of the troop."—*N.A.B.*

(4) ROUSETTUS LESCHENAULTI, Desm.

Leschenault's Fruit Bat.

(Synonymy in No. 11.)

"Hodgson".

(*See* also Reports Nos. 11, 15, 16, 17, 22, 27, 28.)

This is Hodgson's "*Pteropus pyrivorus*". He obtained it in the great valley of Nepal at 4,000′ where, according to the manuscripts in the library of the Zool. Soc., it occurs "rarely in autumn."

(5) PTEROPUS GIGANTEUS LEUCOCEPHALUS, Hodgs.

Hodgson's Flying Fox.

1835. *Pteropus leucocephalus*, Hodgson, J. A. S. B., iv., p. 700.
1912. *Pteropus giganteus leococephalus*, Andersen, Cat. Chir., B. M., i., p. 333 (*q. v.* for full synonymy).
"Hodgson".

Hodgson's original specimen was obtained on January 31, in the valley of Nepal near Katmandu. In his M. S. he describes it as "sleeping in a tree, a passenger never seen here before". Another of his notes states this form to be "very rare in hills, very common in plains or Tarai".

This subspecies is now known to occur in Kooloo, Nepal, Assam, Cachar, Manipur and is recorded with doubt from Arrakan and Pegu. No specimens have yet been obtained by the Mammal Survey.

(6) CYNOPTERUS BRACHYOTIS ANGULATUS, Mill.

The Malay Short-nosed Fruit Bat.

(Synonymy in No. 17.)

"Scully".

Scully (J. A. S. B., lvi., p. 239, 1887) described two specimens which he collected in Nepal, one being from the Nowakot district, the other from just within the valley of Nepal. These he referred to "*C. marginatus*" pointing out that the measurements "accord best with those of *C. brachyotis* from S. Andaman Island". Andersen (*Cat. Chir.* p. 611) includes Scully's "*marginatus*" doubtfully in the synonymy of *C. brachyotis angulatus*, Miller, a form otherwise not known to occur nearer to Nepal than in Assam (North Lakhimpur.)

(7) RHINOLOPHUS PERNIGER, Hodgs.

The Himalayan Horseshoe Bat.

(Synonymy in No. 14.)

Chalna-Khel, ♀ 1; Bouzini, ♂ 1.

"Hodgson".

(*See* also Reports Nos. 17, 23 and 25.)

Hodgson's type was obtained from "the Forest of Hatiban" in the great valley of Nepal.

(8) RHINOLOPHUS PEARSONI, Horsf.

Pearson's Horseshoe Bat.

(Synonymy in No. 15.)

Parchung, ♂ 1.

(*See* also Reports Nos. 15, 26.)

(9) RHINOLOPHUS MACROTIS, Hodgs.

The Large-eared Horseshoe Bat.

1844. *Rhinolophus macrotis*, Hodgson, in Blyth, J. A. S. B., xiii., p. 485.
"Hodgson". "Central valley of Nepal".

This species described from the Central valley of Nepal and known also from Mussoorie, has not yet been obtained by the Mammal Survey. Closely related to *R. pearsoni*, according to Andersen, it is distinguished by its smaller size, larger ears and relatively longer third metacarpals.

(10) RHINOLOPHUS FERRUM-EQUINUM TRAGATUS, Hodgs.

Hodgson's Horseshoe Bat.

(Synonymy in No. 23.)

"Hodgson".

This well marked subspecies was described from the Central valley of Nepal, where Hodgson found it to be "permanently present in outhouses" at an altitude of 4,000′. It also occurs in Sikkim, where specimens were obtained both by Hodgson and by the Mammal Survey.

(11) RHINOLOPHUS AFFINIS HIMALAYANUS, K. And.

The Allied Horseshoe Bat.

1905. *Rhinolophus affinis himalayanus*, K. Andersen, P.Z.S., 1905, p. 103.
Parchung, ♂ 1; Thankot, ♂ 1, ♀ 1.
"Hodgson."

(12) RHINOLOPHUS SUBBADIUS, Blyth.

1844. *Rhinolophus subbadius*, Blyth, J. A. S. B., xiii., p. 486.
1891. *Rhinolophus minor*, Blanford (in part; *nec.* Horsfield), Mamm. No. 154.
"Hodgson."

(13) HIPPOSIDEROS ARMIGER, Hodgs.

The Great Himalayan Leaf-nosed Bat.

(Synonymy in No. 14.)

Pattibhagan, ♂ 1; Bouzini, ♂ 14.
"Hodgson."
"Scully." Ind. Mus. Collector, 1871.

(*See* also Reports Nos. 15, 16, 20, 25, 26, 28.)

Hodgson obtained this bat in the Central valley of Nepal at an altitude of 4,500′.

"Very common in Nepal at all seasons" (Scully).

(14) HIPPOSIDEROS FULVUS, Gray.

The Bicoloured Leaf-nosed Bat.

(Synonymy in No. 3.)

? Hodgson M. S. (Zool. Soc.) vol. 1, p. 8, fig. 3.
"Scully."

There is evidence (although no specimens are now known) that Hodgson obtained a second and smaller species of *Hipposideros* in Nepal. Andersen (P.Z.S., 1905, p. 139) pointing out that Hodgson's "*Vespertilio subbadia*" J. A. S. B., x., p. 908, 1841) is a *nomen nudum* and not identical with Blyth's *Rhinolophus subbadius*, as Blyth supposed, adds:—"the head of this Bat is figured in Hodgson's unpublished drawings, pl. 8, fig. 3; it is not a *Rhinolophus*, but a *Hipposideros*, probably *H. bicolor* or an allied form." Hodgson obtained his specimen from the Central valley of Nepal at an altitude of 4,000′.

Scully (J. A.S. B., lvi, p. 248) refers three specimens which he captured in the valley of Nepal to this species.

(15) HIPPOSIDEROS CINERACEUS, Blyth.

The Little Leaf-nosed Bat.

1853. *Hipposideros cineraceus*, Blyth, J. A. S. B., xxii., p. 410; K. Andersen, A.M.N.H. (9) ii, p. 384 (1918).
1871. *Phyllorhina amboinensis*, Peters, M. B. Akad. Berlin, 1871, p. 323.
1872. *Phyllorhina micropus*, Hutton, P.Z.S., 1872, p. 703.
1891. *Hipposiderus amboinensis*, Blanford Mammalia, No. 167.
"Scully."

Two specimens were obtained in the Nepal valley by Scully who referred them to *Phyllorhina amboinensis*. The fore-arm measurements 1″·4 and 1″·37; (35·3—34·8 m.m.) recorded by Scully agree with those of the present species.

(16) LYRODERMA LYRA, Geoff.

The Indian Vampire Bat.

(Synonymy in No. 1.)

Hazaria, 300′, ♂ 1, ♀ 2.

(*See* also Reports Nos. 4-9, 12, 14, 15, 19, 22, 23, 27.)

This bat has not been hitherto definitely known to occur in Nepal, where it is not improbably restricted to the Tarai and the lower slopes

bordering upon it. Hodgson (as has already been pointed out by Andersen and Wroughton, A. M. N. H. (7), xix., p. 135, did not become acquainted with the species until after his removal to Sikkim; and the specimens in his collection, though at one time erroneously labelled as being from Nepal, came in fact from the latter country. In his M.S. Hodgson gives the habitat as "Tarai of Sikkim."

"I saw of these bats only eight in a hole in a tree. I could only catch three. The inhabitants of this place (Hazaria) told me that these bats are very common in the beginning of May."—*N. A. B.*

(17) NYCTALUS LABIATUS, Hodgs.

The Indian Noctule Bat.

(Synonymy in No. 25.)

"Hodgson". "Scully".

(*See* also Reports Nos. 26, 28.)

Obtained from the valley of Nepal at 4,000′ (Hodgson M.S.). "Not common in the Nepal valley. Mr. Hodgson says that it is found there throughout the year, does not hibernate, and quests for food solitarily" (Scully). Scully and Hodgson each seem to have obtained single specimens.

(18) PIPISTRELLUS BABU, Thos.

The Babu Pipistrel.

(Synonymy in No. 26.)

Kakani, ♂ 1.
"Hodgson"?

(19) PIPISTRELLUS COROMANDRA, Gray.

The Coromandel Pipistrel.

(Synonymy in No. 5.)

Hazaria, 300′, ♀ 2; Bairia, 300′, ♂ 4, ♀ 4; Bairaglia, 300′, ♂ 1, ♀ 1.
"Hodgson". "Scully". (Ind. Mus.)

(*See* also Reports Nos. 2, 9, 11, 13-15, 19, 23, 26-29.)

"Mr. Hodgson presented five examples of *Vesperugo abramus*, obtained in Nepal, to the British Museum; but he does not appear to have discriminated the species, as he gave no name to it." (Scully, J. A. S. B., lvi., p. 251.)

Scully states this to be "a very common species in the Nepal valley where it is to be found at all seasons".

(20) PIPISTRELLUS MIMUS, Wrought.

The Southern Dwarf Pipistrel.

(Synonymy in No. 1.)

(*See* also Reports Nos. 2, 3, 5-13, 15, 18-20, 23, 25, 27.)

Bairia, 300′, ♂ 11, ♀ 7; Hazaria, 300′, ♀ 1.

(21) MYOTIS FORMOSUS, Hodgs.

Hodgson's Bat.

1835. *Vespertilio formosus*, Hodgson, J. A. S. B., iv., p. 700; Blanford Mammalia No. 210.
"Hodgson".
"Valley of Nepal, 4,000′" (Hodgson M.S.)

Apparently rare in the valley of Nepal; Hodgson obtained only one example there and Scully failed to find it.

(22) MYOTIS MURICOLA, Gray.

The Wall Bat.

(Synonymy in No. 17.)

"Hodgson".

(*See* also Reports Nos. 23 and 27).

"Valley of Nepal, 4,000'". (Hodgson M.S.)

(23) MYOTIS SILIGORENSIS, Tomes.

The Darjiling Bat.

1855. *Vespertilio siligorensis*, Tomes, in Horsfield, A. M. N. H., 2, xvi, p. 102.

1891. *Vespertilio mystacinus*, (in part) Blanford, Mammalia, No. 211.

"Scully".

(*See* also Report No. 15, under *darjelingensis*.)

"This is one of the commonest bats in the Nepal valley. It may be seen every evening throughout the year, flying rather high in the air." Scully, A. S. B., lvi., p. 254.

(24) MYOTIS NIPALENSIS, Dobson.

The Nepal Bat.

1844. *Vespertilio pallidiventris*, Hodgson, Calc. J.N.H., iv., p. 286, Gray, 1846, 1863 (*nomen nudum*).

1871. *Vespertilio nipalensis*, Dobson, Proc. As. S. B., 1871, p. 214, Mon. As. Chir, p. 141, (1876); Cal. Chir., B.M., p. 302, (1878); Scully; Blanford Mammalia No. 207.

"Hodgson".

Indian Mus. Collector, 1871. (Type 172*a* Calcutta).

Although this small bat has been treated (in the absence of material) as a synonym of *caliginosus* or of *siligorensis* it seems to be a perfectly distinct species characterized by having its lower surface pure white. Forearm according to Dobson 34·5 m.m. Both Hodgson's original specimen and that obtained by the Indian Museum Collector in 1871 came from the valley of Nepal. It is to be hoped that further material of this bat will be procured. Quite possibly it is really a species of *Leuconoe* and not a *Myotis* at all.

(25) MURINA HUTTONI, Peters.

The White-bellied Tube-nosed Bat.

(Synonymy in No. 15.)

"Scully"

A single specimen was obtained by Scully in the Nepal Valley in September (J.A.S.B., lvi., p. 251).

(26) MINIOPTERUS FULIGINOSUS, Hodgs.

Hodgson's Long-winged Bat.

(Synonymy in No. 15.)

"Hodgson." "Scully."

(*See* also Reports Nos. 13, 16 and 22.)

"Valley of Nepal, 4,000'." (Hodgson M.S.)

Hodgson says that this species remains in Nepal throughout the year and does not hibernate, and that it is solitary in habit when hunting for its prey.

Scully obtained a single specimen in the Nepal Valley.

(27) HEMIECHINUS COLLARIS, Gray and Hardw.

Hardwicke's Hedgehog

(Synonymy in No. 3.)

"Hodgson."

Hodgson (1841) records three species of "*Erinaceus*," *viz.*:—"*spatangus*," "*collaris*" and "*grayii*," as inhabiting the central region of Nepal; "*spatangus*" and "*grayii*" are, of course, synonyms of *collaris*.

There is no material in the Hodgson collection and as far as we are aware this is the only reference which exists concerning the occurrence of a hedgehog in Nepal.

(28) TALPA MICRURA, Hodgs.

The Short-tailed Mole.

(Synonymy in No. 23.)

"Hodgson."

(*See* also Report No. 23.)

Hodgson sent specimens of this mole home in November 1841. He gives its habitat as the Central and Northern hilly regions of Nepal.

(29) SORICULUS NIGRESCENS CENTRALIS, Hint.

The Sikkim Brown-toothed Shrew.

1922. *Soriculus nigrescens centralis*, Hinton, J. B. N. H. S., Vol. xxviii., p. 1054· Bouzini, ♂ 3, ♀ 1.

Owing to the natural tendency to ascribe Hodgson's specimens to "Nepal" and to the insufficiency of the original labels, Blanford was led to give both Nepal and Sikkim as the habitat of this species. But as shown in the paper just cited, all the specimens collected before the work of the Mammal Survey came either from Sikkim or from Bhutan, and the species was consequently quite unknown to occur in Nepal. Now that it has been discovered in the latter country it is not surprising to find that its representative there is a distinct subspecies differing from the typical form by its darker colour, larger size, and peculiar bodily proportions.

(30) PACHYURA, sp.

The Musk Shrew.

Nagarkot, 8,000', ♂ 2, ♀ 1; Godaveri, 7,000', ♀ 1; Sunachir, ♀ 1; Bouzini, ♁ 1; Bairia, 300', ♂ 3, ♀ 3; Hazaria, 300', ♂ 3, ♀ 4.

"Hodgson".

We hope to take up the revision of the Indian White-toothed Shrews in earnest shortly and therefore refrain from offering any remarks upon these most difficult animals on the present occasion.

(31) CROCIDURA RUBRICOSA, And.

Anderson's Assam Shrew.

(Synonymy in No. 25.)

Katmandu, 8,000' (unsexed).

(*See* also Reports Nos. 25, 36.)

(32) FELIS TIGRIS, Linn.

The Tiger.

1766. *Felis tigris*, Linnaeus, Syst. Nat. i., p. 61. (Omitted by mistake in Report No. 11).

"Hodgson".
H. M. the King.

(33) FELIS PARDUS, Linn.

The Panther.

(Synonymy in No. 5.)

"Hodgson".

Both the Tiger and the Panther are, according to Hodgson, generally distributed over Nepal.

(34) FELIS VIVERRINA, Benn.

The Fishing Cat.

(Synonymy in No. 18.)

Bankalwa Morang, ♂ 1.
"Hodgson".

In his M.S. Hodgson speaks of this as the "common Wild Cat of the Tarai".

(35) FELIS BENGALENSIS, Kerr.

The Leopard Cat.

(Synonymy in No. 11.)

"Hodgson".

(*See* also Reports Nos. 14-17, 20, 23, 25, 31.)

For this species Hodgson used at different dates the specific names "*nepalensis*" and "*pardochrous*". According to his M.S. it inhabits the woods of the central region of Nepal.

(36) FELIS NEBULOSA, Griffith.

The Clouded Leopard.

1821. *Felis nebulosa*, Griffith, Carnivora, p. 37; Blanford, Mamm. No. 32.
1825. *Felis macroscelis*, Temminck, Horsf. Zool. Journ., i., p. 543. Hodgson, 1841.
1844. *Felis macrosceloides*, Hodgson, Calc., J. N. H., iv., p. 286.
"Hodgson".

Inhabits the Central Region of Nepal. (Hodgson).

(37) FELIS TEMMINCKI, Vigors, and Horsf.

(Synonymy in No. 14.)

"Hodgson".

(*See* also Report No. 16.)

This is the species called "*F. murmensis*" or "*moormensis*" by Hodgson who states it to inhabit the Central Region of Nepal.

(38) FELIS AFFINIS, Gray.

The Jungle Cat.

(Synonymy in No. 1.)

Hathiban, ♀ 2; Bouzini, ♂ 1; Hazaria, 300', ♀ 1.
Bankalwa Morang, ♂ 1; Hindalwa Morang, ♂ 1.
"Hodgson".

(*See* also Reports Nos. 3-7, 10-12, 15, 16, 18-20, 22, 24, 27, 28.)

This is Hodgson's *Lynchus erythrotis* "apparently identical with *F. chaus*, Auct". Generally distributed throughout Nepal. (*Hodgson*).

(39) FELIS TORQUATA, F. Cuv.

The Waved Cat.

1826. *Felis torquata*, F. Cuvier, Hist. Nat. Mamm. pl. 126.
1837. *Felis inconspicua*, Gray, Charlesworth's Mag. N. H., i., p. 577.
? *Felis huttoni*, Blyth, J. A. S. B., xv., p. 109.

The type locality of this species is stated to be Nepal, where according to F. Cuvier it was obtained by Alfred Duvaucel. Hodgson makes no reference to the species.

(40) VIVERRA ZIBETHA, Linn.

The Large Indian Civet.

(Synonymy in No. 14.)

Chalna-Khel, ♀ 1; Hindalwa Morang, ♂ 1; Bankalwa, ♀ 2.
"Hodgson".

(*See* also Reports Nos. 17, 20, 23, 25-28.)

Generally distributed over Nepal, according to Hodgson, who thought there were two species, which he named "*melanurus*" and "*civettoides*" without publishing descriptions.

"Vernacular name:—*Nit Biralloo* (Pahari). In Patherghatta and Morang this seems to be most common and is very destructive to poultry". —*N.A.B.*

(41) VIVERRICULA MALACCENSIS, Gmel.

The Small Indian Civet

(Synonymy in No. 3.)

"Hodgson".

(*See* also Reports Nos. 5, 7, 10-13, 15-20, 22, 24, 27, 28.)

This animal is restricted in Nepal to the Tarai, according to Hodgson, who thought there were two species. The range as known to him extended along the Tarai from the Sutlej to the Tista.

(42) PRIONODON PARDICOLOR, Hodgs.

The Indian Tiger Cat.

(Synonymy in No. 23.)

"Hodgson".

(*See* also Report No. 25.)

This species, according to Hodgson, inhabits the Central and Northern hilly regions of Nepal. He sent specimens home first in November 1841.

(43) PARADOXURUS CROSSI, Gray.

The Northern Manoori.

1832. *Paradoxurus crossi*, Gray, P. Z. S., p. 66; Wroughton, J. B. N. H. S., xxv., p. 50.
1836. *Paradoxurus hirsutus*, Hodgson, As. Res. xix., p. 72.
1864. *Paradoxurus nigripes*, Gray, P. Z. S., p. 635.
1889. *Paradoxurus hermaphroditus*, (in part) Blanford, Mamm. 52.
"Hodgson".
In Nepal, restricted to the Tarai (*Hodgson*).

(44) PAGUMA GRAYI, Benn.

The Himalayan Palm Civet.

(Synonymy in No. 15.)

Thankot, ♂ 2.
"Hodgson". "Scully" (Ind. Mus.).

Inhabits the Central Region of Nepal. (*Hodgson*),

(45) HERPESTES AUROPUNCTATUS, Hodgs.

The Small Indian Mongoose.

(Synonymy in No. 27.)

Hathiban, ♂ 2, ♀ 1.
"Hodgson" Indian Mus. Collector 1872. "Scully" (Ind. Mus.).
Inhabits the Central Region of Nepal.

(46) HERPESTES NEPALENSIS, Gray.

The Nepal Mongoose.

(Synonymy in No. 19.)

Godaveri, 7,000′ ♂ 2, ♀ 1, unsexed 1.

(*See* also Report No. 27.)

These specimens appear to be indistinguishable from *H. nepalensis*, ffering from *auropunctatus* in the much finer ticking and darker general lour of the coat. It is of interest to get positive evidence of the pre- nce of this species in Nepal in view of the doubts as to its occurrence ere held by Wroughton (J. B. N. H. S., xxv., p. 68).

(47) HERPESTES EDWARDSI, Geoff.

The Common Indian Mongoose.

(Synonymy in No. 1, under *Mungos mungo*.)

"Hodgson".

This is "*Herpestes* vel *Mangusta nyula*" of Hodgson who states that in pal it is restricted to the Tarai.

(48) HERPESTES URVA, Hodgs.

The Crab-eating Mongoose.

(Synonymy in No. 23.)

"Hodgson".

Inhabits the Lower and Central hilly regions of Nepal (Hodgson.)

(49) CANIS INDICUS, Hodgs.

The Jackal.

(Synonymy in No. 1 under *C. aureus*.)

Nagarkot, 8,000′ ♀ 1; Katmandu 8,000′, unsexed 1.
Hathiban, ♂ 1; Bankalwa Morang, ♂ 2, ♁ 1.
"Hodgson". "Scully" (Ind. Mus.).

(*See* also Reports Nos. 14-16, 19, 20, 22, 25, 27, 28.)

Hodgson states that the Jackal is generally distributed over Nepal; but in a M.S. note he adds that it is "rare in Hills, common in the great populous valley of Nepal proper, seldom seen elsewhere in Hills".
"The Jackal is not common in Pathergatta."—*N. A. B.*

(50) CUON DUKHUNENSIS, Sykes.

The Indian Wild Dog.

(Synonymy in No. 2.)

Sipari, ♂ 1, juv.
"Hodgson".

(*See* also Reports Nos. 4, 7, 11, 15.)

Distributed over the Lower, Central and Northern hilly regions of Nepal (*Hodgson*).
"Vernacular name:—*Bhonso* (Pahari); *Farppa* (Bhotia). Very rare in Nepal".—*N.A.B.*

(51) VULPES BENGALENSIS, Shaw.

The Indian Fox.

(Synonymy in No. 1.)

Hindalwa, ♀ 2.
"Hodgson". "Scully" (Ind. Mus.).
(*See* also Reports Nos. 3, 5, 7, 10, 15, 19, 24.)

According to Hodgson this Fox in Nepal is confined to the Tarai whence he sent specimens home in November 1841.
Two specimens collected by Scully in the valley of Nepal are however listed in the Cat. Ind. Mus. (ii., p. 272), a male from Katmandu and a female from Ranijangal.
"Vernacular names:—*Laddia* (Mallaha); *Feuro* (Pahari).
"This fox is very common in Morang, and can be got around the villages. It is easy to take them in their holes at noon. At one place I found ten holes, but only two foxes were in these. Very shy. Traps baited with meat, set near their holes, failed to catch them."—*N.A.B.*

(52) VULPES MONTANA, Pearson.

The Hill Fox.

(Synonymy in No. 15.)

Hodgson records this species as inhabiting the Central and Northern hilly regions of Nepal. This is not improbable, for this fox was obtained by the Mammal Survey in Sikkim at heights above 10,000′ (See Report No. 23) and it has of course long been known from the countries to the west and north of Nepal.